Wavelengths, Transition Probabilities, and Energy Levels for the Spectra of Cesium (Cs I–Cs LV)

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Energy level values, with designations and uncertainties, have been compiled for the spectra of the neutral atom and all positive ions of cesium (Z=55). Transition wavelengths with classifications, intensities, and transition probabilities are also tabulated. In addition, ground states, ionization energies, and hyperfine structure constants are listed. For most ionization stages experimental data are available; however, for those for which only theoretical calculations or fitted values exist, these are reported. There are a few ionization stages for which only a calculated ionization potential is available.
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1. Introduction

Cesium was discovered in 1861 by Kirchhoff and Bunsen [61KIR/BUN], who named it after the Latin word *caesius* (meaning sky blue) because of the two bright blue lines they observed when its salts were heated in a flame. It was the first element to be discovered spectroscopically. Cesium is the most electropositive and alkaline element and it also has the lowest ionization energy. It oxidizes rapidly, may ignite when exposed to air, and reacts explosively with water. It is silvery white and soft, with a melting point just above room temperature (28.4 °C). Its atomic number is 55; its atomic mass is 132.9054 amu; its boiling point is 699 °C; and its specific gravity at 20 °C is 1.873 [05CRC]. The most notable use of cesium is in atomic clocks, with the second being defined as the duration of 9 192 631 770 periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the ^{133}Cs atom.

For this compilation of spectral data of cesium the literature for each ionization stage has been reviewed and lists of the most accurate wavelengths and energy levels have been assembled. A brief summary of the history of research for each spectrum and details regarding the data included in this compilation are given. Where available, experimental data are presented; however, where only fitted data or theoretically calculated data are available these are included. To clarify which data are not obtained by experimental observation, wavelengths, energy levels, and ionization energies that have been obtained by isoelectronic fitting are indicated by enclosure in square brackets while theoretical values are indicated by enclosure in parentheses.

2. Wavelength Tables

In the tables of wavelengths the following information is included:

(i) **Wavelengths** are reported in units of angstroms, with all lines with wave numbers below 10 000 or above 50 000 cm^{-1} given as vacuum wavelengths and those between 10 000 cm^{-1} and 50 000 cm^{-1} as air wavelengths. The index of refraction used for conversions is obtained using the three-term formula of Peck and Reeder [72PEC/REE]. Occasionally wavelengths calculated from optimized energy levels (known as Ritz wavelengths) are given because they are much more accurate than experimentally observed ones, in which case the calculated wavelength is followed by the notation "R."

(ii) **Uncertainty** of the wavelength measurement or calculation is also in angstroms.

(iii) **Wave number** of the transition is given in units of cm^{-1}.

(iv) **Intensity** is as observed by the original investigator, except as noted in the discussion for a particular spectrum. Since in general there is no way to normalize data taken from different sources this means that intensities taken from different sources are not on the same scale and should not be used for comparison. Intensities marked by an asterisk indicate that the measured spectral line either is blended with another line or has two identifications. In either case the intensity cannot be assumed to be entirely due to the transition indicated in the classification.

(v) **Line codes** indicate additional descriptive information about the appearance of the spectral line. In general, the character of a line depends on the light source used and the resolution of the spectrometer. For ease of use we utilize a uniform set of line codes to describe the line characteristics provided by various authors. They have the following meanings:

a - asymmetric
b - blend
c - complex
d - line consists of two unresolved lines
h - hazy
l - shaded to longer wavelengths
p - perturbed by close line
r - easily self-reversed
s - shaded to shorter wavelengths
u - unresolved shoulder on strong line
w - wide
* - intensity may be affected by nearby line
? - classification is uncertain

(vi) **Transition probabilities** (A_{ki}) for transitions from upper state (k) to lower (i) are given in units of s^{-1}. Exponential notation is used for these values; thus, for example 3.2E+5 stands for 3.2×10^5. Virtually all transition probabilities are theoretically calculated. The method used for each spectrum is discussed in the text.

(vii) **Lower level** and **Upper level** indicate the classification given for the transition.

(viii) **λ Ref.** and $\mathbf{A_{ki}}$ **Ref.** indicate the references for the wavelength measurement and transition probability, respectively. The list of references for each ionization stage is located at the bottom of the discussion for that particular spectrum.

3. Energy Level Tables

The energy level tables contain the following information:

(i) **Configuration** of the energy level. For visual clarity only the first member of the term has the configuration written out. All members of the same term are grouped together and set off from other terms by a blank line.

(ii) **Term** is listed for each energy level. There are several kinds of coupling indicated for the energy levels. Most configurations are described in *LS* coupling, with the state of the core indicated in parentheses when needed. Some levels are given in either $J_1 j$ or $J_1 J_2$ coupling, with the angular momentum of the core and of the final electron or group of electrons in parentheses. Levels best described by pair coupling, or $J_1 l$, notation, have J value of the core state listed first with the value of $K=J_1+l$ in square brackets, where l is the orbital angular momentum of the final electron.

(iii) J **value** is listed for each energy level.

(iv) **Level value** is given in the customary units of cm^{-1}. As reported in [05MOH/TAY] the unit cm^{-1} is related to the SI unit for energy, the joule, by $1\ cm^{-1} = 1.986\,445\,61(34) \times 10^{-23}$ J. As discussed above, values enclosed in parentheses are calculated and those in square brackets are obtained by isoelectronic fitting.

(v) **Uncertainty** of the level value, given in cm^{-1}.

(vi) **Leading percentages** of components of the level configurations are included if there is significant configuration mixing and if they are available.

(vii) **Hyperfine structure constants** are the magnetic dipole constant A and the electric quadrupole constant B, given in units of megahertz.

(viii) **Reference** refers to the source of the energy level value or hyperfine structure data. The list of references can be found at the end of the discussion for that ionization stage.

4. Uncertainties and Significant Figures

The energy levels, wavelengths, and ionization energies reported here are given with uncertainties, as reported by the original authors. In the case of energy levels it was sometimes necessary to calculate uncertainties from the reported wavelength uncertainties of the transitions involved. Many theoretical papers do not contain estimates of the uncertainty of the reported values and hence we are unable to include that information. The estimated uncertainty of the wave number of a transition can be calculated from that of the wavelength. Most transition probabilities contained herein are calculated values whose uncertainties are unknown. Since the scatter between transition probabilities from different sources is substantial (virtually always greater than 10% and frequently much more) it would be prudent to check the details of the calculations in the original source if the uncertainty of the transition probability is important.

In general the number of significant figures included here is such that the uncertainty in the last digit is between 1 and 15. If a decimal point follows a value which is a whole number this implies that the last digit given is significant, even if it is a zero. If there is no decimal point the uncertainty is greater than 15.

5. References for the Introduction

61KIR/BUN	G. Kirchhoff and R. Bunsen, Ann. Phys. Chem. **113**, 337 (1861).
72PEC/REE	E. R. Peck and K. Reeder, J. Opt. Soc. Am. **63**, 958 (1972).
05CRC	*CRC Handbook of Chemistry and Physics*, 86th ed., edited by D. R. Lide (Taylor & Francis, New York, 2005), pp. 4–31.
05MOH/TAY	P. J. Mohr and B. N. Taylor, Rev. Mod. Phys. **77**, 1 (2005).

6. Ionization Stages

6.1. Cs I

Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d^{10} 5s^2 5p^6 6s\ ^2S_{1/2}$
Ionization energy: 31 406.467 66 ± 0.000 15 cm^{-1}; 3.893 905 ± 0.000 002 eV

The Cs I spectrum is one of the most important and well studied, with hundreds of papers reporting experimental observations. The ground state hyperfine splitting of ^{133}Cs is used to define the second, with the frequency of its $F=4$, $m_F=0$ to $F=3$, $m_F=0$ radiation defined to be exactly 9 192 631 770 Hz. The most recent realization of this frequency (to an accuracy of about 4 parts in 10^{16}) is reported by Lombardi *et al.* [07LOM/HEA] using the NIST-F1 cesium fountain atomic clock.

The characteristic wavelengths of neutral cesium were first observed in 1861 by Kirchhoff and Bunsen [61KIR/BUN], who noticed a bright blue light when cesium salts were heated in a flame. Major additions to the measurement and analysis of the spectrum were made by Kratz [49KRA] and McNally *et al.* [49MCN/MOL], who measured the principal series in absorption, Johansson [61JOH], who observed emission lines in the infrared, and Kleiman [62KLE], whose interferometric measurements of 64 lines in the infrared and visible improved the accuracy of the wavelengths to ±0.001 Å. Eriksson *et al.* [64ERI/JOH] resolved some discrepancies in Kleiman's values involving the $6p\ ^2P$ levels. Based upon new measurements Eriksson and Wenåker [70ERI/WEN] recalculated the $4f$ to $12f\ ^2F$ and $6s$ to $11s\ ^2S$ levels and improved the value of the ionization energy. Lorenzen and Niemax [79LOR/NIE] remeasured the $np\ ^2P$ series to $n=27$ for $^2P_{3/2}$ and $n=13$ for $^2P_{1/2}$. Sansonetti [81SAN] then extended the known transitions further into the infrared and, in conjunction with Andrew and Verges [80SAN/AND, 81SAN/AND], published $n\ ^2F$ and $n\ ^2G$ levels to $n=11$.

The advent of laser spectroscopy brought the possibility for greatly improved accuracy. Frederiksson *et al.* [80FRE/LUN] reported the fine structure splittings for the 10 to 17 $f\ ^2F$ energy levels. Using Doppler-free two-photon spectroscopy, several experiments [79LOR/NIE, 80LOR/WEB, 82GOY/RAI, 83OSU/STO, 83LOR/NIE, 84SAN/LOR, 84LOR/NIE, 96CAT/FOR, 99HAG/NES, 07FEN/BER] were done to extend the range and accuracy of measured transitions and fine structure splittings. Weber and Sansonetti [87WEB/SAN] extended the absolute energy level accuracy to ±0.0002 cm^{-1} for transitions to $n=31$ for the ^2S levels $n=80$ for the $^2P_{1/2}$, $n=36$ for the $^2D_{5/2}$, $n=65$ for the $^2F_{5/2}$, and $n=54$ for the $^2G_{7/2}$. Recent absolute frequency measurements, [99UDE/REI, 00UDE/REI] enabled the measurement of a few levels to 1 part in 10^{10}, and femtosecond laser frequency combs have pushed that to a few parts in 10^{11} [05GER/TAN, 07FEN/BER]. It should be noted that the high precision measurements are of the frequencies of the transitions. In Table 1 we also provide air wavelengths for these transitions, which are calculated from the frequencies using the three-term formula of Peck and Reeder [72PEC/REE]. The wavelength uncertainties given do not include the uncertainty of the conversion, so if precision is important the wave numbers should be used.

Since cesium has only one naturally occurring isotope, all data in Tables 1 and 2 are for ^{133}Cs, which has a nuclear spin $I=7/2$. The hyperfine structure of the spectrum has been investigated by many research groups. The data available prior to 1976 were compiled by Belin *et al.* [76BEL/HOL], who also measured hyperfine splitting constants for many levels with $n \geqslant 7$. Several papers since then [78CAM/DEG, 83GIL/WAT, 88TAN/WIE, 94GEO/POL, 95FOR/ING, 97RAF/TAN, 99UDE/REI, 00LIU/BAI, 03GER/DER, 04GER/TAN] focused on a single energy level while others [77DEE/LUY, 77FAR/TSE, 81NAK/KEL, 91SAG/WIJ, 95FOR/CAT, 98YEI/SIE, 05GER/TAN, 05OHT/NIS, 06DAS/BAN, 06DAS/NAT, 06GER/CAL, 06KOR/MAS] observed many transitions. The measurement of the $6s\ ^2S_{1/2}$–$8p\ ^2p^\circ_{1/2}$ transition by Liu and Baird [00LIU/BAI], using Doppler-free laser spectroscopy, resulted in absolute frequencies for each of the hyperfine components. Not only did this yield the hyperfine splittings but it enabled the calculation of the center-of-gravity wavelength and the $8p\ ^2P^\circ_{1/2}$ energy level. Only one level has had the magnetic octupole hyperfine structure constant measured. Gerginov *et al.* [03GER/DER] obtained a value of $C=0.56(7)$ kHz for the $6p\ ^2P^\circ_{3/2}$ level. In Table 2 we have retained the results of Gerginov *et al.* [03GER/DER, 05GER/TAN, 06GER/CAL] as refined by Johnson *et al.* [04JOH/HO] for measurements involving the $6p\ ^2P^\circ_{1/2,3/2}$ levels. Das *et al.* [06DAS/BAN, 06DAS/NAT, 08DAS/NAT] reported results outside the range of the estimated errors of Gerginov *et al.*; however, the error analysis in the papers of Gerginov *et al.* papers is the more convincing. Moreover, recent frequency comb measurements in the corresponding levels in rubidium [08MAR/MCF] indicate a similar discrepancy between values obtained by Das *et al.* and other research groups.

TABLE 1. Observed spectral lines of Cs I

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
vacuum									
649.100	0.035	154 059.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)25d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
649.158	0.035	154 046.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)24d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
649.263	0.035	154 021.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)23d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
649.412	0.035	153 985.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)22d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
649.568	0.035	153 948.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)21d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
649.722	0.035	153 912.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)20d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
649.803	0.015	153 893.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)21s\,[1]^\circ_{3/2}$	96BAI/MAH	
649.912	0.035	153 867.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)19d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
650.022	0.015	153 841.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)20s\,[1]^\circ_{3/2}$	96BAI/MAH	
650.102	0.035	153 822.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)18d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
650.284	0.015	153 779.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)19s\,[1]^\circ_{3/2}$	96BAI/MAH	
650.391	0.035	153 754.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)17d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
650.602	0.015	153 704.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)18s\,[1]^\circ_{3/2}$	96BAI/MAH	
650.743	0.035	153 670.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)16d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
650.982	0.015	153 614.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)17s\,[1]^\circ_{3/2}$	96BAI/MAH	
651.183	0.035	153 567.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)15d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
651.504	0.015	153 491.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)16s\,[1]^\circ_{3/2}$	96BAI/MAH	
651.743	0.035	153 435.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)14d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
652.029	0.035	153 367.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)19d\,[2]^\circ_{3/2}$	96BAI/MAH	
652.183	0.015	153 331.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)15s\,[1]^\circ_{3/2}$	96BAI/MAH	
652.274	0.035	153 310.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)18d\,[2]^\circ_{3/2}$	96BAI/MAH	
652.451	0.035	153 268.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)13d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
652.522	0.035	153 252.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)l7d\,[2]^\circ_{3/2}$	96BAI/MAH	
652.897	0.035	153 164.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)16d\,[2]^\circ_{3/2}$	96BAI/MAH	
653.052	0.015	153 127.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)14s\,[1]^\circ_{3/2}$	96BAI/MAH	
653.343	0.035	153 059.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)15d\,[2]^\circ_{3/2}$	96BAI/MAH	
653.552	0.035	153 010.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)12d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
653.949	0.035	152 917.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)14d\,[2]^\circ_{3/2}$	96BAI/MAH	
654.207	0.015	152 857.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)15s\,[0]^\circ_{1/2}$	96BAI/MAH	
654.227	0.015	152 852.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)13s\,[1]^\circ_{3/2}$	96BAI/MAH	
654.685	0.035	152 745.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)13d\,[2]^\circ_{3/2}$	96BAI/MAH	
654.917	0.035	152 691.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)11d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
655.186	0.015	152 628.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)14s\,[0]^\circ_{1/2}$	96BAI/MAH	
655.706	0.035	152 507.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)12d\,[2]^\circ_{3/2}$	96BAI/MAH	
655.937	0.015	152 454.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)12s\,[1]^\circ_{3/2}$	96BAI/MAH	
656.395	0.015	152 347.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)13s\,[0]^\circ_{1/2}$	96BAI/MAH	
656.741	0.035	152 267.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)10d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
657.175	0.035	152 166.			4.E+8	$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)11d\,[2]^\circ_{3/2}$	96BAI/MAH	83KAU/SUG
657.998	0.015	151 976.			4.E+8	$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)12s\,[0]^\circ_{1/2}$	96BAI/MAH	83KAU/SUG
658.451	0.015	151 872.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)11s\,[1]^\circ_{3/2}$	96BAI/MAH	
659.198	0.035	151 699.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)10d\,[2]^\circ_{3/2}$	96BAI/MAH	
659.954	0.035	151 526.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)9d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
660.584	0.015	151 381.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)11s\,[0]^\circ_{1/2}$	96BAI/MAH	
662.178	0.035	151 017.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)9d\,[2]^\circ_{3/2}$	96BAI/MAH	
662.438	0.015	150 958.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)10s\,[1]^\circ_{3/2}$	96BAI/MAH	
664.554	0.015	150 477.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)10s\,[0]^\circ_{1/2}$	96BAI/MAH	
664.836	0.035	150 413.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)8d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	
667.863	0.035	149 731.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)8d\,[2]^\circ_{3/2}$	96BAI/MAH	
669.449	0.015	149 377.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)9s\,[1]^\circ_{3/2}$	96BAI/MAH	
671.587	0.015	148 901.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)9s\,[0]^\circ_{1/2}$	96BAI/MAH	
673.677	0.035	148 439.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)7d\,[1]^\circ_{1/2,3/2}, [2]^\circ_{3/2}$	96BAI/MAH	

TABLE 1. Observed spectral lines of Cs I—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A$_{ki}$ (s^{-1})	Lower Level	Upper Level	λ Ref.	A$_{ki}$ Ref.
675.918	0.035	147 947.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)7d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
677.289	0.035	147 647.			1.E+8	$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)7d\,[2]^\circ_{3/2}$	96BAI/MAH	83KAU/SUG
680.991	0.015	146 845.			1.E+8	$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)8s\,[1]^\circ_{1/2}$	96BAI/MAH	83KAU/SUG
683.343	0.015	146 339.			5.E+8	$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)8s\,[1]^\circ_{3/2}$	96BAI/MAH	83KAU/SUG
685.572	0.015	145 864.			3.E+8	$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)8s\,[0]^\circ_{1/2}$	96BAI/MAH	83KAU/SUG
693.388	0.035	144 219.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)6d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
701.463	0.035	142 559.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)6d\,[2]^\circ_{3/2}$	96BAI/MAH	
703.63	0.035	142 120.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)24d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
703.755	0.035	142 095.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)23d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
703.901	0.035	142 065.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)22d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
704.055	0.035	142 034.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)21d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
704.244	0.035	141 996.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)20d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
704.470	0.035	141 951.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)19d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
704.710	0.015	141 902.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)20s\,[1]^\circ_{3/2}$	96BAI/MAH	
704.780	0.035	141 888.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)18d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
705.004	0.015	141 843.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)19s\,[1]^\circ_{3/2}$	96BAI/MAH	
705.123	0.035	141 819.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)17d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
705.384	0.015	141 767.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)18s\,[1]^\circ_{3/2}$	96BAI/MAH	
705.561	0.035	141 731.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)16d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
705.846	0.015	141 674.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)17s\,[1]^\circ_{3/2}$	96BAI/MAH	
706.025	0.035	141 638.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)15d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
706.387	0.015	141 565.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)16s\,[1]^\circ_{3/2}$	96BAI/MAH	
706.713	0.035	141 500.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)14d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
707.211	0.015	141 401.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)15s\,[1]^\circ_{3/2}$	96BAI/MAH	
707.599	0.035	141 323.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)13d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
708.202	0.015	141 203.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)14s\,[1]^\circ_{3/2}$	96BAI/MAH	
708.719	0.035	141 100.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)12d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
709.598	0.015	140 925.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)13s\,[1]^\circ_{3/2}$	96BAI/MAH	
710.321	0.035	140 781.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)11d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
711.553	0.015	140 538.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)12s\,[1]^\circ_{3/2}$	96BAI/MAH	
712.536	0.035	140 344.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)10d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
714.669	0.015	139 925.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)11s\,[1]^\circ_{3/2}$	96BAI/MAH	
715.921	0.035	139 680.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)9d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
716.506	0.015	139 566.				$6s\ ^2S_{1/2}$	$5p^56s(^1P_1)7s\,[1]^\circ_{3/2}$	96BAI/MAH	
719.308	0.015	139 022.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)10s\,[1]^\circ_{3/2}$	96BAI/MAH	
720.853	0.015	138 725.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_0)7s\,[0]^\circ_{1/2}$	96BAI/MAH	
721.802	0.035	138 542.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)8d\,[1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
722.113	0.035	138 482.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)21d\,[0]^\circ_{1/2},\ [1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
722.297	0.035	138 447.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)20d\,[0]^\circ_{1/2},\ [1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
722.481	0.015	138 412.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)21s\ [2]^\circ_{3/2}$	96BAI/MAH	
722.542	0.035	138 400.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)19d\,[0]^\circ_{1/2},\ [1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
722.738	0.015	138 363.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)20s\ [2]^\circ_{3/2}$	96BAI/MAH	
722.855	0.035	138 340.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)18d\,[0]^\circ_{1/2},\ [1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
723.033	0.015	138 306.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)19s\ [2]^\circ_{3/2}$	96BAI/MAH	
723.217	0.035	138 271.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)17d\,[0]^\circ_{1/2},\ [1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
723.512	0.015	138 215.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)18s\ [2]^\circ_{3/2}$	96BAI/MAH	
723.610	0.035	138 196.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)16d\,[0]^\circ_{1/2},\ [1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
723.948	0.015	138 131.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)17s\ [2]^\circ_{3/2}$	96BAI/MAH	
724.199	0.035	138 084.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)15d\,[0]^\circ_{1/2},\ [1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
724.598	0.015	138 008.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)16s\ [2]^\circ_{3/2}$	96BAI/MAH	
724.916	0.035	137 947.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)14d\,[0]^\circ_{1/2},\ [1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
725.384	0.015	137 858.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)15s\ [2]^\circ_{3/2}$	96BAI/MAH	
725.739	0.035	137 791.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)13d\,[0]^\circ_{1/2},\ [1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
726.532	0.015	137 640.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)14s\ [2]^\circ_{3/2}$	96BAI/MAH	
726.961	0.035	137 559.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)12d\,[0]^\circ_{1/2},\ [1]^\circ_{1/2,3/2},\ [2]^\circ_{3/2}$	96BAI/MAH	
727.943	0.015	137 373.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_2)13s\ [2]^\circ_{3/2}$	96BAI/MAH	
728.302	0.015	137 306.				$6s\ ^2S_{1/2}$	$5p^56s(^3P_1)9s\,[1]^\circ_{3/2}$	96BAI/MAH	

TABLE 1. Observed spectral lines of Cs I—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
728.741	0.035	137 223.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)11d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
730.146	0.015	136 959.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)12s $[2]^\circ_{3/2}$	96BAI/MAH	
731.257	0.035	136 751.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)10d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
732.169	0.035	136 580.				6s $^2S_{1/2}$	5p^{5}6s($^3P_1$)7d $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
733.161	0.015	136 396.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)11s $[2]^\circ_{3/2}$	96BAI/MAH	
734.946	0.035	136 064.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)9d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
735.218	0.035	136 014.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)9d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
738.493	0.015	135 411.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)10s $[2]^\circ_{3/2}$	96BAI/MAH	
741.106	0.035	134 933.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)8d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
741.429	0.035	134 875.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)8d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
741.977	0.035	134 775.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)8d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
745.840	0.015	134 077.				6s $^2S_{1/2}$	5p^{5}6s($^3P_1$)5s $[1]^\circ_{3/2}$	96BAI/MAH	
746.373	0.015	133 981.				6s $^2S_{1/2}$	5p^{5}6s($^3P_1$)5s $[1]^\circ_{3/2}$	96BAI/MAH	
747.694	0.015	133 745.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)9s $[2]^\circ_{3/2}$	96BAI/MAH	
747.890	0.035	133 710.				6s $^2S_{1/2}$	5p^{5}6s($^1P_1$)5d $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
749.052	0.035	133 502.				6s $^2S_{1/2}$	5p^{5}6s($^1P_1$)5d $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
751.356	0.035	133 093.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)7d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
752.949	0.035	132 811.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)7d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
753.768	0.035	132 667.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)7d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
754.263	0.035	132 580.				6s $^2S_{1/2}$	5p^{5}6s($^3P_1$)6d $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
755.869	0.035	132 298.				6s $^2S_{1/2}$	5p^{5}6s($^3P_1$)6d $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
758.104	0.035	131 908.				6s $^2S_{1/2}$	5p^{5}6s($^3P_0$)5d $[2]^\circ_{3/2}$	96BAI/MAH	
765.759	0.015	130 589.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)8s $[2]^\circ_{3/2}$	96BAI/MAH	
776.258	0.035	128 823.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)6d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
778.695	0.035	128 420.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)6d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
779.774	0.035	128 242.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)6d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
781.393	0.035	127 977.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)6d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
784.850	0.015	127 413.				6s $^2S_{1/2}$	5p^{5}6s($^3P_1$)7s $[1]^\circ_{3/2}$	96BAI/MAH	
790.583	0.015	126 489.				6s $^2S_{1/2}$	5p^{5}6s($^3P_1$)7s $[1]^\circ_{3/2}$	96BAI/MAH	
809.809	0.015	123 486.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)7s $[2]^\circ_{3/2}$	96BAI/MAH	
815.606	0.035	122 608.				6s $^2S_{1/2}$	5p^{5}6s($^3P_1$)5d $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
828.606	0.035	120 685.				6s $^2S_{1/2}$	5p^{5}6s($^3P_1$)5d $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
832.872	0.035	120 066.				6s $^2S_{1/2}$	5p^{5}6s($^3P_1$)5d $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
849.689	0.035	117 690.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)5d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
873.015	0.035	114 546.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)5d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
874.685	0.035	114 327.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)5d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
881.136	0.035	113 490.				6s $^2S_{1/2}$	5p^{5}6s($^3P_2$)5d $[0]^\circ_{1/2}$, $[1]^\circ_{1/2,3/2}$, $[2]^\circ_{3/2}$	96BAI/MAH	
969.0	0.5	103 200				5d $^2D_{3/2}$	5p^{5}6s5d $^4D^\circ_{1/2}$	92BAR/YIN	
1 089.98	0.035	91 745.			2.4E+6	5d $^2D_{3/2}$	5p^{5}6s($^3P_2$)5d $^4P^\circ_{5/2}$	86PED/DIM	86PED/DIM
1 091.11	0.035	91 650.			4.0E+7	5d $^2D_{5/2}$	5p^{5}6s($^3P_2$)5d $^4P^\circ_{5/2}$	86PED/DIM	86PED/DIM
1 195.8	0.3	83 626.				6d $^2D_{3/2,5/2}$	5p^{5}6s($^3P_2$)5d $^4P^\circ_{5/2}$	87MEN/BAR	
1 257.2	0.3	80 180.				7d $^2D_{3/2,5/2}$	5p^{5}6s($^3P_2$)5d $^4P^\circ_{5/2}$	87MEN/BAR	
Air									
3 207.507	0.005	31 167.86				6s $^2S_{1/2}$	25p $^2P^\circ_{1/2,3/2}$	49KRA	
3 209.967	0.005	31 143.97				6s $^2S_{1/2}$	24p $^2P^\circ_{1/2,3/2}$	49KRA	
3 212.831	0.005	31 116.21				6s $^2S_{1/2}$	23p $^2P^\circ_{1/2,3/2}$	49KRA	
3 216.171	0.005	31 083.90				6s $^2S_{1/2}$	22p $^2P^\circ_{1/2,3/2}$	49KRA	
3 220.116	0.005	31 045.82				6s $^2S_{1/2}$	21p $^2P^\circ_{3/2}$	49KRA	
3 220.258	0.005	31 044.45				6s $^2S_{1/2}$	21p $^2P^\circ_{1/2}$	49KRA	
3 224.817	0.005	31 000.56				6s $^2S_{1/2}$	20p $^2P^\circ_{3/2}$	49KRA	
3 224.982	0.005	30 998.97				6s $^2S_{1/2}$	20p $^2P^\circ_{1/2}$	49KRA	
3 230.477	0.005	30 946.25				6s $^2S_{1/2}$	19p $^2P^\circ_{3/2}$	49KRA	
3 230.680	0.005	30 944.30				6s $^2S_{1/2}$	19p $^2P^\circ_{1/2}$	49KRA	
3 237.382	0.005	30 880.24				6s $^2S_{1/2}$	18p $^2P^\circ_{3/2}$	49KRA	
3 237.630	0.005	30 877.88				6s $^2S_{1/2}$	18p $^2P^\circ_{1/2}$	49KRA	
3 245.925	0.005	30 798.97				6s $^2S_{1/2}$	17p $^2P^\circ_{3/2}$	49KRA	

TABLE 1. Observed spectral lines of Cs I—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
3 246.236	0.005	30 796.02				6s $^2S_{1/2}$	17p $^2P^\circ_{1/2}$	49KRA	
3 256.672	0.005	30 697.34				6s $^2S_{1/2}$	16p $^2P^\circ_{3/2}$	49KRA	
3 257.071	0.005	30 693.58				6s $^2S_{1/2}$	16p $^2P^\circ_{1/2}$	49KRA	
3 270.474	0.005	30 567.80				6s $^2S_{1/2}$	15p $^2P^\circ_{3/2}$	49KRA	
3 270.977	0.005	30 563.10				6s $^2S_{1/2}$	15p $^2P^\circ_{1/2}$	49KRA	
3 288.601	0.005	30 399.31			8.94E+3	6s $^2S_{1/2}$	14p $^2P^\circ_{3/2}$	49KRA	00MOR
3 289.286	0.005	30 392.98			2.52E+2	6s $^2S_{1/2}$	14p $^2P^\circ_{1/2}$	49KRA	00MOR
3 313.121	0.005	30 174.34			1.45E+4	6s $^2S_{1/2}$	13p $^2P^\circ_{3/2}$	49KRA	00MOR
3 314.055	0.005	30 165.83			4.97E+2	6s $^2S_{1/2}$	13p $^2P^\circ_{1/2}$	49KRA	00MOR
3 347.490	0.005	29 864.54			2.14E+4	6s $^2S_{1/2}$	12p $^2P^\circ_{3/2}$	49KRA	00MOR
3 348.820	0.005	29 852.68			1.06E+3	6s $^2S_{1/2}$	12p $^2P^\circ_{1/2}$	49KRA	00MOR
3 397.966	0.005	29 420.93			3.61E+4	6s $^2S_{1/2}$	11p $^2P^\circ_{3/2}$	49KRA	00MOR
3 399.979	0.005	29 403.51			2.36E+3	6s $^2S_{1/2}$	11p $^2P^\circ_{1/2}$	49KRA	00MOR
3 476.809	0.005	28 753.77			6.27E+4	6s $^2S_{1/2}$	10p $^2P^\circ_{3/2}$	49KRA	00MOR
3 480.060	0.005	28 726.91			6.33E+3	6s $^2S_{1/2}$	10p $^2P^\circ_{1/2}$	49KRA	00MOR
3 611.471 4	0.001 9	27 681.650	160		1.43E+5	6s $^2S_{1/2}$	9p $^2P^\circ_{3/2}$	81SAN	00MOR
3 617.308 4	0.001 7	27 636.983	32		2.23E+4	6s $^2S_{1/2}$	9p $^2P^\circ_{1/2}$	81SAN	00MOR
3 876.148 6	0.000 8	25 791.494	2 100		3.86E+5	6s $^2S_{1/2}$	8p $^2P^\circ_{3/2}$	81SAN	00MOR
3 888.608 502	0.000 005	25 708.854 73	600		8.99E+4	6s $^2S_{1/2}$	8p $^2P^\circ_{1/2}$	00LIU/BAI	00MOR
4 111.164 0700	0.000 000 2	24 317.149 400				6s $^2S_{1/2}$	8s $^2S_{1/2}$	07FEN/BER	
4 417.343 2	0.000 2	22 631.684				6s $^2S_{1/2}$	6d $^2D_{5/2}$	64ERI/JOH	
4 425.725 8	0.000 2	22 588.823				6s $^2S_{1/2}$	6d $^2D_{3/2}$	64ERI/JOH	
4 555.279 9	0.000 5	21 946.263			1.84(2)E+6	6s $^2S_{1/2}$	7p $^2P^\circ_{3/2}$	62KLE	02VAS/SAV
4 593.172 1	0.000 5	21 765.211			7.93(8)E+5	6s $^2S_{1/2}$	7p $^2P^\circ_{1/2}$	62KLE	02VAS/SAV
5 152.681 3	0.000 5	19 401.967				6p $^2P^\circ_{1/2}$	14d $^2D_{3/2}$	62KLE	
5 196.734 3	0.000 5	19 237.497				6p $^2P^\circ_{1/2}$	13d $^2D_{3/2}$	62KLE	
5 256.563 3	0.000 5	19 018.543				6p $^2P^\circ_{1/2}$	12d $^2D_{3/2}$	62KLE	
5 301.40	0.02	18 857.7				6p $^2P^\circ_{1/2}$	13s $^2S_{1/2}$	62KLE	
5 303.776 6	0.000 5	18 849.245				6p $^2P^\circ_{3/2}$	19d $^2D_{5/2}$	62KLE	
5 340.941 8	0.000 5	18 718.088				6p $^2P^\circ_{1/2}$	11d $^2D_{3/2}$	62KLE	
5 350.351 2	0.000 5	18 685.165				6p $^2P^\circ_{3/2}$	13d $^2D_{5/2}$	62KLE	
5 406.667 2	0.000 5	18 490.542				6p $^2P^\circ_{1/2}$	12s $^2S_{1/2}$	62KLE	
5 413.614 5	0.000 5	18 466.813				6p $^2P^\circ_{3/2}$	12d $^2D_{5/2}$	62KLE	
5 414.28	0.02	18 464.5				6p $^2P^\circ_{3/2}$	12d $^2D_{3/2}$	62KLE	
5 461.923 1	0.000 5	18 303.484				6p $^2P^\circ_{3/2}$	13s $^2S_{1/2}$	62KLE	
5 465.944 3	0.000 5	18 290.023		b		6p $^2P^\circ_{1/2}$	10d $^2D_{3/2}$	62KLE	
5 502.884 3	0.000 5	18 167.253				6p $^2P^\circ_{3/2}$	11d $^2D_{5/2}$	62KLE	
5 503.852 4	0.000 5	18 164.046				6p $^2P^\circ_{3/2}$	11d $^2D_{3/2}$	62KLE	
5 568.407 8	0.000 5	17 953.469				6p $^2P^\circ_{1/2}$	11s $^2S_{1/2}$	62KLE	
5 573.674 0	0.000 5	17 936.506				6p $^2P^\circ_{3/2}$	12s $^2S_{1/2}$	62KLE	
5 635.212 3	0.000 5	17 740.637				6p $^2P^\circ_{3/2}$	10d $^2D_{5/2}$	62KLE	
5 636.67	0.02	17 736.1				6p $^2P^\circ_{3/2}$	10d $^2D_{3/2}$	62KLE	
5 664.018 3	0.000 5	17 650.412		b		6p $^2P^\circ_{1/2}$	9d $^2D_{3/2}$	62KLE	
5 745.724 4	0.000 5	17 399.420				6p $^2P^\circ_{3/2}$	11s $^2S_{1/2}$	62KLE	
5 838.834 7	0.000 5	17 121.960		b		6p $^2P^\circ_{1/2}$	10s $^2S_{1/2}$	62KLE	
5 845.141 0	0.000 5	17 103.486				6p $^2P^\circ_{3/2}$	9d $^2D_{5/2}$	62KLE	
6 010.490 5	0.000 5	16 632.971		b		6p $^2P^\circ_{1/2}$	8d $^2D_{3/2}$	62KLE	
6 034.089 5	0.000 5	16 567.922				6p $^2P^\circ_{3/2}$	10s $^2S_{1/2}$	62KLE	
6 116.52	0.02	16 344.6				5d $^2D_{3/2}$	14f $^2F^\circ_{5/2}$	62KLE	
6 150.38	0.02	16 254.8				5d $^2D_{3/2}$	13f $^2F^\circ_{5/2}$	62KLE	
6 153.238 1	0.000 5	16 247.109 5				5d $^2D_{3/2}$	14f $^2F^\circ_{7/2}$	70ERI/WEN	
6 187.544 2	0.000 5	16 157.030 0				5d $^2D_{5/2}$	13f $^2F^\circ_{7/2}$	70ERI/WEN	
6 193.668 9	0.000 5	16 141.053 1				9d $^2D_{3/2}$	12f $^2F^\circ_{5/2}$	70ERI/WEN	
6 213.099 8	0.000 5	16 090.574				6p $^2P^\circ_{3/2}$	8d $^2D_{5/2}$	62KLE	
6 217.598 6	0.000 5	16 078.932				6p $^2P^\circ_{3/2}$	8d $^2D_{3/2}$	62KLE	
6 231.349 0	0.000 5	16 043.451 2				5d $^2D_{5/2}$	12f $^2F^\circ_{7/2}$	70ERI/WEN	
6 250.214 9	0.000 5	15 995.025 4		d		5d $^2D_{3/2}$	11f $^2F^\circ_{5/2}$	70ERI/WEN	

TABLE 1. Observed spectral lines of Cs I—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
6 288.592 7	0.000 5	15 897.412 3		d		5d $^2D_{5/2}$	11f $^2F^\circ_{7/2}$	70ERI/WEN	
6 326.203 4	0.000 5	15 802.899 4		d		5d $^2D_{3/2}$	10f $^2F^\circ_{5/2}$	70ERI/WEN	
6 354.554 8	0.000 5	15 732.394		b		6p $^2P^\circ_{1/2}$	9s $^2S_{1/2}$	62KLE	
6 365.522 6	0.000 5	15 705.287 2		d		5d $^2D_{5/2}$	10f $^2F^\circ_{7/2}$	70ERI/WEN	
6 431.966 2	0.000 5	15 543.049 5				5d $^2D_{3/2}$	9f $^2F^\circ_{5/2}$	70ERI/WEN	
6 472.619 6	0.000 5	15 445.427 0				5d $^2D_{5/2}$	9f $^2F^\circ_{7/2}$	70ERI/WEN	
6 586.021 6	0.000 5	15 179.480 5				5d $^2D_{3/2}$	8f $^2F^\circ_{5/2}$	70ERI/WEN	
6 586.509 6	0.000 5	15 178.356				6p $^2P^\circ_{3/2}$	9s $^2S_{1/2}$	62KLE	
6 628.657 6	0.000 5	15 081.845 7				5d $^2D_{5/2}$	8f $^2F^\circ_{7/2}$	70ERI/WEN	
6 707.685 9	0.002 1	14 904.156	25			5d $^2D_{3/2}$	11p $^2P^\circ_{1/2}$	81SAN	
6 723.283 8	0.000 9	14 869.579 3	33 000			6p $^2P^\circ_{3/2}$	7d $^2D_{3/2}$	81SAN	
6 743.969	0.003	14 823.972	31			5d $^2D_{5/2}$	11p $^2P^\circ_{3/2}$	81SAN	
6 824.651 3	0.000 5	14 648.720 9				5d $^2D_{3/2}$	7f $^2F^\circ_{5/2}$	70ERI/WEN	
6 848.905 6	0.000 5	14 596.845 2			2.22(2)E+1	6s $^2S_{1/2}$	5d $^2D_{5/2}$	70ERI/WEN	05TOJ/FUJ
6 870.454 4	0.000 5	14 551.063 2				5d $^2D_{5/2}$	7f $^2F^\circ_{7/2}$	70ERI/WEN	
6 895.003 0	0.000 5	14 499.256 8				6s $^2S_{1/2}$	5d $^2D_{3/2}$	70ERI/WEN	
6 973.296 6	0.000 5	14 336.466				6p $^2P^\circ_{3/2}$	7d $^2D_{5/2}$	62KLE	
6 983.491 2	0.000 5	14 315.538				6p $^2P^\circ_{3/2}$	7d $^2D_{3/2}$	62KLE	
7 026.680 1	0.001 1	14 227.548 5	100			5d $^2D_{3/2}$	10p $^2P^\circ_{1/2}$	81SAN	
7 061.781 5	0.001 3	14 156.829	130			5d $^2D_{5/2}$	10p $^2P^\circ_{3/2}$	81SAN	
7 228.533 6	0.000 5	13 830.253 1				5d $^2D_{3/2}$	6f $^2F^\circ_{5/2}$	70ERI/WEN	
7 279.889	0.000 5	13 732.670				5d $^2D_{5/2}$	6f $^2F^\circ_{5/2}$	70ERI/WEN	
7 279.956 8	0.000 5	13 732.561 3				5d $^2D_{5/2}$	6f $^2F^\circ_{7/2}$	70ERI/WEN	
7 583.775 4	0.001 2	13 182.415 3	120			5d $^2D_{3/2}$	9p $^2P^\circ_{3/2}$	81SAN	
7 608.903 2	0.000 5	13 138.882		b		6p $^2P^\circ_{1/2}$	8s $^2S_{1/2}$	62KLE	
7 609.567 9	0.001 1	13 137.733 9	530			5d $^2D_{3/2}$	9p $^2P^\circ_{1/2}$	81SAN	
7 640.333 7	0.001 1	13 084.831 7	720			5d $^2D_{5/2}$	9p $^2P^\circ_{3/2}$	81SAN	
7 943.882 0	0.000 5	12 584.843				6p $^2P^\circ_{3/2}$	8s $^2S_{1/2}$	62KLE	
8 015.726 3	0.000 5	12 472.045 8				5d $^2D_{3/2}$	5f $^2F^\circ_{5/2}$	70ERI/WEN	
8 078.936	0.000 5	12 374.463				5d $^2D_{5/2}$	5f $^2F^\circ_{5/2}$	70ERI/WEN	
8 079.036 3	0.000 5	12 374.311 2				5d $^2D_{5/2}$	5f $^2F^\circ_{7/2}$	70ERI/WEN	
8 521.131 653 0	0.000 000 2	11 732.307 104 1			3.279E+7	6s $^2S_{1/2}$	6p $^2P^\circ_{3/2}$	05GER/TAN	94RAF/TAN
8 761.412 1	0.000 8	11 410.552				6p $^2P^\circ_{1/2}$	6d $^2D_{3/2}$	64ERI/JOH	
8 853.202 1	0.002 1	11 292.247	680			5d $^2D_{3/2}$	8p $^2P^\circ_{3/2}$	81SAN	
8 918.499	0.003	11 209.572	3 600			5d $^2D_{3/2}$	8p $^2P^\circ_{1/2}$	81SAN	
8 930.377	0.004	11 194.662	5 200			5d $^2D_{5/2}$	8p $^2P^\circ_{3/2}$	81SAN	
8 943.474 238 76	0.000 000 06	11 178.268 158 70			2.862E+7	6s $^2S_{1/2}$	6p $^2P^\circ_{1/2}$	06GER/CAL	94RAF/TAN
9 172.317 8	0.000 8	10 899.378				6p $^2P^\circ_{3/2}$	6d $^2D_{5/2}$	64ERI/JOH	
9 208.533 8	0.000 8	10 856.513				6p $^2P^\circ_{3/2}$	6d $^2D_{3/2}$	64ERI/JOH	
9 783.830 9	0.001 7	10 218.143 2	130			7s $^2S_{1/2}$	10p $^2P^\circ_{3/2}$	81SAN	
9 809.621	0.003	10 191.279	34			7s $^2S_{1/2}$	10p $^2P^\circ_{1/2}$	81SAN	
Vacuum									
10 027.103 3	0.001 0	9 972.970 0	190 000			5d $^2D_{3/2}$	4f $^2F^\circ_{5/2}$	70ERI/WEN	
10 126.188	0.001	9 875.384	48 000			5d $^2D_{5/2}$	4f $^2F^\circ_{5/2}$	70ERI/WEN	
10 126.376 7	0.001 0	9 875.200 5	260 000			5d $^2D_{5/2}$	4f $^2F^\circ_{7/2}$	70ERI/WEN	
10 933.568	0.003	9 146.145 1	1 200			7s $^2S_{1/2}$	9p $^2P^\circ_{3/2}$	81SAN	
10 987.243	0.003	9 101.464	290			7s $^2S_{1/2}$	9p $^2P^\circ_{1/2}$	81SAN	
11 804.870	0.008	8 471.080	30			7p $^2P^\circ_{3/2}$	13d $^2D_{5/2}$	81SAN	
11 860.339	0.013	8 431.462	53			7p $^2P^\circ_{1/2}$	12d $^2D_{3/2}$	81SAN	
12 091.255	0.003	8 270.439 9	11			7p $^2P^\circ_{1/2}$	13s $^2S_{1/2}$	81SAN	
12 117.234 9	0.002 3	8 252.707 9	61			7p $^2P^\circ_{3/2}$	12d $^2D_{5/2}$	81SAN	
12 298.617	0.003	8 130.995 6	110			7p $^2P^\circ_{1/2}$	11d $^2D_{3/2}$	81SAN	
12 361.884	0.010	8 089.382	29			7p $^2P^\circ_{3/2}$	13s $^2S_{1/2}$	81SAN	
12 573.623 0	0.002 5	7 953.157 2	180			7p $^2P^\circ_{3/2}$	11d $^2D_{5/2}$	81SAN	
12 578.692	0.008	7 949.952	26			7p $^2P^\circ_{3/2}$	11d $^2D_{3/2}$	81SAN	
12 652.703	0.003	7 903.449 6	34			7p $^2P^\circ_{1/2}$	12s $^2S_{1/2}$	81SAN	

TABLE 1. Observed spectral lines of Cs I—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
12 949.335	0.003	7 722.404 5	57			7p $^2P^\circ_{3/2}$	12s $^2S_{1/2}$	81SAN	
12 982.049	0.004	7 702.944 0	350			7p $^2P^\circ_{1/2}$	10d $^2D_{3/2}$	81SAN	
13 286.302	0.003	7 526.549 0	850			7p $^2P^\circ_{3/2}$	10d $^2D_{5/2}$	81SAN	
13 294.524	0.003	7 521.894 1	70			7p $^2P^\circ_{3/2}$	10d $^2D_{3/2}$	81SAN	
13 416.532	0.008	7 453.491	45			6d $^2D_{3/2}$	9f $^2F^\circ_{5/2}$	81SAN	
13 427.985	0.003	7 447.134 0	29 000			5d $^2D_{3/2}$	7p $^2P^\circ_{3/2}$	81SAN	
13 494.206	0.007	7 410.588	79			6d $^2D_{5/2}$	9f $^2F^\circ_{7/2}$	81SAN	
13 575.189	0.003	7 366.380 2	114			7p $^2P^\circ_{1/2}$	11s $^2S_{1/2}$	81SAN	
13 592.008	0.003	7 357.264 4	380 000			6p $^2P^\circ_{1/2}$	7s $^2S_{1/2}$	81SAN	
13 606.276	0.003	7 349.549 7	84 000			5d $^2D_{5/2}$	7p $^2P^\circ_{3/2}$	81SAN	
13 762.570	0.003	7 266.084 8	57 000			5d $^2D_{3/2}$	7p $^2P^\circ_{1/2}$	81SAN	
13 781.739	0.003	7 255.978 5	8 500			7s $^2S_{1/2}$	8p $^2P^\circ_{3/2}$	81SAN	
13 917.239 7	0.002 5	7 185.332 9	150			7p $^2P^\circ_{3/2}$	11s $^2S_{1/2}$	81SAN	
13 940.576 7	0.002 2	7 173.304 4	3 200			7s $^2S_{1/2}$	6p $^2P^\circ_{1/2}$	81SAN	
14 104.532	0.003	7 089.919 7	110			6d $^2D_{3/2}$	6f $^2F^\circ_{5/2}$	81SAN	
14 157.616	0.003	7 063.335 9	1 300			7p $^2P^\circ_{1/2}$	9d $^2D_{3/2}$	81SAN	
14 190.435	0.004	7 047.000 5	180			6d $^2D_{5/2}$	8f $^2F^\circ_{7/2}$	81SAN	
14 515.051	0.003	6 889.400 7	2 500			7p $^2P^\circ_{3/2}$	9d $^2D_{5/2}$	81SAN	
14 530.052	0.004	6 882.287 6	400			7p $^2P^\circ_{3/2}$	9d $^2D_{3/2}$	81SAN	
14 674.373	0.004	6 814.601 3	33			6d $^2D_{3/2}$	11p $^2P^\circ_{1/2}$	81SAN	
14 698.925 0	0.002 1	6 803.218 6	550 000			6p $^2P^\circ_{1/2}$	7s $^2S_{1/2}$	81SAN	
14 729.413	0.005	6 789.136 7	46			6d $^2D_{5/2}$	11p $^2P^\circ_{3/2}$	81SAN	
15 245.859	0.003	6 559.158 3	680			6d $^2D_{3/2}$	7f $^2F^\circ_{5/2}$	81SAN	
15 302.505	0.006	6 534.877 6	560			7p $^2P^\circ_{1/2}$	10s $^2S_{1/2}$	81SAN	
15 346.155	0.003	6 516.290 1	100			6d $^2D_{5/2}$	7f $^2F^\circ_{5/2}$	81SAN	
15 346.324	0.003	6 516.218 6	790			6d $^2D_{5/2}$	7f $^2F^\circ_{7/2}$	81SAN	
15 738.537	0.003	6 353.830 9	920			7p $^2P^\circ_{3/2}$	10s $^2S_{1/2}$	81SAN	
16 221.032	0.013	6 164.836	29			6d $^2D_{3/2}$	10p $^2P^\circ_{3/2}$	81SAN	
16 291.979	0.004	6 137.989 9	350			6d $^2D_{3/2}$	10p $^2P^\circ_{1/2}$	81SAN	
16 334.562	0.004	6 121.988 5	300			6d $^2D_{5/2}$	10p $^2P^\circ_{3/2}$	81SAN	
16 540.150	0.003	6 045.894 3	8 200			7p $^2P^\circ_{1/2}$	8d $^2D_{3/2}$	81SAN	
16 593.638	0.014	6 026.406	7			4f $^2F^\circ_{7/2}$	11g ^2G	81SAN/AND	
16 594.134	0.014	6 026.226	5			4f $^2F^\circ_{5/2}$	11g $^2G_{7/2}$	81SAN/AND	
17 016.967	0.004	5 876.488 0	15 000			7p $^2P^\circ_{3/2}$	8d $^2D_{5/2}$	81SAN	
17 050.748	0.003	5 864.845 5	1 400			7p $^2P^\circ_{3/2}$	8d $^2D_{3/2}$	81SAN	
17 136.175	0.009	5 835.608	26			4f $^2F^\circ_{7/2}$	10g ^2G	81SAN/AND	
17 136.709	0.009	5 835.426	19			4f $^2F^\circ_{5/2}$	10g $^2G_{7/2}$	81SAN/AND	
17 419.506	0.004	5 740.690 9	2 200			6d $^2D_{3/2}$	6f $^2F^\circ_{5/2}$	81SAN	
17 550.561	0.005	5 697.823 5	260			6d $^2D_{5/2}$	6f $^2F^\circ_{5/2}$	81SAN	
17 550.882	0.004	5 697.719 2	2 600			6d $^2D_{5/2}$	6f $^2F^\circ_{7/2}$	81SAN	
17 928.529	0.007	5 577.702 5	110			4f $^2F^\circ_{7/2}$	9g ^2G	81SAN/AND	
17 929.116	0.007	5 577.519 8	88			4f $^2F^\circ_{5/2}$	9g $^2G_{7/2}$	81SAN/AND	
19 167.777	0.006	5 217.089 0	250			4f $^2F^\circ_{7/2}$	8g ^2G	81SAN/AND	
19 168.447	0.005	5 216.906 8	230			4f $^2F^\circ_{5/2}$	8g $^2G_{7/2}$	81SAN/AND	
19 435.164	0.005	5 145.312 9	3 800			7p $^2P^\circ_{1/2}$	9s $^2S_{1/2}$	81SAN	
19 635.345	0.005	5 092.856 8	190			6d $^2D_{3/2}$	9p $^2P^\circ_{3/2}$	81SAN	
19 802.017	0.004	5 049.990 5	2 200			6d $^2D_{5/2}$	9p $^2P^\circ_{3/2}$	81SAN	
19 809.139	0.004	5 048.174 9	1 500			6d $^2D_{3/2}$	9p $^2P^\circ_{1/2}$	81SAN	
19 996.393	0.011	5 000.902	55			4f $^2F^\circ_{7/2}$	10d $^2D_{5/2}$	81SAN	
19 997.100	0.015	5 000.725	3			4f $^2F^\circ_{5/2}$	10d $^2D_{5/2}$	81SAN	
20 015.760	0.013	4 996.063	40			4f $^2F^\circ_{5/2}$	10d $^2D_{3/2}$	81SAN	
20 143.965	0.005	4 964.265 9	7 600			7p $^2P^\circ_{3/2}$	9s $^2S_{1/2}$	81SAN	
21 317.301	0.010	4 691.025 4	1 800			4f $^2F^\circ_{7/2}$	7g ^2G	81SAN/AND	
21 318.130	0.009	4 690.843 0	1 700			4f $^2F^\circ_{5/2}$	7g $^2G_{7/2}$	81SAN/AND	
22 818.081	0.005	4 382.489 4	8 800			6d $^2D_{3/2}$	5f $^2F^\circ_{5/2}$	81SAN	
22 916.060	0.009	4 363.751 8	180			4f $^2F^\circ_{7/2}$	9d $^2D_{5/2}$	81SAN	
22 954.446	0.008	4 356.454 6	110			4f $^2F^\circ_{5/2}$	9d $^2D_{3/2}$	81SAN	

TABLE 1. Observed spectral lines of Cs I—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
23 043.465	0.012	4 339.625 2	740			6d $^2D_{5/2}$	5f $^2F^\circ_{5/2}$	81SAN	
23 044.271	0.005	4 339.473 3	11 000			6d $^2D_{5/2}$	5f $^2F^\circ_{7/2}$	81SAN	
23 350.837	0.009	4 282.501 7	39 000			7p $^2P^\circ_{1/2}$	7d $^2D_{3/2}$	81SAN	
23 880.477	0.08	4 187.521	500			8p $^2P^\circ_{1/2}$	11d $^2D_{3/2}$	81SAN	
24 257.831	0.006	4 122.380 1	44 000			7p $^2P^\circ_{3/2}$	7d $^2D_{5/2}$	81SAN	
24 381.609	0.006	4 101.452 1	8 500			7p $^2P^\circ_{3/2}$	7d $^2D_{3/2}$	81SAN	
25 770.543	0.008	3 880.399 4	8 900			4f $^2F^\circ_{7/2}$	6g ^2G	81SAN/AND	
25 771.759	0.009	3 880.216 4	5 000			4f $^2F^\circ_{5/2}$	6g $^2G_{7/2}$	81SAN/AND	
25 791.216	0.03	3 877.289	40			8p $^2P^\circ_{3/2}$	12s $^2S_{1/2}$	81SAN	
26 599.620	0.014	3 759.452 2	160			8p $^2P^\circ_{1/2}$	10d $^2D_{3/2}$	81SAN	
27 163.339	0.015	3 681.432 6	65			8p $^2P^\circ_{3/2}$	10d $^2D_{5/2}$	81SAN	
29 318.050	0.03	3 410.868	6 800			7s $^2S_{1/2}$	7p $^2P^\circ_{3/2}$	81SAN	
29 843.278	0.012	3 350.838 3	21			4f $^2F^\circ_{7/2}$	8d $^2D_{5/2}$	81SAN	
29 948.965	0.013	3 339.013 6	14			4f $^2F^\circ_{5/2}$	8d $^2D_{3/2}$	81SAN	
30 111.485	0.03	3 320.992	28 000		9.13E+5	6p $^2P^\circ_{1/2}$	5d $^2D_{3/2}$	81SAN	04SAF/CLA
30 961.497	0.03	3 229.818	8 100			7s $^2S_{1/2}$	7p $^2P^\circ_{1/2}$	81SAN	
31 223.752	0.013	3 202.690 1	47			6d $^2D_{3/2}$	8p $^2P^\circ_{3/2}$	81SAN	
31 647.326	0.011	3 159.824 6	390			6d $^2D_{5/2}$	8p $^2P^\circ_{3/2}$	81SAN	
32 051.125	0.013	3 120.015 3	280			6d $^2D_{3/2}$	8p $^2P^\circ_{1/2}$	81SAN	
32 052.872	0.018	3 119.845 2	15			8p $^2P^\circ_{1/2}$	9d $^2D_{3/2}$	81SAN	
32 848.441	0.018	3 044.284 5	22			8p $^2P^\circ_{3/2}$	9d $^2D_{5/2}$	81SAN	
32 925.387	0.025	3 037.170 1	2			8p $^2P^\circ_{3/2}$	9d $^2D_{3/2}$	81SAN	
34 909.647	0.03	2 864.537 7	11 000		7.81(5)E+5	6p $^2P^\circ_{3/2}$	5d $^2D_{5/2}$	81SAN	98DIB/TAN
36 140.854	0.024	2 766.951 8	1 900		1.07E+5	6p $^2P^\circ_{3/2}$	5d $^2D_{3/2}$	81SAN	04SAF/CLA
39 187.969	0.03	2 551.803 6	18			7p $^2P^\circ_{1/2}$	8s $^2S_{1/2}$	81SAN	
39 432.001	0.016	2 536.011 3	16			4f $^2F^\circ_{7/2}$	5g $^2G_{7/2,9/2}$	81SAN/AND	
39 434.864	0.016	2 535.827 2	13			4f $^2F^\circ_{5/2}$	5g $^2G_{7/2}$	81SAN/AND	

TABLE 2. Energy levels of Cs I

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference	Hyperfine Constants A (MHz)	Hyperfine Constants B (MHz)	Hyperfine Reference
$5p^66s$	^2S	1/2	0.000 0	–		2 298.157 943		frequency standard
$5p^66p$	$^2P^\circ$	1/2	11 178.268 158 70	0.000 000 08	06GER/CAL	291.930 9(12)		06GER/CAL
	$^2P^\circ$	3/2	11 732.307 104 1	0.000 00 02	05GER/TAN	50.288 25(23)	−0.494 0(17)	04JOH/HO
$5p^65d$	^2D	3/2	14 499.256 8	0.001	70ERI/WEN	48.78(7)	0.1(7)	98YEI/SIE
	^2D	5/2	14 596.842 32	0.000 20	87WEB/SAN	−21.24(5)	0.2(5)	98YEI/SIE
$5p^67s$	^2S	1/2	18 535.528 6	0.003 0	87WEB/SAN	545.90(9)		83GIL/WAT
$5p^67p$	$^2P^\circ$	1/2	21 765.348	0.020	62KLE	94.35(4)		76BEL/HOL
	$^2P^\circ$	3/2	21 946.397	0.026	62KLE,84SAN/LOR	16.609(5)		76BEL/HOL
$5p^66d$	^2D	3/2	22 588.821 0	0.001	64ERI/JOH	16.34(3)	−0.1(2)	06KOR/MAS
	^2D	5/2	22 631.686 3	0.001 0	64ERI/JOH	−4.66(4)	0.9(8)	06KOR/MAS
$5p^68s$	^2S	1/2	24 317.149 400	0.000 001	07FEN/BER	219.12(1)		99HAG/NES
$5p^64f$	$^2F^\circ$	7/2	24 472.045 5	0.002 0	70ERI/WEN,84SAN/LOR			
	$^2F^\circ$	5/2	24 472.226 9	0.002 0	70ERI/WEN			
$5p^68p$	$^2P^\circ$	1/2	25 708.854 73	0.000 03	00LIU/BAI	42.97(3)		00LIU/BAI
	$^2P^\circ$	3/2	25 791.508	0.030	87WEB/SAN,84SAN/LOR	7.626(5)		76BEL/HOL
$5p^67d$	^2D	3/2	26 047.834 2	0.000 5	84LOR/NIE	7.4(2)		76BEL/HOL
	^2D	5/2	26 068.773 0	0.000 5	87WEB/SAN	−1.7(2)		76BEL/HOL

TABLE 2. Energy levels of Cs I—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference	Hyperfine Constants A (MHz)	Hyperfine Constants B (MHz)	Hyperfine Reference
$5p^69s$	^2S	1/2	26 910.662 7	0.000 5	87WEB/SAN	110.1(5)		77FAR/TSE
$5p^65f$	$^2F°$	7/2	26 971.153 5	0.003 0	70ERI/WEN,84SAN/LOR			
	$^2F°$	5/2	26 971.303 0	0.003 0	70ERI/WEN			
$5p^65g$	^2G	7/2	27 008.054 1	0.002 0	87WEB/SAN			
	^2G	9/2	27 008.056 9	0.002 0	87WEB/SAN,81SAN/AND			
$5p^69p$	$^2P°$	1/2	27 636.996 6	0.000 5	87WEB/SAN	23.19(15)		76BEL/HOL
	$^2P°$	3/2	27 681.678 2	0.001 1	87WEB/SAN,84SAN/LOR	4.129(7)		76BEL/HOL
$5p^68d$	^2D	3/2	27 811.240 0	0.000 5	84LOR/NIE	3.95(1)		91SAG/WIJ
	^2D	5/2	27 822.880 2	0.000 5	87WEB/SAN	−0.85(20)		76BEL/HOL
$5p^610s$	^2S	1/2	28 300.228 7	0.000 5	87WEB/SAN	63.2(3)		76BEL/HOL
$5p^66f$	$^2F°$	7/2	28 329.407 5	0.000 5	87WEB/SAN,84SAN/LOR			
	$^2F°$	5/2	28 329.513 3	0.000 5	87WEB/SAN			
$5p^66g$	^2G	7/2	28 352.444 4	0.000 5	87WEB/SAN			
	^2G	9/2	28 352.446 0	0.000 6	87WEB/SAN,81SAN/AND			
$5p^610p$	$^2P°$	1/2	28 726.812 3	0.000 5	87WEB/SAN	13.9(2)		77FAR/TSE
	$^2P°$	3/2	28 753.676 9	0.001 1	87WEB/SAN,84SAN/LOR	2.485(10)		76BEL/HOL
$5p^69d$	^2D	3/2	28 828.682 0	0.000 5	84LOR/NIE	2.38(1)		91SAG/WIJ
	^2D	5/2	28 835.791 92	0.000 20	87WEB/SAN	−0.45(10)		76BEL/HOL
$5p^611s$	^2S	1/2	29 131.730 04	0.000 20	87WEB/SAN	39.4(2)		76BEL/HOL
$5p^67f$	$^2F°$	7/2	29 147.908 18	0.000 3	87WEB/SAN,84SAN/LOR			
	$^2F°$	5/2	29 147.981 88	0.000 15	87WEB/SAN			
$5p^67g$	^2G	7/2	29 163.072 06	0.000 15	87WEB/SAN			
	^2G	9/2	29 163.073 1	0.000 5	87WEB/SAN,81SAN/AND			
$5p^611p$	$^2P°$	1/2	29 403.423 10	0.000 15	87WEB/SAN			
	$^2P°$	3/2	29 420.824	0.003	87WEB/SAN,84SAN/LOR	1.600(15)		76BEL/HOL
$5p^610d$	^2D	3/2	29 468.287 8	0.000 5	84LOR/NIE	1.54(2)		91SAG/WIJ
	^2D	5/2	29 472.939 95	0.000 20	87WEB/SAN	−0.35(10)		76BEL/HOL
$5p^612s$	^2S	1/2	29 668.803 36	0.000 20	87WEB/SAN	26.31(10)		76BEL/HOL
$5p^68f$	$^2F°$	7/2	29 678.689 70	0.000 6	87WEB/SAN,84SAN/LOR			
	$^2F°$	5/2	29 678.742 80	0.000 15	87WEB/SAN			
$5p^68g$	^2G	7/2	29 689.137 95	0.000 15	87WEB/SAN			
	^2G	9/2	29 689.138 8	0.000 7	87WEB/SAN,81SAN/AND			
$5p^612p$	$^2P°$	1/2	29 852.431 53	0.000 15	87WEB/SAN			
	$^2P°$	3/2	29 864.345	0.003	87WEB/SAN,84SAN/LOR	1.10(3)		76BEL/HOL
$5p^611d$	^2D	3/2	29 896.339 9	0.000 5	84LOR/NIE	1.055(15)		76BEL/HOL
	^2D	5/2	29 899.546 46	0.000 20	87WEB/SAN	0.24(6)		76BEL/HOL
$5p^613s$	^2S	1/2	30 035.788 36	0.000 20	87WEB/SAN	18.4(1)		77FAR/TSE
$5p^69f$	$^2F°$	7/2	30 042.275 15	0.000 7	87WEB/SAN,84SAN/LOR			
	$^2F°$	5/2	30 042.314 05	0.000 15	87WEB/SAN			
$5p^69g$	^2G	7/2	30 049.753 17	0.000 15	87WEB/SAN			
	^2G	9/2	30 049.754 5	0.001 2	87WEB/SAN,81SAN/AND			
$5p^613p$	$^2P°$	1/2	30 165.668 26	0.000 15	87WEB/SAN			

TABLE 2. Energy levels of Cs I—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference	Hyperfine Constants A (MHz)	B (MHz)	Hyperfine Reference
	$^2P°$	3/2	30 174.178	0.003	87WEB/SAN,84SAN/LOR	0.77(5)		76BEL/HOL
$5p^612d$	^2D	3/2	30 196.796 3	0.000 5	84LOR/NIE	0.758(12)		76BEL/HOL
	^2D	5/2	30 199.098 21	0.000 20	87WEB/SAN	0.19(5)		76BEL/HOL
$5p^614s$	^2S	1/2	30 297.645 10	0.000 20	87WEB/SAN	13.4(1)		77FAR/TSE
$5p^610f$	$^2F°$	7/2	30 302.136 24	0.000 17	87WEB/SAN,80FRE/LUN			
	$^2F°$	5/2	30 302.165 37	0.000 15	87WEB/SAN			
$5p^610g$	^2G	7/2	30 307.660 76	0.000 15	87WEB/SAN			
	^2G	9/2	30 307.661 7	0.002 0	87WEB/SAN,81SAN/AND			
$5p^614p$	$^2P°$	1/2	30 392.871 83	0.000 15	87WEB/SAN			
	$^2P°$	3/2	30 399.163	0.003	87WEB/SAN,84SAN/LOR			
$5p^613d$	^2D	3/2	30 415.753 3	0.000 5	84LOR/NIE	0.556(8)		76BEL/HOL
	^2D	5/2	30 417.460 75	0.000 20	87WEB/SAN	0.14(4)		76BEL/HOL
$5p^615s$	^2S	1/2	30 491.023 46	0.000 20	87WEB/SAN	10.1(1)		77FAR/TSE
$5p^611f$	$^2F°$	7/2	30 494.265 83	0.000 17	87WEB/SAN,80FRE/LUN			
	$^2F°$	5/2	30 494.288 09	0.000 15	87WEB/SAN			
$5p^611g$	^2G	9/2	30 498.455 6	0.002 0	87WEB/SAN,81SAN/AND			
	^2G	7/2	30 498.456 95	0.000 15	87WEB/SAN			
$5p^615p$	$^2P°$	1/2	30 562.908 93	0.000 15	87WEB/SAN			
	$^2P°$	3/2	30 567.688	0.003	87WEB/SAN,84SAN/LOR			
$5p^614d$	^2D	3/2	30 580.226 7	0.000 5	84LOR/NIE	0.425(7)		76BEL/HOL
	^2D	5/2	30 581.527 58	0.000 20	87WEB/SAN			
$5p^616s$	^2S	1/2	30 637.882 76	0.000 20	87WEB/SAN	7.73(5)		77FAR/TSE
$5p^612f$	$^2F°$	7/2	30 640.302 87	0.000 18	87WEB/SAN,80FRE/LUN			
	$^2F°$	5/2	30 640.320 28	0.000 15	87WEB/SAN			
$5p^612g$	^2G	7/2	30 643.554 84	0.000 15	87WEB/SAN			
$5p^616p$	$^2P°$	1/2	30 693.474 16	0.000 15	87WEB/SAN			
	$^2P°$	3/2	30 697.191	0.003	87WEB/SAN,84SAN/LOR			
$5p^615d$	^2D	3/2	30 706.900 3	0.000 5	84LOR/NIE	0.325(8)		76BEL/HOL
	^2D	5/2	30 707.913 78	0.000 20	87WEB/SAN			
$5p^617s$	^2S	1/2	30 752.034 12	0.000 20	87WEB/SAN	6.06(10)		77FAR/TSE
$5p^613f$	$^2F°$	7/2	30 753.890 18	0.000 18	87WEB/SAN,80FRE/LUN			
	$^2F°$	5/2	30 753.904 06	0.000 15	87WEB/SAN			
$5p^613g$	^2G	7/2	30 756.462 41	0.000 15	87WEB/SAN			
$5p^617p$	$^2P°$	1/2	30 795.907 02	0.000 15	87WEB/SAN			
	$^2P°$	3/2	30 798.852	0.003	87WEB/SAN,84SAN/LOR			
$5p^616d$	^2D	3/2	30 806.528 3	0.000 5	84LOR/NIE	0.255(12)		76BEL/HOL
	^2D	5/2	30 807.332 97	0.000 20	87WEB/SAN			
$5p^618s$	^2S	1/2	30 842.517 75	0.000 20	87WEB/SAN			
$5p^614f$	$^2F°$	7/2	30 843.973 65	0.000 15	87WEB/SAN,80FRE/LUN			
	$^2F°$	5/2	30 843.984 88	0.000 15	87WEB/SAN			
$5p^614g$	^2G	7/2	30 846.042 23	0.000 15	87WEB/SAN			

TABLE 2. Energy levels of Cs I—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference	Hyperfine Constants A (MHz)	Hyperfine Constants B (MHz)	Hyperfine Reference
$5p^6 18p$	$^2P°$	1/2	30 877.747 61	0.000 15	87WEB/SAN			
	$^2P°$	3/2	30 880.122 8	0.000 2	87WEB/SAN,84SAN/LOR			
$5p^6 17d$	^2D	3/2	30 886.295 9	0.000 5	84LOR/NIE	0.190(12)		76BEL/HOL
	^2D	5/2	30 886.945 13	0.000 20	87WEB/SAN			
$5p^6 19s$	^2S	1/2	30 915.452 62	0.000 20	87WEB/SAN			
$5p^6 15f$	$^2F°$	7/2	30 916.616 61	0.000 15	87WEB/SAN,80FRE/LUN			
	$^2F°$	5/2	30 916.625 83	0.000 15	87WEB/SAN			
$5p^6 15g$	^2G	7/2	30 918.304 48	0.000 15	87WEB/SAN			
$5p^6 19p$	$^2P°$	1/2	30 944.168 59	0.000 15	87WEB/SAN			
	$^2P°$	3/2	30 946.113	0.003	87WEB/SAN,84SAN/LOR			
$5p^6 18d$	^2D	3/2	30 951.151 1	0.000 5	84LOR/NIE	0.160(10)		76BEL/HOL
	^2D	5/2	30 951.682 59	0.000 20	87WEB/SAN			
$5p^6 20s$	^2S	1/2	30 975.100 34	0.000 20	87WEB/SAN			
$5p^6 16f$	$^2F°$	7/2	30 976.046 20	0.000 15	87WEB/SAN,80FRE/LUN			
	$^2F°$	5/2	30 976.053 85	0.000 15	87WEB/SAN			
$5p^6 16g$	^2G	7/2	30 977.440 90	0.000 15	87WEB/SAN			
$5p^6 20p$	$^2P°$	1/2	30 998.79	0.03	79LOR/NIE,84SAN/LOR			
	$^2P°$	3/2	31 000.40	0.03	79LOR/NIE			
$5p^6 19d$	^2D	3/2	31 004.590 0	0.000 5	87WEB/SAN,80LOR/WEB			
	^2D	5/2	31 005.032 31	0.000 20	87WEB/SAN			
$5p^6 21s$	^2S	1/2	31 024.503 55	0.000 20	87WEB/SAN			
$5p^6 17f$	$^2F°$	7/2	31 025.282 72	0.000 17	87WEB/SAN,80FRE/LUN			
	$^2F°$	5/2	31 025.289 07	0.000 15	87WEB/SAN			
$5p^6 17g$	^2G	7/2	31 026.448 32	0.000 15	87WEB/SAN			
$5p^6 21p$	$^2P°$	1/2	31 044.313 15	0.000 15	87WEB/SAN			
	$^2P°$	3/2	31 045.664	0.003	87WEB/SAN,84SAN/LOR			
$5p^6 20d$	^2D	3/2	31 049.145 6	0.000 5	87WEB/SAN,80LOR/WEB			
	^2D	5/2	31 049.517 01	0.000 20	87WEB/SAN			
$5p^6 22s$	^2S	1/2	31 065.880 56	0.000 20	87WEB/SAN			
$5p^6 18f$	$^2F°$	7/2	31 066.530 42	0.000 16	87WEB/SAN,80FRE/LUN			
	$^2F°$	5/2	31 066.535 82	0.000 15	87WEB/SAN			
$5p^6 18g$	^2G	7/2	31 067.514 35	0.000 15	87WEB/SAN			
$5p^6 22p$	$^2P°$	1/2	[31 082.597 9]	0.000 2	87WEB/SAN			
	$^2P°$	3/2	31 083.77	0.03	79LOR/NIE			
$5p^6 21d$	^2D	3/2	31 086.682 4	0.000 5	87WEB/SAN,80LOR/WEB			
	^2D	5/2	31 086.997 17	0.000 20	87WEB/SAN			
$5p^6 23s$	^2S	1/2	31 100.880 52	0.000 20	87WEB/SAN	2.4(2)		82GOY/RAI
$5p^6 19f$	$^2F°$	7/2	31 101.428 59	0.000 17	87WEB/SAN,84SAN/LOR			
	$^2F°$	5/2	31 101.433 21	0.000 15	87WEB/SAN			
$5p^6 19g$	^2G	7/2	[31 102.265 18]	0.000 15	87WEB/SAN			

TABLE 2. Energy levels of Cs I—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference	Hyperfine Constants A (MHz)	Hyperfine Constants B (MHz)	Hyperfine Reference
$5p^6 23p$	$^2P^\circ$	1/2	31 115.117 33	0.000 15	87WEB/SAN	0.56(5)		82GOY/RAI
	$^2P^\circ$	3/2	31 116.090 4	0.000 2	87WEB/SAN,84SAN/LOR			
$5p^6 22d$	^2D	3/2	31 118.601 05	0.000 5	87WEB/SAN,80LOR/WEB			
	^2D	5/2	31 118.869 83	0.000 20	87WEB/SAN			
$5p^6 24s$	^2S	1/2	31 130.749 87	0.000 20	87WEB/SAN			
$5p^6 20f$	$^2F^\circ$	7/2	31 131.216 15	0.000 16	87WEB/SAN,84SAN/LOR			
	$^2F^\circ$	5/2	31 131.220 12	0.000 15	87WEB/SAN			
$5p^6 20g$	^2G	7/2	31 131.935 70	0.000 15	87WEB/SAN			
$5p^6 24p$	$^2P^\circ$	1/2	[31 142.973 4]	0.000 2	87WEB/SAN			
	$^2P^\circ$	3/2	31 143.84	0.03	79LOR/NIE			
$5p^6 23d$	^2D	3/2	31 145.969 0	0.000 5	87WEB/SAN,80LOR/WEB			
	^2D	5/2	31 146.200 07	0.000 20	87WEB/SAN			
$5p^6 25s$	^2S	1/2	31 156.444 39	0.000 20	87WEB/SAN	1.4(2)		82GOY/RAI
$5p^6 21f$	$^2F^\circ$	7/2	[31 156.844 7]	0.000 2	87WEB/SAN,84SAN/LOR			
	$^2F^\circ$	5/2	[31 156.848 2]	0.000 2	87WEB/SAN			
$5p^6 21g$	^2G	7/2	[31 157.465 95]	0.000 15	87WEB/SAN			
$5p^6 25p$	$^2P^\circ$	1/2	31 167.017 27	0.000 15	87WEB/SAN	0.40(5)		82GOY/RAI
	$^2P^\circ$	3/2	31 167.742 57	0.000 15	87WEB/SAN,84SAN/LOR			
$5p^6 24d$	^2D	3/2	31 169.614 4	0.000 5	84LOR/NIE			
	^2D	5/2	31 169.811 87	0.000 20	87WEB/SAN			
$5p^6 22f$	$^2F^\circ$	7/2	31 179.053 92	0.000 17	87WEB/SAN,84SAN/LOR			
	$^2F^\circ$	5/2	31 179.056 92	0.000 15	87WEB/SAN			
$5p^6 22g$	^2G	7/2	31 179.595 67	0.000 15	87WEB/SAN			
$5p^6 25d$	^2D	3/2	31 190.175 69	0.000 5	87WEB/SAN,80LOR/WEB			
	^2D	5/2	31 190.350 63	0.000 20	87WEB/SAN			
$5p^6 23f$	$^2F^\circ$	7/2	[31 198.425 7]	0.000 2	87WEB/SAN,84SAN/LOR			
	$^2F^\circ$	5/2	[31 198.428 3]	0.000 2	87WEB/SAN			
$5p^6 23g$	^2G	7/2	[31 198.899 36]	0.000 15	87WEB/SAN			
$5p^6 24f$	$^2F^\circ$	7/2	31 215.423 83	0.000 17	87WEB/SAN,84SAN/LOR			
	$^2F^\circ$	5/2	31 215.426 20	0.000 15	87WEB/SAN			
$5p^6 24g$	^2G	7/2	31 215.841 76	0.000 15	87WEB/SAN			
$5p^6 25f$	$^2F^\circ$	7/2	[31 230.420 8]	0.000 2	87WEB/SAN,84SAN/LOR			
	$^2F^\circ$	5/2	[31 230.422 9]	0.000 2	87WEB/SAN			
$5p^6 25g$	^2G	7/2	[31 230.790 13]	0.000 15	87WEB/SAN			
Cs II ($5p^6\ ^1S_0$)		*Limit*	31 406.467 66	0.000 15	87WEB/SAN			
$5p^5 6s(^3P_2)5d$	$^4P^\circ$	5/2	106 245	3.	86PED/DIM	750		86PED/DIM

A significant amount of research has been done on transitions to states where one of the 5*p* electrons has been promoted to a higher level, resulting in an atom with a $5p^5 6s$ core. Beutler and Guggenheimer [34BEU/GUG] published the first measurements of ultraviolet absorption in Cs. Connerade [70CON] greatly expanded the number of classified lines and re-evaluated the analysis in [34BEU/GUG]. Kaufman *et al.* [83KAU/SUG] identified 61 transitions to levels with a $5p^5(^2P_{1/2})6s$ core and revised some of the level assignments. Barty *et al.* [92BAR/YIN] discussed the measurement of a transition from a core-excited upper state which exhibits lasing at 969 Å. The most extensive analysis of the absorption spectrum is by Baig *et al.* [96BAI/MAH], who also observed some transitions to doubly excited states. We include here only transitions in which one electron is excited. We also include the measurement of transitions from $5p^5 5d6s\ ^4P^{\circ}_{5/2}$ to $5p^6 5d\ ^2D_{3/2,5/2}$ by Pedrotti *et al.* [86PED/DIM] and to $5p^6 6d\ ^2D_{3/2,5/2}$ and $5p^6 7d\ ^2D_{3/2,5/2}$ by Mendehlsohn *et al.* [87MEN/BAR]. To avoid excessive repetition of information we have not included the energy levels of the core-excited states for which only the resonance line has been measured. The level value is the same as the wave number of the transition. The $5p^5 5d6s\ ^4P^{\circ}_{5/2}$ level, however, is included along with the measurement of its hyperfine splitting constant.

The lifetimes of the $6p\ ^2P^{\circ}_{1/2,3/2}$ levels have been the subject of intense experimental interest. In a series of increasingly refined laser-excited fast-beam experiments, Tanner and co-workers [92TAN/LIV, 94YOU/HIL, 94RAF/TAN, 99RAF/TAN] measured the lifetimes used to produce the transition probabilities retained in Table 1. A determination of the same lifetimes by Derevianko and Porsev [02DER/POR] on the basis of matrix elements derived from the value of the dispersion coefficient C_6 obtained from high-resolution Feshbach spectroscopy resulted in values lower by slightly more than the combined error estimates of the two methods.

Transition rates for resonance transitions from $np\ ^2P$ levels have been compiled by Morton [00MOR] and we have also retained the values from Vasilyov *et al.* [02VAS/ASAV] for the resonance transitions from $7p$. The oscillator strength for the forbidden transition from $5d\ ^2D_{5/2}$ to the ground state was obtained by Tojo *et al.* [05TOJ/FUJ]. Transition probabilities for $5d$-$5p$ transitions are taken from Safronova and Clark [04SAF/CLA] and DiBerardino *et al.* [98DIB/TAN], as indicated in Table 1. Probabilities for transitions from core-excited states with a $5p^5 6s(^1P_1)$ core were calculated by Kaufman *et al.* [83KAU/SUG], while Pedrotti *et al.* [86PED/DIM] reported two probabilities for transitions having $5p^5 6s(^3P_2)5d\ ^4P_{5/2}$ as the upper level.

Although several authors give energy level and wavelength data for very high principal quantum numbers, we have limited the data here to $n \leq 25$. If needed, additional data can be obtained from the references. The ionization energy adopted here is taken from [87WEB/SAN]. Values reported below are those believed to be the most accurate, with the sources indicated in the reference fields. To simplify the wavelength table, energy levels with a full $5p^6$ shell are given with only the outer electron designation. In the energy level table the values in parentheses are calculated using the fitting formula of [87WEB/SAN].

References for Cs I

61KIR/BUN G. Kirchhoff and R. Bunsen, Ann. Phys. Chem. **113**, 337 (1861).
34BEU/GUG H. Beutler and K. Guggenheimer, Z. Phys. **88**, 25 (1934).
49KRA H. R. Kratz, Phys. Rev. **75**, 1844 (1949).
49MCN/MOL J. R. McNally, Jr., J. P. Molnar, W. J. Hitchcock, and N. F. Oliver, J. Opt. Soc. Am. **39**, 57 (1949).
61JOH I. Johansson, Ark. Fys. **20**, 135 (1961).
62KLE H. Kleiman, J. Opt. Soc. Am. **52**, 441 (1962).
64ERI/JOH K. B. Eriksson, I. Johansson, and G. Norlén, Ark. Fys. **28**, 233 (1964).
70CON J. P. Connerade, Astrophys. J. **159**, 685 (1970).
70ERI/WEN K. B. Eriksson, and I. Wenåker, Phys. Scr. **1**, 21 (1970).
72PEC/REE E. R. Peck and K. Reeder, J. Opt. Soc. Am. **63**, 958 (1972).
76BEL/HOL G. Belin, L. Holmgren, and S. Svanberg, Phys. Scr. **14**, 39 (1976).
77DEE/LUY J. S. Deech, R. Luypaert, L. R. Pendrill, and G. W. Series, J. Phys. B **10**, L137 (1977).
77FAR/TSE J. Farley, P. Tsekeris, and R. Gupta, Phys. Rev. A **15**, 1530 (1977).
78CAM/DEG E. Campani, G. Degan, G. Gorini, and E. Polacco, Opt. Commun. **24**, 203 (1978).
79LOR/NIE C.-J. Lorenzen and K. Niemax, J. Quant. Spectrosc. Radiat. Transf. **22**, 247 (1979).
80FRE/LUN K. Frederiksson, H. Lundberg, and S. Svanberg, Phys. Rev. A **21**, 241 (1980).
80LOR/WEB C.-J. Lorenzen, K.-H. Weber, and K. Niemax, Opt. Commun. **33**, 271 (1980).
80SAN/AND C. J. Sansonetti and K. L. Andrew, Phys. Rev. A **22**, 1370 (1980).
81NAK/KEL S. Nakayama, F. M. Kelly, and G. W. Series, J. Phys. B **14**, 835 (1981).
81SAN C. J. Sansonetti, Ph.D. thesis, Purdue University, 1981.
81SAN/AND C. J. Sansonetti, K. L. Andrew, and J. Verges, J. Opt. Soc. Am. **4**, 423 (1981).
82GOY/RAI P. Goy, J. M. Raimond, G. Vitrant, and S. Haroche, Phys. Rev. A **26**, 2733 (1982).
83GIL/WAT S. L. Gilbert, R. N. Watts, and C. E. Wieman, Phys. Rev. A **27**, 581 (1983).
83KAU/SUG V. Kaufman, J. Sugar, C. W. Clark, and W. T. Hill, Phys. Rev. A **28**, 2876 (1983).
83LOR/NIE C.-J. Lorenzen and K. Niemax, Z. Phys. A **311**, 249 (1983).
83OSU/STO M. S. O'Sullivan and B. P. Stoicheff, Can. J. Phys. **61**, 940 (1983).
84LOR/NIE C.-J. Lorenzen and K. Niemax, Z. Phys. A **315**, 127 (1984).
84SAN/LOR C. J. Sansonetti and C.-J. Lorenzen, Phys. Rev. A **30**, 1805, (1984).
86PED/DIM K. D. Pedrotti, D. P. Dimiduk, J. F. Young, and S. E. Harris, Opt. Lett. **11**, 425 (1986).
87MEN/BAR A. J. Mendelsohn, C. P. J. Barty, M. H. Sher, J. F. Young, and S. E. Harris, Phys.

Rev. A **35**, 2095 (1987).
87WEB/SAN K.-H. Weber and C. J. Sansonetti, Phys. Rev. A **35**, 4650 (1987).
88TAN/WIE C. E. Tanner and C. Wieman, Phys. Rev. A **38**, 1616 (1988).
91SAG/WIJ J. Sagle and W. A. van Wijngaarden, Can. J. Phys. **69**, 808 (1991).
92BAR/YIN C. P. J. Barty, G. Y. Yin, J. E. Field, D. A. King, K. H. Hahn, J. F. Young, and S. E. Harris, Phys. Rev. A **46**, 4286 (1992).
92TAN/LIV C. E. Tanner, A. E. Livingston, R. J. Rafac, F. G. Serpa, K. W. Kukla, H. G. Berry, L. Young, and C. A. Kurtz, Phys. Rev. Lett. **69**, 2765 (1992).
94GEO/POL N. Ph. Georgiades, E. S. Polzik, and H. J. Kimble, Opt. Lett. **19**, 1474 (1994).
94RAF/TAN R. J. Rafac, C. E. Tanner, A. E. Livingston, K. W. Kukla, H. G. Berry, and C. A. Kurtz, Phys. Rev. A **50**, R1976 (1994).
94YOU/HIL L. Young, W. T. Hill III, S. J. Sibener, S. D. Price, C. E. Tanner, C. E. Wieman, and S. R. Leone, Phys. Rev. A **50**, 2174 (1994).
95FOR/CAT C. Fort, F. S. Cataliotti, P. Raspollini, G. M. Tino, and M. Inguscio, Z. Phys. D: At. Mol. Clusters **34**, 91 (1995).
95FOR/ING C. Fort, M. Inguscio, P. Raspollini, F. Baldes, and A. Sasso, Appl. Phys. B: Lasers Opt. **61**, 467 (1995).
96BAI/MAH M. A. Baig, M. S. Mahmood, M. Akram, and J. Hormes, J. Phys. B. **29**, 3871 (1996).
96CAT/FOR F. S. Cataliotti, C. Fort, F. S. Pavone, and M. Inguscio, Z. Phys. D: At. Mol. Clusters **38**, 31 (1996).
97RAF/TAN R. J. Rafac and C. E. Tanner, Phys. Rev. A. **56**, 1027 (1997).
98DIB/TAN D. DiBerardino, C. E. Tanner, and A. Sieradzan, Phys. Rev. A **57**, 4204 (1998).
98YEI/SIE W. Yei, A. Sieradzan, E. Cerasuolo, and M. D. Havey, Phys. Rev. A **57**, 3419 (1998).
99HAG/NES G. Hagel, C. Nesi, L. Jozefowski, C. Schwob, F. Nez, and F. Biraben, Opt. Commun. **160**, 1 (1999).
99RAF/TAN R. J. Rafac, C. E. Tanner, A. E. Livingston, and H. G. Berry, Phys. Rev. A **60**, 3648 (1999).
99UDE/REI T. Udem, J. Reichert, R. Holzwarth, and T. W. Hänsch, Phys. Rev. Lett. **82**, 3568 (1999).
00LIU/BAI Y.-W. Liu and P. E. G. Baird, Appl. Phys. B: Lasers Opt. **71**, 567 (2000).
00MOR D. C. Morton, Astrophys. J. Suppl. Ser. **130**, 403 (2000).
00UDE/REI T. Udem, J. Reichert, T. W. Hänsch, and M. Kourogi, Phys. Rev. A **62**, 031801 (2000).
02DER/POR A. Derevianko and S. G. Porsev, Phys. Rev. A **65**, 053403 (2002).
02VAS/SAV A. A. Vasilyev, I. M. Savukov, M. S. Safronova, and H. G. Berry, Phys. Rev. A **66**, 020101 (2002).
03GER/DER V. Gerginov, A. Derevianko, and C. E. Tanner, Phys. Rev. Lett. **91**, 072501 (2003).
04GER/TAN V. Gerginov, C. E. Tanner, S. Diddams, A. Bartels, and L. Holberg, Phys. Rev. A **70**, 042505 (2004).
04JOH/HO W. R. Johnson, H. C. Ho, C. E. Tanner, and A. Derevianko, Phys. Rev. A **70**, 014501 (2004).
04SAF/CLA M. S. Safronova and C. W. Clark, Phys. Rev. A **69**, 040501 (2004).
05GER/TAN V. Gerginov, C. E. Tanner, S. Diddams, A. Bartels, and L. Hollberg, Opt. Lett. **30**, 1734 (2005).
05OHT/NIS T. Ohtsuka, N. Nishimiya, T. Fukuda, and M. Suzuki, J. Phys. Soc. Jpn. **74**, 2487 (2005).
05TOJ/FUJ S. Tojo, T. Fujimoto and M. Hasuo, Phys. Rev. A **71**, 012507 (2005).
06DAS/BAN D. Das, A. Banerjee, S. Barthwal, and V. Natarajan, Eur. Phys. J. D **38**, 545 (2006).
06DAS/NAT D. Das and V. Natarajan, J. Phys. B **39**, 2013 (2006).
06GER/CAL V. Gerginov, K. Calkins, C. E. Tanner, J. J. McFerran, S. Diddams, A. Bartels, and L. Hollberg, Phys. Rev. A **73**, 032504 (2006).
06KOR/MAS A. Kortyna, N. A. Masluk, and T. Bragdon, Phys. Rev. A **74**, 022503 (2006).
07FEN/BER P. Fendel, S. D. Bergeson, T. Udem, and T. W. Hänsch, Opt. Lett. **32**, 701 (2007).
07LOM/HEA M. A. Lombardi, T. P. Heavner, and S. R. Jefferts, Measurement **2**, 74 (2007).
08DAS/NAT D. Das and V. Natarajan, J. Phys. B **40**, 035001 (2008).
08MAR/MCF M. Maric, J. J. McFerran, and A. N. Luiten, Phys. Rev. A **77**, 032502 (2008).

6.2. Cs II

Xe isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^63d^{10}4s^24p^64d^{10}5s^25p^6\ ^1S_0$
Ionization energy: $186\,777.4 \pm 0.5$ cm^{-1}; $23.157\,44 \pm 0.000\,06$ eV

The Cs II spectrum has been observed by many researchers, with major contributions by Sommer [24SOM] and Sawyer and his co-workers [32LAP/MIL], [32OLT/SAW], [42WHE/SAW], [42BOY/SAW]. Reader and Epstein [75REA/EPS] measured the resonance lines between 560 and 930 Å using a low-voltage sliding spark. Subsequently Reader [76REA] reinterpreted and extended the energy level list. Sansonetti and Andrew [86SAN/AND, 05SAN/AND] remeasured the spectrum above 1500 Å and identified over 1700 spectral lines and 285 energy levels. Along with Wyart [88SAN/AND], they produced an extensive analysis of the fine and hyperfine structures of Cs II. Hyperfine constants have also been measured for four levels by Alvarez *et al.* [79ALV/ARN, 80ALV/ARN]. McIlrath *et al.* [86MCI/SUG] used laser-driven ionization to produce cesium ions, then measured the absorption spectrum between 500 and 580 Å. Although not compiled here, observations of 4*d* photoabsorption have been reported by Cummings and O'Sullivan [97CUM/OSU].

In Table 3 the transitions with wavelengths shorter than 1000 Å are taken from Reader and Epstein [75REA/EPS] and McIlrath *et al.* [86MCI/SUG], with longer wavelengths taken from Sansonetti *et al.* [05SAN/AND]. Transition probabilities for two resonance lines have been measured by Ter-Avetisyan *et al.* [96TER/PAP]. The transition from the $5p^56s\ 3/2[3/2]^{\circ}_1$ to the ground state has A_{ki}=8.E+7 s^{-1} and from the $5p^55d\ 3/2[1/2]^{\circ}_1$ level has A_{ki}=1.6E+8 s^{-1}. The energy levels and hyperfine constants in Table 4 are quoted from [86SAN/AND], with the exception of a few energy levels that are only found in [86MCI/SUG]. The *jK* purities for the levels come from Sansonetti *et al.* [88SAN/AND] and the Landé *g* values were measured by Zelinka and Semenov [66ZEL/SEM]. The ionization energy is from [86SAN/AND], who used the nd $3/2[7/2]_4$, ng $3/2[11/2]_6$, and nh $3/2[13/2]_7$ series to determine it.

TABLE 3. Observed spectral lines of Cs II

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
vacuum							
506.56	0.02	197 410			$5p^6\ ^1S_0$	$5p^514d\ 1/2[3/2]^{\circ}_1$	86MCI/SUG
506.868	0.005	197 282.8			$5p^6\ ^1S_0$	$5p^515s\ 1/2[1/2]^{\circ}_1$	86MCI/SUG
508.09	0.02	196 817			$5p^6\ ^1S_0$	$5p^513d\ 1/2[3/2]^{\circ}_1$	86MCI/SUG
510.22	0.02	195 992			$5p^6\ ^1S_0$	$5p^512d\ 1/2[3/2]^{\circ}_1$	86MCI/SUG
510.934	0.005	195 719.9			$5p^6\ ^1S_0$	$5p^513s\ 1/2[1/2]^{\circ}_1$	86MCI/SUG
513.16	0.02	194 869			$5p^6\ ^1S_0$	$5p^511d\ 1/2[3/2]^{\circ}_1$	86MCI/SUG
514.165	0.005	194 490.0			$5p^6\ ^1S_0$	$5p^512s\ 1/2[1/2]^{\circ}_1$	86MCI/SUG
517.44	0.02	193 257			$5p^6\ ^1S_0$	$5p^510d\ 1/2[3/2]^{\circ}_1$	86MCI/SUG
518.862	0.005	192 729.5			$5p^6\ ^1S_0$	$5p^511s\ 1/2[1/2]^{\circ}_1$	86MCI/SUG
523.81	0.02	190 909			$5p^6\ ^1S_0$	$5p^59d\ 1/2[3/2]^{\circ}_1$	86MCI/SUG
526.086	0.005	190 083.0			$5p^6\ ^1S_0$	$5p^510s\ 1/2[1/2]^{\circ}_1$	86MCI/SUG
534.27	0.02	187 171			$5p^6\ ^1S_0$	$5p^58d\ 1/2[3/2]^{\circ}_1$	86MCI/SUG
538.081	0.005	185 845.6			$5p^6\ ^1S_0$	$5p^59s\ 1/2[1/2]^{\circ}_1$	86MCI/SUG
539.895	0.005	185 221.0			$5p^6\ ^1S_0$	$5p^519d\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
540.487	0.005	185 018.2			$5p^6\ ^1S_0$	$5p^518d\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
541.209	0.005	184 771.5			$5p^6\ ^1S_0$	$5p^517d\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
541.482	0.005	184 678.3			$5p^6\ ^1S_0$	$5p^518s\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
542.091	0.005	184 470.9			$5p^6\ ^1S_0$	$5p^516d\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
542.238	0.005	184 420.9			$5p^6\ ^1S_0$	$5p^516d\ 3/2[1/2]^{\circ}_1$	86MCI/SUG
542.436	0.005	184 353.5			$5p^6\ ^1S_0$	$5p^517s\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
543.186	0.005	184 099.0			$5p^6\ ^1S_0$	$5p^515d\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
543.394	0.005	184 028.5			$5p^6\ ^1S_0$	$5p^515d\ 3/2[1/2]^{\circ}_1$	86MCI/SUG
543.622	0.005	183 951.3			$5p^6\ ^1S_0$	$5p^516s\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
544.572	0.005	183 630.5			$5p^6\ ^1S_0$	$5p^514d\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
545.143	0.005	183 438.0			$5p^6\ ^1S_0$	$5p^515s\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
546.357	0.005	183 030.6			$5p^6\ ^1S_0$	$5p^513d\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
546.775	0.005	182 890.5			$5p^6\ ^1S_0$	$5p^513d\ 3/2[1/2]^{\circ}_1$	86MCI/SUG
547.133	0.005	182 770.9			$5p^6\ ^1S_0$	$5p^514s\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
548.702	0.005	182 248.4			$5p^6\ ^1S_0$	$5p^512d\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
549.314	0.005	182 045.3			$5p^6\ ^1S_0$	$5p^512d\ 3/2[1/2]^{\circ}_1$	86MCI/SUG
549.806	0.005	181 882.3			$5p^6\ ^1S_0$	$5p^513s\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
551.602	0.005	181 290.0			$5p^6\ ^1S_0$	$5p^511d\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
552.796	0.005	180 898.6			$5p^6\ ^1S_0$	$5p^511d\ 3/2[1/2]^{\circ}_1$	86MCI/SUG
553.528	0.005	180 659.4			$5p^6\ ^1S_0$	$5p^512s\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
553.674	0.005	180 611.5			$5p^6\ ^1S_0$	$5p^57d\ 1/2[3/2]^{\circ}_1$	86MCI/SUG
557.200	0.005	179 468.8			$5p^6\ ^1S_0$	$5p^510d\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
558.929	0.005	178 913.5			$5p^6\ ^1S_0$	$5p^511s\ 3/2[3/2]^{\circ}_1$	86MCI/SUG
560.613	0.005	178 376.1			$5p^6\ ^1S_0$	$5p^58s\ 1/2[1/2]^{\circ}_1$	86MCI/SUG

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
564.158	0.005	177 255.3	1		$5p^6\ ^1S_0$	$5p^59d\ 3/2[3/2]^\circ_1$	75REA/EPS
565.794	0.005	176 742.9			$5p^6\ ^1S_0$	$5p^59d\ 3/2[1/2]^\circ_1$	86MCI/SUG
567.299	0.005	176 273.8			$5p^6\ ^1S_0$	$5p^510s\ 3/2[3/2]^\circ_1$	86MCI/SUG
575.320	0.005	173 816.3	10		$5p^6\ ^1S_0$	$5p^58d\ 3/2[3/2]^\circ_1$	75REA/EPS
578.589	0.005	172 834.3			$5p^6\ ^1S_0$	$5p^58d\ 3/2[1/2]^\circ_1$	86MCI/SUG
591.044	0.005	169 192.1	250		$5p^6\ ^1S_0$	$5p^56d\ 1/2[3/2]^\circ_1$	75REA/EPS
607.291	0.005	164 665.7	50		$5p^6\ ^1S_0$	$5p^58s\ 3/2[3/2]^\circ_1$	75REA/EPS
612.786	0.005	163 189.1	35		$5p^6\ ^1S_0$	$5p^57s\ 1/2[1/2]^\circ_1$	75REA/EPS
639.356	0.005	156 407.4	2 000		$5p^6\ ^1S_0$	$5p^56d\ 3/2[3/2]^\circ_1$	75REA/EPS
657.112	0.005	152 181.1	100		$5p^6\ ^1S_0$	$5p^56d\ 3/2[1/2]^\circ_1$	75REA/EPS
668.386	0.005	149 614.1	500		$5p^6\ ^1S_0$	$5p^57s\ 3/2[3/2]^\circ_1$	75REA/EPS
718.138	0.005	139 249.0	15 000		$5p^6\ ^1S_0$	$5p^55d\ 1/2[3/2]^\circ_1$	75REA/EPS
808.761	0.005	123 645.9	15 000		$5p^6\ ^1S_0$	$5p^55d\ 3/2[3/2]^\circ_1$	75REA/EPS
813.837	0.005	122 874.7	15 000		$5p^6\ ^1S_0$	$5p^56s\ 1/2[1/2]^\circ_1$	75REA/EPS
901.270	0.005	110 954.5	35 000		$5p^6\ ^1S_0$	$5p^56s\ 3/2[3/2]^\circ_1$	75REA/EPS
926.657	0.005	107 914.8	40 000		$5p^6\ ^1S_0$	$5p^55d\ 3/2[1/2]^\circ_1$	75REA/EPS
1 557.959	0.008	64 186.5	2		$5p^55d\ 3/2[7/2]^\circ_4$	$5p^57f\ 3/2[9/2]_5$	05SAN/AND
1 569.493	0.013	63 714.9	1		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^58f\ 3/2[5/2]_2$	05SAN/AND
1 570.273 1	0.0011	63 683.19	3		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^57f\ 3/2[5/2]_3$	05SAN/AND
1 573.008	0.015	63 572.5	1		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^54f\ 1/2[5/2]_2$	05SAN/AND
1 576.283 1	0.0012	63 440.38	3		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^58f\ 3/2[7/2]_3$	05SAN/AND
1 585.80	0.03	63 059.6	10	u	$5p^55d\ 3/2[1/2]^\circ_1$	$5p^54f\ 1/2[5/2]_2$	05SAN/AND
1 585.82	0.03	63 058.7	10	u	$5p^55d\ 3/2[7/2]^\circ_3$	$5p^57f\ 3/2[7/2]_3$	05SAN/AND
1 586.325	0.007	63 038.8	2		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^54f\ 1/2[7/2]_3$	05SAN/AND
1 586.991	0.012	63 012.3	2		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^59p\ 3/2[3/2]_1$	05SAN/AND
1 588.369 2	0.0012	62 957.65	4		$5p^55d\ 3/2[1/2]^\circ_1$	$5p^57p\ 1/2[1/2]_0$	05SAN/AND
1 588.927 4	0.0019	62 935.54	18		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^54f\ 1/2[5/2]_3$	05SAN/AND
1 590.926 2	0.0012	62 856.47	3		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^59p\ 3/2[5/2]_2$	05SAN/AND
1 592.039 4	0.0014	62 812.51	11		$5p^55d\ 3/2[7/2]^\circ_3$	$5p^57f\ 3/2[9/2]_4$	05SAN/AND
1 593.359 8	0.0012	62 760.46	3		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^59f\ 3/2[7/2]_4$	05SAN/AND
1 593.47	0.02	62 756.3	2		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^59f\ 3/2[5/2]_3$	05SAN/AND
1 596.094 8	0.0014	62 652.92	7		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^56f\ 3/2[5/2]_2$	05SAN/AND
1 599.422	0.012	62 522.6	1		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^55f\ 1/2[5/2]_2$	05SAN/AND
1 605.813	0.002	62 273.76	3		$5p^55d\ 3/2[1/2]^\circ_0$	$5p^57p\ 1/2[3/2]_1$	05SAN/AND
1 613.056 2	0.0011	61 994.12	4		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^55f\ 1/2[5/2]_3$	05SAN/AND
1 614.679	0.003	61 931.83	3		$5p^55d\ 3/2[1/2]^\circ_1$	$5p^57p\ 1/2[3/2]_1$	05SAN/AND
1 621.713 6	0.0012	61 663.17	3		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^510p\ 3/2[5/2]_2$	05SAN/AND
1 622.073 5	0.0013	61 649.49	10		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^56f\ 3/2[3/2]_2$	05SAN/AND
1 622.130 2	0.0017	61 647.33	10		$5p^55d\ 3/2[7/2]^\circ_4$	$5p^59p\ 3/2[5/2]_3$	05SAN/AND
1 627.801 5	0.0015	61 432.55	12		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^57f\ 3/2[5/2]_2$	05SAN/AND
1 632.777 7	0.0013	61 245.32	3		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^59p\ 3/2[3/2]_2$	05SAN/AND
1 634.807 7	0.0017	61 169.27	7		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^56f\ 3/2[3/2]_1$	05SAN/AND
1 636.105 8	0.0020	61 120.74	76		$5p^55d\ 3/2[7/2]^\circ_4$	$5p^56f\ 3/2[7/2]_4$	05SAN/AND
1 636.426 1	0.0017	61 108.78	47		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^57f\ 3/2[7/2]_3$	05SAN/AND
1 636.968 1	0.0014	61 088.55	10		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^59p\ 3/2[5/2]_3$	05SAN/AND
1 639.123 5	0.0012	61 008.22	4		$5p^55d\ 3/2[7/2]^\circ_4$	$5p^56f\ 3/2[7/2]_3$	05SAN/AND
1 639.168 0	0.0013	61 006.56	2		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^59p\ 3/2[5/2]_2$	05SAN/AND
1 640.450 6	0.0016	60 958.86	13		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^58f\ 3/2[7/2]_4$	05SAN/AND
1 641.968 7	0.0015	60 902.50	6		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^59p\ 3/2[1/2]_1$	05SAN/AND
1 643.863 2	0.0014	60 832.31	5		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^58p\ 3/2[3/2]_2$	05SAN/AND
1 646.562 3	0.0012	60 732.59	4		$5p^55d\ 3/2[7/2]^\circ_4$	$5p^56f\ 3/2[5/2]_3$	05SAN/AND
1 648.634 3	0.0012	60 656.27	4		$5p^56s\ 3/2[7/2]^\circ_4$	$5p^58p\ 3/2[3/2]_1$	05SAN/AND
1 650.496 4	0.0016	60 587.83	25		$5p^55d\ 3/2[7/2]^\circ_4$	$5p^56f\ 3/2[9/2]_4$	05SAN/AND
1 650.813 1	0.0013	60 576.21	1		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^58f\ 3/2[5/2]_3$	05SAN/AND
1 652.789 9	0.0013	60 503.76	3		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^55f\ 3/2[5/2]_2$	05SAN/AND
1 653.281 6	0.0012	60 485.77	2		$5p^55d\ 3/2[1/2]^\circ_0$	$5p^58p\ 3/2[3/2]_1$	05SAN/AND
1 654.275 6	0.0011	60 449.42	3		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^56f\ 3/2[7/2]_3$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
1 656.149	0.002	60 381.05	300		$5p^55d\ 3/2[7/2]^\circ_4$	$5p^56f\ 3/2[9/2]_5$	05SAN/AND
1 657.834 1	0.0016	60 319.67	4		$5p^55d\ 3/2[1/2]^\circ_1$	$5p^58p\ 3/2[3/2]_2$	05SAN/AND
1 658.344 3	0.0016	60 301.11	6		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^58p\ 3/2[5/2]_2$	05SAN/AND
1 661.851 4	0.0018	60 173.85	90		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^56f\ 3/2[5/2]_3$	05SAN/AND
1 662.041 0	0.0017	60 166.99	3		$5p^55d\ 3/2[7/2]^\circ_3$	$5p^59p\ 3/2[5/2]_3$	05SAN/AND
1 663.969 1	0.0015	60 097.27	10		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^58p\ 3/2[1/2]_1$	05SAN/AND
1 664.309 2	0.0017	60 084.99	3		$5p^55d\ 3/2[7/2]^\circ_3$	$5p^59p\ 3/2[5/2]_2$	05SAN/AND
1 666.127 9	0.0018	60 019.40	16		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^54f\ 1/2[5/2]_2$	05SAN/AND
1 668.103 5	0.0016	59 948.32	1		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^55f\ 3/2[7/2]_3$	05SAN/AND
1 668.703 0	0.0016	59 926.78	10		$5p^55d\ 3/2[1/2]^\circ_0$	$5p^58p\ 3/2[1/2]_1$	05SAN/AND
1 668.965 4	0.0014	59 917.36	2		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^57p\ 1/2[1/2]_0$	05SAN/AND
1 669.966 3	0.0015	59 881.45	6		$5p^55d\ 3/2[7/2]^\circ_3$	$5p^56f\ 3/2[5/2]_2$	05SAN/AND
1 672.253 4	0.0016	59 799.55	25		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^56f\ 3/2[3/2]_2$	05SAN/AND
1 676.713 8	0.0016	59 640.47	11		$5p^55d\ 3/2[7/2]^\circ_3$	$5p^56f\ 3/2[7/2]_4$	05SAN/AND
1 678.283 4	0.0016	59 584.69	11		$5p^55d\ 3/2[1/2]^\circ_1$	$5p^58p\ 3/2[1/2]_1$	05SAN/AND
1 679.884	0.003	59 527.93	83		$5p^55d\ 3/2[7/2]^\circ_3$	$5p^56f\ 3/2[7/2]_3$	05SAN/AND
1 679.999 1	0.0015	59 523.84	5		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^57p\ 1/2[3/2]_2$	05SAN/AND
1 685.792 0	0.0015	59 319.30	5		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^56f\ 3/2[3/2]_1$	05SAN/AND
1 687.694 9	0.0019	59 252.42	14		$5p^55d\ 3/2[7/2]^\circ_3$	$5p^56f\ 3/2[5/2]_3$	05SAN/AND
1 688.632 2	0.0015	59 219.53	2		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^510p\ 3/2[3/2]_2$	05SAN/AND
1 689.465 6	0.0019	59 190.31	690		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^55f\ 3/2[5/2]_3$	05SAN/AND
1 691.828 2	0.0014	59 107.66	230		$5p^55d\ 3/2[7/2]^\circ_3$	$5p^56f\ 3/2[9/2]_4$	05SAN/AND
1 698.036	0.002	58 891.55	5		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^57p\ 1/2[3/2]_1$	05SAN/AND
1 698.424 3	0.0016	58 878.10	5		$5p^55d\ 3/2[7/2]^\circ_3$	$5p^56f\ 3/2[3/2]_2$	05SAN/AND
1 703.952 3	0.0015	58 687.09	120		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^55f\ 3/2[3/2]_2$	05SAN/AND
1 705.701 8	0.0015	58 626.90	81		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^57f\ 3/2[7/2]_4$	05SAN/AND
1 710.252	0.002	58 470.92	3		$5p^56s\ 1/2[1/2]^\circ_1$	$5p^58p\ 1/2[3/2]_1$	05SAN/AND
1 712.429	0.002	58 396.57	12		$5p^55d\ 3/2[7/2]^\circ_4$	$5p^54f\ 1/2[7/2]_4$	05SAN/AND
1 712.628	0.004	58 389.81	10		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^55f\ 3/2[3/2]_1$	05SAN/AND
1 713.087 7	0.0015	58 374.13	3		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^59p\ 3/2[3/2]_2$	05SAN/AND
1 715.529	0.002	58 291.07	4		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^59p\ 3/2[3/2]_1$	05SAN/AND
1 716.229 9	0.0015	58 267.25	6		$5p^55d\ 3/2[3/2]^\circ_1$	$5p^58p\ 1/2[1/2]_1$	05SAN/AND
1 717.639 4	0.0019	58 219.44	670		$5p^55d\ 3/2[1/2]^\circ_0$	$5p^55f\ 3/2[3/2]_1$	05SAN/AND
1 717.829 3	0.0014	58 213.00	3		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^57f\ 3/2[5/2]_3$	05SAN/AND
1 718.367 7	0.0014	58 194.76	3		$5p^55d\ 3/2[7/2]^\circ_4$	$5p^54f\ 1/2[7/2]_3$	05SAN/AND
1 718.967 0	0.0019	58 174.47	740		$5p^55d\ 3/2[1/2]^\circ_1$	$5p^55f\ 3/2[3/2]_2$	05SAN/AND
1 719.111 7	0.0014	58 169.58	5		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^54f\ 1/2[5/2]_2$	05SAN/AND
1 720.126	0.002	58 135.28	15		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^59p\ 3/2[5/2]_2$	05SAN/AND
1 721.422 0	0.0014	58 091.51	6		$5p^55d\ 3/2[7/2]^\circ_4$	$5p^54f\ 1/2[5/2]_3$	05SAN/AND
1 726.171	0.002	57 931.70	73		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^56f\ 3/2[5/2]_2$	05SAN/AND
1 727.792 7	0.0019	57 877.31	290		$5p^55d\ 3/2[1/2]^\circ_1$	$5p^55f\ 3/2[3/2]_1$	05SAN/AND
1 733.080 2	0.0015	57 700.73	6		$5p^55d\ 3/2[3/2]^\circ_1$	$5p^58p\ 1/2[3/2]_1$	05SAN/AND
1 733.468	0.002	57 687.83	22		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^57p\ 1/2[1/2]_1$	05SAN/AND
1 733.887	0.002	57 673.88	11		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^57p\ 1/2[3/2]_2$	05SAN/AND
1 735.025 7	0.0015	57 636.03	5		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^54f\ 1/2[7/2]_3$	05SAN/AND
1 735.790 1	0.0015	57 610.65	4		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^58p\ 3/2[1/2]_0$	05SAN/AND
1 736.767 9	0.0018	57 578.22	260		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^56f\ 3/2[7/2]_3$	05SAN/AND
1 738.139	0.002	57 532.79	64		$5p^55d\ 3/2[3/2]^\circ_2$	$5p^54f\ 1/2[5/2]_3$	05SAN/AND
1 745.121 0	0.0017	57 302.62	24		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^56f\ 3/2[5/2]_3$	05SAN/AND
1 745.825 6	0.0014	57 279.49	4		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^58p\ 3/2[3/2]_2$	05SAN/AND
1 746.785 3	0.0015	57 248.02	4		$5p^55d\ 3/2[7/2]^\circ_3$	$5p^54f\ 1/2[5/2]_2$	05SAN/AND
1 751.206 2	0.0014	57 103.50	9		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^58p\ 3/2[3/2]_1$	05SAN/AND
1 755.896 2	0.0015	56 950.97	11		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^55f\ 3/2[5/2]_2$	05SAN/AND
1 756.595 1	0.0017	56 928.32	13		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^56f\ 3/2[3/2]_2$	05SAN/AND
1 756.964 4	0.0016	56 916.35	120		$5p^55d\ 3/2[7/2]^\circ_3$	$5p^54f\ 1/2[7/2]_4$	05SAN/AND
1 757.967	0.003	56 883.90	54				05SAN/AND
1 760.202 0	0.0012	56 811.66	4		$5p^55d\ 3/2[3/2]^\circ_1$	$5p^59f\ 3/2[3/2]_2$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
1 762.041 3	0.0016	56 752.36	36		$5p^55d\ 3/2[7/2]^{\circ}_{3}$	$5p^57p\ 1/2[3/2]_{2}$	05SAN/AND
1 762.165 8	0.0019	56 748.35	85		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^58p\ 3/2[5/2]_{2}$	05SAN/AND
1 763.216 3	0.0014	56 714.54	4		$5p^55d\ 3/2[7/2]^{\circ}_{3}$	$5p^54f\ 1/2[7/2]_{3}$	05SAN/AND
1 766.432 6	0.0018	56 611.27	59		$5p^55d\ 3/2[7/2]^{\circ}_{3}$	$5p^54f\ 1/2[5/2]_{3}$	05SAN/AND
1 768.519	0.002	56 544.48	12		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^58p\ 3/2[1/2]_{1}$	05SAN/AND
1 774.157 3	0.0015	56 364.79	1		$5p^56p\ 3/2[1/2]_{1}$	$5p^513d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
1 778.246 3	0.0018	56 235.18	1		$5p^56p\ 3/2[1/2]_{1}$	$5p^514s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
1 792.917 9	0.0014	55 775.00	6		$5p^55d\ 3/2[5/2]^{\circ}_{3}$	$5p^59p\ 3/2[3/2]_{2}$	05SAN/AND
1 793.888 4	0.0016	55 744.83	10		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^58f\ 3/2[5/2]_{2}$	05SAN/AND
1 795.396 4	0.0018	55 698.01	93		$5p^55d\ 3/2[7/2]^{\circ}_{4}$	$5p^58p\ 3/2[5/2]_{3}$	05SAN/AND
1 800.416 0	0.0012	55 542.72	2		$5p^56p\ 3/2[1/2]_{1}$	$5p^512d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
1 801.249 6	0.0014	55 517.01	2		$5p^56p\ 3/2[1/2]_{1}$	$5p^512d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
1 804.091 4	0.0018	55 429.57	15		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^58p\ 3/2[3/2]_{2}$	05SAN/AND
1 806.992 8	0.0013	55 340.56	2		$5p^56p\ 3/2[1/2]_{1}$	$5p^513s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
1 807.826 6	0.0019	55 315.04	830		$5p^55d\ 3/2[7/2]^{\circ}_{4}$	$5p^55f\ 3/2[7/2]_{4}$	05SAN/AND
1 808.212	0.003	55 303.25	24				05SAN/AND
1 808.238 3	0.0015	55 302.45	11		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^510f\ 3/2[7/2]_{3}$	05SAN/AND
1 808.374 8	0.0018	55 298.27	36		$5p^55d\ 3/2[5/2]^{\circ}_{2}$	$5p^54f\ 1/2[5/2]_{2}$	05SAN/AND
1 809.838 2	0.0015	55 253.56	6		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^58p\ 3/2[3/2]_{1}$	05SAN/AND
1 811.105 9	0.0017	55 214.88	3		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^58p\ 1/2[1/2]_{1}$	05SAN/AND
1 813.590	0.002	55 139.26	62		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^58p\ 3/2[5/2]_{3}$	05SAN/AND
1 813.753	0.002	55 134.28	830		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^55f\ 3/2[3/2]_{2}$	05SAN/AND
1 814.735 9	0.0017	55 104.44	29		$5p^55d\ 3/2[7/2]^{\circ}_{4}$	$5p^55f\ 3/2[7/2]_{3}$	05SAN/AND
1 814.849 7	0.0017	55 100.98	3		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^55f\ 3/2[5/2]_{2}$	05SAN/AND
1 815.156	0.002	55 091.68	740		$5p^55d\ 3/2[5/2]^{\circ}_{3}$	$5p^56f\ 3/2[7/2]_{4}$	05SAN/AND
1 818.872 7	0.0012	54 979.11	3		$5p^55d\ 3/2[5/2]^{\circ}_{3}$	$5p^56f\ 3/2[7/2]_{3}$	05SAN/AND
1 820.948 3	0.0016	54 916.44	0		$5p^56p\ 3/2[5/2]_{3}$	$5p^515d\ 3/2[7/2]^{\circ}_{4}$	05SAN/AND
1 821.547 5	0.0017	54 898.38	5		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^58p\ 3/2[5/2]_{2}$	05SAN/AND
1 823.580 9	0.0019	54 837.16	240		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^55f\ 3/2[3/2]_{1}$	05SAN/AND
1 824.267 3	0.0014	54 816.53	3		$5p^55d\ 3/2[5/2]^{\circ}_{2}$	$5p^57p\ 1/2[1/2]_{1}$	05SAN/AND
1 824.73	0.03	54 802.7	3	u	$5p^55d\ 3/2[5/2]^{\circ}_{2}$	$5p^57p\ 1/2[3/2]_{2}$	05SAN/AND
1 825.990 1	0.0017	54 764.81	100		$5p^55d\ 3/2[5/2]^{\circ}_{2}$	$5p^54f\ 1/2[7/2]_{3}$	05SAN/AND
1 828.033 0	0.0017	54 703.61	71		$5p^55d\ 3/2[5/2]^{\circ}_{3}$	$5p^56f\ 3/2[5/2]_{3}$	05SAN/AND
1 828.334 4	0.0018	54 694.59	68		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^58p\ 3/2[1/2]_{1}$	05SAN/AND
1 829.442 6	0.0014	54 661.46	2		$5p^55d\ 3/2[5/2]^{\circ}_{2}$	$5p^54f\ 1/2[5/2]_{3}$	05SAN/AND
1 829.879	0.002	54 648.41	8		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^58p\ 1/2[3/2]_{1}$	05SAN/AND
1 832.823 4	0.0020	54 560.63	310		$5p^55d\ 3/2[7/2]^{\circ}_{4}$	$5p^55f\ 3/2[9/2]_{4}$	05SAN/AND
1 832.882 7	0.0015	54 558.87	29		$5p^55d\ 3/2[5/2]^{\circ}_{3}$	$5p^56f\ 3/2[9/2]_{4}$	05SAN/AND
1 833.326 3	0.0016	54 545.66	10		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^55f\ 3/2[7/2]_{3}$	05SAN/AND
1 834.591 0	0.0017	54 508.06	5		$5p^55d\ 3/2[7/2]^{\circ}_{3}$	$5p^58p\ 3/2[3/2]_{2}$	05SAN/AND
1 837.409 5	0.0018	54 424.45	2		$5p^56p\ 3/2[5/2]_{3}$	$5p^514d\ 3/2[7/2]^{\circ}_{4}$	05SAN/AND
1 838.197 4	0.0017	54 401.12	4		$5p^56p\ 3/2[1/2]_{1}$	$5p^511d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
1 839.214 2	0.0015	54 371.04	4		$5p^56p\ 3/2[1/2]_{1}$	$5p^511d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
1 840.051 8	0.0018	54 346.29	40		$5p^55d\ 3/2[7/2]^{\circ}_{4}$	$5p^55f\ 3/2[5/2]_{3}$	05SAN/AND
1 840.497	0.002	54 333.16	1800		$5p^55d\ 3/2[7/2]^{\circ}_{4}$	$5p^55f\ 3/2[9/2]_{5}$	05SAN/AND
1 840.63	0.03	54 329.3	2	u	$5p^55d\ 3/2[5/2]^{\circ}_{3}$	$5p^56f\ 3/2[3/2]_{2}$	05SAN/AND
1 840.868	0.002	54 322.21	3		$5p^56p\ 3/2[1/2]_{1}$	$5p^511d\ 3/2[1/2]^{\circ}_{0}$	05SAN/AND
1 841.056 7	0.0015	54 316.63	1				05SAN/AND
1 843.432	0.004	54 246.64	45		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^59f\ 3/2[7/2]_{3}$	05SAN/AND
1 843.901	0.013	54 232.8	2		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^57f\ 3/2[5/2]_{2}$	05SAN/AND
1 844.414 5	0.0018	54 217.75	11		$5p^55d\ 3/2[7/2]^{\circ}_{3}$	$5p^58p\ 3/2[5/2]_{3}$	05SAN/AND
1 845.716 0	0.0020	54 179.52	2		$5p^55d\ 3/2[7/2]^{\circ}_{3}$	$5p^55f\ 3/2[5/2]_{2}$	05SAN/AND
1 846.028	0.002	54 170.36	9		$5p^55d\ 3/2[5/2]^{\circ}_{2}$	$5p^57p\ 1/2[3/2]_{1}$	05SAN/AND
1 848.048	0.003	54 111.14	3		$5p^56p\ 3/2[1/2]_{1}$	$5p^512s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
1 852.242 7	0.0015	53 988.61	2		$5p^56p\ 3/2[5/2]_{2}$	$5p^512d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
1 852.642 4	0.0020	53 976.96	60		$5p^55d\ 3/2[7/2]^{\circ}_{3}$	$5p^58p\ 3/2[5/2]_{2}$	05SAN/AND
1 852.935 2	0.0017	53 968.43	4		$5p^56p\ 3/2[5/2]_{2}$	$5p^512d\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
1 855.028	0.003	53 907.56	13				05SAN/AND
1 857.063 0	0.0016	53 848.47	2		$5p^5 5d\ 3/2[3/2]^\circ_1$	$5p^5 10p\ 3/2[3/2]_2$	05SAN/AND
1 857.535	0.002	53 834.80	110		$5p^5 5d\ 3/2[7/2]^\circ_3$	$5p^5 5f\ 3/2[7/2]_4$	05SAN/AND
1 859.165 9	0.0019	53 787.56	1300		$5p^5 5d\ 3/2[3/2]^\circ_2$	$5p^5 5f\ 3/2[5/2]_3$	05SAN/AND
1 860.141	0.004	53 759.35	2		$5p^5 5d\ 1/2[5/2]^\circ_2$	$5p^5 9f\ 3/2[3/2]_2$	05SAN/AND
1 860.889 2	0.0018	53 737.75	120		$5p^5 5d\ 1/2[5/2]^\circ_2$	$5p^5 5f\ 1/2[7/2]_3$	05SAN/AND
1 862.440 2	0.0016	53 693.00	4		$5p^5 5d\ 3/2[3/2]^\circ_1$	$5p^5 10p\ 3/2[5/2]_2$	05SAN/AND
1 862.881 3	0.0015	53 680.29	2		$5p^5 5d\ 1/2[3/2]^\circ_2$	$5p^5 10f\ 3/2[7/2]_3$	05SAN/AND
1 864.072 0	0.0015	53 646.00	2		$5p^5 6p\ 3/2[5/2]_3$	$5p^5 14s\ 3/2[3/2]^\circ_2$	05SAN/AND
1 864.161 0	0.0015	53 643.44	10		$5p^5 5d1/2[3/2]^\circ_2$	$5p^5 10f\ 3/2[5/2]_3$	05SAN/AND
1 864.829 5	0.0019	53 624.21	730		$5p^5 5d\ 3/2[7/2]^\circ_3$	$5p^5 5f\ 3/2[7/2]_3$	05SAN/AND
1 865.926 3	0.0016	53 592.68	2		$5p^5 5d\ 1/2[3/2]^\circ_2$	$5p^5 8p\ 1/2[1/2]_1$	05SAN/AND
1 866.687	0.005	53 570.85	7		$5p^5 5d\ 1/2[5/2]^\circ_2$	$5p^5 5f\ 1/2[5/2]_3$	05SAN/AND
1 866.929 5	0.0017	53 563.89	3		$5p^5 6p\ 3/2[1/2]_1$	$5p^5 7d\ 1/2[3/2]^\circ_2$	05SAN/AND
1 870.470	0.002	53 462.50	29		$5p^5 5d\ 3/2[3/2]^\circ_1$	$5p^5 7f\ 3/2[5/2]_2$	05SAN/AND
1 876.723 9	0.0020	53 284.34	710		$5p^5 5d\ 3/2[3/2]^\circ_2$	$5p^5 5f\ 3/2[3/2]_2$	05SAN/AND
1 883.933 9	0.0014	53 080.42	1800		$5p^5 5d\ 3/2[7/2]^\circ_3$	$5p^5 5f\ 3/2[9/2]_4$	05SAN/AND
1 885.859 7	0.0016	53 026.22	8		$5p^5 5d\ 1/2[3/2]^\circ_2$	$5p^5 8p\ 1/2[3/2]_1$	05SAN/AND
1 887.247 9	0.0019	52 987.21	55		$5p^5 5d\ 3/2[3/2]^\circ_2$	$5p^5 5f\ 3/2[3/2]_1$	05SAN/AND
1 887.29	0.04	52 986.1	2	u	$5p^5 6p\ 3/2[5/2]_3$	$5p^5 12d\ 3/2[5/2]^\circ_3$	05SAN/AND
1 888.902 3	0.0015	52 940.80	5		$5p^5 6p\ 3/2[5/2]_3$	$5p^5 12d\ 3/2[7/2]^\circ_4$	05SAN/AND
1 891.570 5	0.0018	52 866.12	81		$5p^5 5d\ 3/2[7/2]^\circ_3$	$5p^5 5f\ 3/2[5/2]_3$	05SAN/AND
1 892.302	0.003	52 845.69	2				05SAN/AND
1 893.246 0	0.0018	52 819.34	10		$5p^5 6p\ 3/2[5/2]_2$	$5p^5 11d\ 3/2[7/2]^\circ_3$	05SAN/AND
1 894.249 3	0.0019	52 791.36	2		$5p^5 6p\ 3/2[3/2]_2$	$5p^5 14d\ 3/2[5/2]^\circ_3$	05SAN/AND
1 896.878 5	0.0017	52 718.19	10		$5p^5 6p\ 3/2[1/2]_1$	$5p^5 10d\ 3/2[3/2]^\circ_2$	05SAN/AND
1 897.148 0	0.0015	52 710.70	76		$5p^5 5d\ 1/2[3/2]^\circ_2$	$5p^5 9f\ 3/2[5/2]_3$	05SAN/AND
1 898.468	0.002	52 674.04	10		$5p^5 6p\ 3/2[1/2]_1$	$5p^5 10d\ 3/2[1/2]^\circ_1$	05SAN/AND
1 899.157 6	0.0014	52 654.92	4		$5p^5 6p\ 3/2[1/2]_1$	$5p^5 10d\ 3/2[1/2]^\circ_0$	05SAN/AND
1 900.265	0.013	52 624.2	1		$5p^5 5d\ 1/2[3/2]^\circ_2$	$5p^5 9f\ 3/2[7/2]_3$	05SAN/AND
1 900.597 0	0.0014	52 615.05	1		$5p^5 5d\ 3/2[3/2]^\circ_1$	$5p^5 7f\ 3/2[3/2]_2$	05SAN/AND
1 900.970 4	0.0016	52 604.71	4		$5p^5 5d\ 1/2[5/2]^\circ_3$	$5p^5 10f\ 3/2[7/2]_4$	05SAN/AND
1 902.583 9	0.0015	52 560.10	4		$5p^5 6p\ 3/2[5/2]_2$	$5p^5 12s\ 3/2[3/2]^\circ_1$	05SAN/AND
1 902.646 6	0.0019	52 558.37	60		$5p^5 5d\ 3/2[5/2]^\circ_2$	$5p^5 8p\ 3/2[3/2]_2$	05SAN/AND
1 903.321	0.002	52 539.75	2		$5p^5 6p\ 3/2[5/2]_2$	$5p^5 12s\ 3/2[3/2]^\circ_2$	05SAN/AND
1 905.421 1	0.0015	52 481.84	1		$5p^5 5d\ 3/2[3/2]^\circ_1$	$5p^5 7f\ 3/2[3/2]_1$	05SAN/AND
1 907.742 7	0.0017	52 417.97	5		$5p^5 5d\ 1/2[5/2]^\circ_2$	$5p^5 8f\ 3/2[7/2]_3$	05SAN/AND
1 909.039	0.002	52 382.37	22		$5p^5 5d\ 3/2[5/2]^\circ_2$	$5p^5 8p\ 3/2[3/2]_1$	05SAN/AND
1 909.580 4	0.0019	52 367.53	9		$5p^5 5d\ 3/2[5/2]^\circ_3$	$5p^5 4f\ 1/2[7/2]_4$	05SAN/AND
1 909.749	0.002	52 362.90	23		$5p^5 5d\ 3/2[7/2]^\circ_3$	$5p^5 5f\ 3/2[3/2]_2$	05SAN/AND
1 910.466 5	0.0014	52 343.24	9		$5p^5 6p\ 3/2[1/2]_1$	$5p^5 11s\ 3/2[3/2]^\circ_2$	05SAN/AND
1 914.613	0.002	52 229.86	520		$5p^5 5d\ 3/2[5/2]^\circ_2$	$5p^5 5f\ 3/2[5/2]_2$	05SAN/AND
1 916.968	0.002	52 165.70	3		$5p^5 5d\ 3/2[5/2]^\circ_3$	$5p^5 4f\ 1/2[7/2]_3$	05SAN/AND
1 917.126 6	0.0020	52 161.40	2		$5p^5 6p\ 3/2[3/2]_2$	$5p^5 13d\ 3/2[5/2]^\circ_3$	05SAN/AND
1 918.019 8	0.0020	52 137.10	4		$5p^5 5d\ 1/2[3/2]^\circ_2$	$5p^5 9f\ 3/2[3/2]_2$	05SAN/AND
1 918.813	0.003	52 115.56	8		$5p^5 5d\ 1/2[3/2]^\circ_2$	$5p^5 5f\ 1/2[7/2]_3$	05SAN/AND
1 919.806	0.002	52 088.59	3		$5p^5 6p\ 3/2[3/2]_1$	$5p^5 12d\ 3/2[5/2]^\circ_2$	05SAN/AND
1 920.768 4	0.0019	52 062.50	76		$5p^5 5d\ 3/2[5/2]^\circ_3$	$5p^5 4f\ 1/2[5/2]_3$	05SAN/AND
1 922.070 7	0.0017	52 027.22	79		$5p^5 5d\ 3/2[5/2]^\circ_2$	$5p^5 8p\ 3/2[5/2]_2$	05SAN/AND
1 924.979 7	0.0018	51 948.60	84		$5p^5 5d\ 1/2[3/2]^\circ_2$	$5p^5 5f\ 1/2[5/2]_3$	05SAN/AND
1 927.341 1	0.0018	51 884.95	1		$5p^5 6p\ 3/2[3/2]_1$	$5p^5 13s\ 3/2[3/2]^\circ_1$	05SAN/AND
1 928.769	0.002	51 846.53	3		$5p^5 6p\ 3/2[5/2]_3$	$5p^5 11d\ 3/2[5/2]^\circ_3$	05SAN/AND
1 930.445 5	0.0018	51 801.52	2		$5p^5 6p\ 3/2[5/2]_3$	$5p^5 11d\ 3/2[7/2]^\circ_3$	05SAN/AND
1 931.144 0	0.0015	51 782.78	11		$5p^5 6p\ 3/2[5/2]_3$	$5p^5 11d\ 3/2[7/2]^\circ_4$	05SAN/AND
1 935.194	0.002	51 674.40	2 900		$5p^5 5d\ 3/2[5/2]^\circ_2$	$5p^5 5f\ 3/2[7/2]_3$	05SAN/AND
1 937.437	0.002	51 614.59	110		$5p^5 5d\ 1/2[5/2]^\circ_3$	$5p^5 9f\ 3/2[7/2]_4$	05SAN/AND
1 937.590	0.002	51 610.51	4		$5p^5 5d\ 1/2[5/2]^\circ_3$	$5p^5 9f\ 3/2[5/2]_3$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
1 940.841 1	0.0019	51 524.05	4		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^59f\ 3/2[7/2]_{3}$	05SAN/AND
1 940.920 6	0.0016	51 521.94	7		$5p^56p\ 3/2[5/2]_{3}$	$5p^512s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
1 946.404 9	0.0018	51 376.77	30		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^55f\ 1/2[5/2]_{2}$	05SAN/AND
1 946.794 7	0.0019	51 366.49	1		$5p^56p\ 3/2[5/2]_{2}$	$5p^510d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
1 948.104 7	0.0017	51 331.94	5		$5p^56s\ 1/2[1/2]^{\circ}_{0}$	$5p^59p\ 3/2[1/2]_{1}$	05SAN/AND
1 948.273 8	0.0017	51 327.49	3		$5p^56p\ 3/2[3/2]_{2}$	$5p^512d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
1 949.505 7	0.0015	51 295.05	2		$5p^56p\ 3/2[3/2]_{2}$	$5p^512d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
1 951.313 3	0.0019	51 247.54	2		$5p^56p\ 3/2[5/2]_{2}$	$5p^510d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
1 952.917 8	0.0017	51 205.43	7		$5p^56p\ 3/2[5/2]_{2}$	$5p^510d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
1 954.114 7	0.0018	51 174.07	2		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^59p\ 3/2[3/2]_{2}$	05SAN/AND
1 954.462	0.003	51 164.98	22		$5p^56p\ 3/2[5/2]_{2}$	$5p^510d\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
1 955.159	0.002	51 146.73	2		$5p^56p\ 3/2[5/2]_{2}$	$5p^510d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
1 955.337	0.002	51 142.07	84		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^55f\ 1/2[7/2]_{4}$	05SAN/AND
1 957.217 5	0.0015	51 092.94	1		$5p^56p\ 3/2[3/2]_{2}$	$5p^513s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
1 960.199 4	0.0020	51 015.22	9		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^55f\ 1/2[7/2]_{3}$	05SAN/AND
1 962.875	0.002	50 945.68	3				05SAN/AND
1 963.274	0.014	50 935.3	1		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^59p\ 3/2[5/2]_{2}$	05SAN/AND
1 964.006	0.003	50 916.35	68		$5p^55d\ 3/2[5/2]^{\circ}_{2}$	$5p^55f\ 3/2[5/2]_{3}$	05SAN/AND
1 966.634	0.002	50 848.29	4		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^55f\ 1/2[5/2]_{3}$	05SAN/AND
1 967.290	0.002	50 831.34	1		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^59p\ 3/2[1/2]_{1}$	05SAN/AND
1 969.596 4	0.0015	50 771.82	5		$5p^56p\ 3/2[5/2]_{2}$	$5p^511s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
1 971.152 1	0.0020	50 731.75	4		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^56f\ 3/2[5/2]_{2}$	05SAN/AND
1 972.134	0.003	50 706.50	62				05SAN/AND
1 973.935 9	0.0016	50 660.21	3		$5p^56p\ 3/2[3/2]_{1}$	$5p^512s\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
1 978.997	0.003	50 530.66	12		$5p^55d\ 1/2[3/2]^{\circ}_{2}$	$5p^58f\ 3/2[5/2]_{3}$	05SAN/AND
1 981.998 8	0.0017	50 454.12	2		$5p^55d\ 1/2[3/2]^{\circ}_{2}$	$5p^58f\ 3/2[3/2]_{2}$	05SAN/AND
1 983.35	0.04	50 419.8	2		$5p^55d\ 1/2[3/2]^{\circ}_{2}$	$5p^58f\ 3/2[3/2]_{1}$	05SAN/AND
1 983.612 4	0.0016	50 413.08	2		$5p^55d\ 3/2[5/2]^{\circ}_{2}$	$5p^55f\ 3/2[3/2]_{2}$	05SAN/AND
1 983.969	0.003	50 404.01	4		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^59p\ 3/2[3/2]_{2}$	05SAN/AND
1 985.396 8	0.0015	50 367.77	2		$5p^56p\ 3/2[1/2]_{1}$	$5p^59d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
1 986.048	0.002	50 351.24	3		$5p^56s\ 3/2[3/2]^{\circ}_{2}$	$5p^54f\ 3/2[5/2]_{2}$	05SAN/AND
1 988.176 4	0.0019	50 297.35	29		$5p^56p\ 3/2[1/2]_{1}$	$5p^59d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
1 990.850	0.005	50 229.80	6		$5p^56p\ 3/2[5/2]_{3}$	$5p^510d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
1 991.429	0.002	50 215.20	34		$5p^56p\ 3/2[1/2]_{1}$	$5p^59d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
1 992.506	0.003	50 188.06	9		$5p^56p\ 3/2[3/2]_{2}$	$5p^511d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
1 993.415	0.003	50 165.18	26		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^59p\ 3/2[5/2]_{2}$	05SAN/AND
1 993.507	0.003	50 162.86	12		$5p^56p\ 3/2[1/2]_{1}$	$5p^59d\ 3/2[1/2]^{\circ}_{0}$	05SAN/AND
1 993.878	0.005	50 153.51	4		$5p^56p\ 3/2[3/2]_{2}$	$5p^511d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
1 994.134	0.005	50 147.08	5		$5p^56p\ 3/2[5/2]_{3}$	$5p^510d\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
1 994.287	0.002	50 143.25	26		$5p^55d\ 3/2[1/2]^{\circ}_{1}$	$5p^57p\ 3/2[1/2]_{0}$	05SAN/AND
1 994.493	0.003	50 138.06	34		$5p^56p\ 3/2[5/2]_{3}$	$5p^510d\ 3/2[7/2]^{\circ}_{4}$	05SAN/AND
1 995.373	0.004	50 115.95	13		$5p^55d\ 3/2[5/2]^{\circ}_{2}$	$5p^55f\ 3/2[3/2]_{1}$	05SAN/AND
1 997.910	0.004	50 052.31	10		$5p^56s\ 3/2[3/2]^{\circ}_{2}$	$5p^54f\ 3/2[7/2]_{3}$	05SAN/AND
air							
2 000.887 1	0.0006	49 961.646	95		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^56f\ 3/2[5/2]_{2}$	05SAN/AND
2 000.981	0.002	49 959.31	36		$5p^55d\ 3/2[5/2]^{\circ}_{3}$	$5p^58p\ 3/2[3/2]_{2}$	05SAN/AND
2 004.002	0.010	49 884.0	2		$5p^56p\ 3/2[3/2]_{2}$	$5p^512s\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
2 004.826	0.005	49 863.49	3		$5p^56p\ 3/2[3/2]_{2}$	$5p^512s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 005.829 7	0.0005	49 838.554	82		$5p^55d\ 3/2[1/2]^{\circ}_{1}$	$5p^54f\ 3/2[5/2]_{2}$	05SAN/AND
2 006.857	0.010	49 813.0	2		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^58f\ 3/2[7/2]_{4}$	05SAN/AND
2 009.237	0.003	49 754.05	13		$5p^56p\ 3/2[5/2]_{3}$	$5p^511s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 009.502	0.006	49 747.48	2		$5p^56p\ 3/2[1/2]_{1}$	$5p^510s\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
2 010.274	0.004	49 728.39	27		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^56f\ 3/2[3/2]_{2}$	05SAN/AND
2 011.586 6	0.0019	49 695.94	29		$5p^56p\ 3/2[1/2]_{1}$	$5p^510s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 012.647	0.005	49 669.75	8		$5p^56s\ 3/2[3/2]^{\circ}_{2}$	$5p^57p\ 3/2[3/2]_{2}$	05SAN/AND
2 017.064	0.005	49 561.01	6		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^58f\ 3/2[9/2]_{4}$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
2 022.435	0.009	49 429.4	2		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^57f\ 3/2[3/2]_{1}$	05SAN/AND
2 022.771	0.002	49 421.21	32		$5p^56s\ 3/2[3/2]^{\circ}_{2}$	$5p^57p\ 3/2[3/2]_{1}$	05SAN/AND
2 024.966 1	0.0007	49 367.636	7 200		$5p^56s\ 3/2[3/2]^{\circ}_{2}$	$5p^54f\ 3/2[5/2]_{3}$	05SAN/AND
2 027.077	0.015	49 316.2	2		$5p^56p\ 3/2[3/2]_{2}$	$5p^57d\ 1/2[3/2]^{\circ}_{2}$	05SAN/AND
2 027.518	0.005	49 305.51	14		$5p^56p\ 3/2[3/2]_{1}$	$5p^510d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
2 028.321 8	0.0007	49 285.973	4 600		$5p^55d\ 3/2[5/2]^{\circ}_{3}$	$5p^55f\ 3/2[7/2]_{4}$	05SAN/AND
2 029.779	0.004	49 250.60	8		$5p^55d\ 3/2[1/2]^{\circ}_{0}$	$5p^57p\ 3/2[3/2]_{1}$	05SAN/AND
2 033.641	0.002	49 157.07	41		$5p^55d\ 3/2[1/2]^{\circ}_{1}$	$5p^57p\ 3/2[3/2]_{2}$	05SAN/AND
2 035.141 2	0.0009	49 120.85	450		$5p^56s\ 3/2[3/2]^{\circ}_{2}$	$5p^57p\ 3/2[5/2]_{3}$	05SAN/AND
2 037.027	0.008	49 075.39	3		$5p^55d\ 3/2[5/2]^{\circ}_{3}$	$5p^55f\ 3/2[7/2]_{3}$	05SAN/AND
2 041.900 7	0.0006	48 958.259	120		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^56f\ 3/2[3/2]_{2}$	05SAN/AND
2 043.806	0.008	48 912.62	7		$5p^56p\ 3/2[3/2]_{1}$	$5p^511s\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
2 043.970	0.003	48 908.69	25		$5p^55d\ 3/2[1/2]^{\circ}_{1}$	$5p^57p\ 3/2[3/2]_{1}$	05SAN/AND
2 046.452	0.005	48 849.39	5		$5p^56p\ 3/2[5/2]_{2}$	$5p^59d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
2 048.677	0.003	48 796.36	21		$5p^56p\ 3/2[5/2]_{2}$	$5p^59d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
2 051.404 7	0.0006	48 731.471	81		$5p^56p\ 3/2[5/2]_{2}$	$5p^59d\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
2 051.633	0.003	48 726.04	6		$5p^56p\ 3/2[5/2]_{2}$	$5p^59d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 051.764	0.005	48 722.93	12		$5p^56s\ 3/2[3/2]^{\circ}_{2}$	$5p^57p\ 3/2[5/2]_{2}$	05SAN/AND
2 055.101	0.015	48 643.8	4		$5p^56p\ 3/2[5/2]_{2}$	$5p^59d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
2 058.093 9	0.0004	48 573.105	2 700		$5p^56s\ 3/2[3/2]^{\circ}_{2}$	$5p^54f\ 3/2[3/2]_{2}$	05SAN/AND
2 059.855 1	0.0006	48 531.581	250		$5p^55d\ 3/2[5/2]^{\circ}_{3}$	$5p^55f\ 3/2[9/2]_{4}$	05SAN/AND
2 062.446	0.008	48 470.63	8		$5p^56p\ 3/2[3/2]_{2}$	$5p^510d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 064.327	0.006	48 426.46	2		$5p^56p\ 3/2[3/2]_{2}$	$5p^510d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
2 067.309	0.003	48 356.62	18		$5p^56s\ 3/2[3/2]^{\circ}_{2}$	$5p^57p\ 3/2[1/2]_{1}$	05SAN/AND
2 068.992 8	0.0007	48 317.268	700		$5p^55d\ 3/2[5/2]^{\circ}_{3}$	$5p^55f\ 3/2[5/2]_{3}$	05SAN/AND
2 073.584 6	0.0008	48 210.287	760		$5p^55d\ 3/2[1/2]^{\circ}_{1}$	$5p^57p\ 3/2[5/2]_{2}$	05SAN/AND
2 074.626 7	0.0006	48 186.075	55		$5p^55d\ 3/2[1/2]^{\circ}_{0}$	$5p^57p\ 3/2[1/2]_{1}$	05SAN/AND
2 075.059 5	0.0006	48 176.025	37		$5p^56p\ 3/2[5/2]_{2}$	$5p^510s\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
2 076.766	0.005	48 136.45	7		$5p^56p\ 3/2[3/2]_{2}$	$5p^511s\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
2 078.411 9	0.0004	48 098.328	240		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^54f\ 1/2[5/2]_{2}$	05SAN/AND
2 078.524	0.004	48 095.73	10		$5p^56p\ 3/2[3/2]_{2}$	$5p^511s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 079.795	0.004	48 066.34	3 200		$5p^56s\ 3/2[3/2]^{\circ}_{2}$	$5p^54f\ 3/2[3/2]_{1}$	05SAN/AND
2 080.048 4	0.0005	48 060.491	18 000		$5p^55d\ 3/2[1/2]^{\circ}_{1}$	$5p^54f\ 3/2[3/2]_{2}$	05SAN/AND
2 082.607	0.006	48 001.45	27				05SAN/AND
2 085.253	0.012	47 940.6	2		$5p^55d\ 1/2[3/2]^{\circ}_{2}$	$5p^57f\ 3/2[3/2]_{2}$	05SAN/AND
2 087.198 5	0.0006	47 895.871	16 000		$5p^55d\ 3/2[1/2]^{\circ}_{0}$	$5p^54f\ 3/2[3/2]_{1}$	05SAN/AND
2 089.463 4	0.0006	47 843.960	640		$5p^55d\ 3/2[1/2]^{\circ}_{1}$	$5p^57p\ 3/2[1/2]_{1}$	05SAN/AND
2 090.003	0.003	47 831.61	20		$5p^56p\ 3/2[5/2]_{3}$	$5p^59d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
2 090.770	0.004	47 814.06	46		$5p^55d\ 3/2[5/2]^{\circ}_{3}$	$5p^55f\ 3/2[3/2]_{2}$	05SAN/AND
2 092.318	0.005	47 778.69	3		$5p^56p\ 3/2[5/2]_{3}$	$5p^59d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
2 095.170	0.003	47 713.67	14		$5p^56p\ 3/2[5/2]_{3}$	$5p^59d\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
2 095.408	0.005	47 708.24	4		$5p^56p\ 3/2[5/2]_{3}$	$5p^59d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 096.304 2	0.0004	47 687.852	130		$5p^56p\ 3/2[5/2]_{3}$	$5p^59d\ 3/2[7/2]^{\circ}_{4}$	05SAN/AND
2 100.053	0.003	47 602.75	68		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^57p\ 1/2[3/2]_{2}$	05SAN/AND
2 102.215 2	0.0007	47 553.781	10 000		$5p^55d\ 3/2[1/2]^{\circ}_{1}$	$5p^54f\ 3/2[3/2]_{1}$	05SAN/AND
2 105.432	0.012	47 481.1	2		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^57f\ 3/2[7/2]_{4}$	05SAN/AND
2 105.873	0.013	47 471.2	12		$5p^56s\ 1/2[1/2]^{\circ}_{0}$	$5p^57p\ 1/2[3/2]_{1}$	05SAN/AND
2 112.236 4	0.0006	47 328.196	1 400		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^54f\ 1/2[5/2]_{2}$	05SAN/AND
2 115.424	0.003	47 256.89	30		$5p^56p\ 3/2[3/2]_{1}$	$5p^59d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
2 116.800	0.003	47 226.17	35		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^57p\ 1/2[1/2]_{0}$	05SAN/AND
2 121.900	0.005	47 112.69	3		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^59p\ 3/2[5/2]_{2}$	05SAN/AND
2 122.166 9	0.0004	47 106.754	74		$5p^56p\ 3/2[5/2]_{3}$	$5p^510s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 122.333 7	0.0005	47 103.053	300		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^57p\ 3/2[1/2]_{0}$	05SAN/AND
2 123.957	0.012	47 067.1	2		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^57f\ 3/2[5/2]_{3}$	05SAN/AND
2 128.322	0.005	46 970.53	19		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^57p\ 1/2[3/2]_{1}$	05SAN/AND
2 131.101	0.005	46 909.30	10		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^56f\ 3/2[5/2]_{2}$	05SAN/AND
2 131.689 6	0.0004	46 896.343	81		$5p^56p\ 3/2[3/2]_{1}$	$5p^59d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
2 133.958	0.004	46 846.50	13		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^57p\ 1/2[1/2]_{1}$	05SAN/AND
2 134.591 7	0.0008	46 832.591	590		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^57p\ 1/2[3/2]_{2}$	05SAN/AND
2 134.894	0.004	46 825.97	9		$5p^56p\ 3/2[3/2]_{1}$	$5p^59d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 136.153 3	0.0005	46 798.360	1 200		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^54f\ 3/2[5/2]_{2}$	05SAN/AND
2 141.058	0.009	46 691.17	2		$5p^56p\ 3/2[3/2]_{1}$	$5p^59d\ 3/2[1/2]^{\circ}_{0}$	05SAN/AND
2 147.281 0	0.0006	46 555.867	250		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^56f\ 3/2[7/2]_{3}$	05SAN/AND
2 147.654	0.004	46 547.79	9		$5p^56p\ 3/2[1/2]_{1}$	$5p^58d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
2 152.473 1	0.0004	46 443.579	180		$5p^56p\ 3/2[1/2]_{1}$	$5p^58d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 158.895 6	0.0005	46 305.429	260		$5p^56p\ 3/2[1/2]_{1}$	$5p^58d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
2 159.012	0.005	46 302.94	14		$5p^56p\ 3/2[1/2]_{0}$	$5p^510d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
2 160.070	0.004	46 280.25	29		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^56f\ 3/2[5/2]_{3}$	05SAN/AND
2 160.266 7	0.0005	46 276.043	30		$5p^56p\ 3/2[3/2]_{1}$	$5p^510s\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
2 163.809	0.005	46 200.30	18		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^57p\ 1/2[3/2]_{1}$	05SAN/AND
2 164.016 2	0.0007	46 195.872	130		$5p^56p\ 3/2[1/2]_{1}$	$5p^58d\ 3/2[1/2]^{\circ}_{0}$	05SAN/AND
2 165.082 1	0.0005	46 173.132	120		$5p^56p\ 3/2[3/2]_{2}$	$5p^59d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
2 167.725	0.004	46 116.85	28		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^57p\ 3/2[3/2]_{2}$	05SAN/AND
2 170.883 1	0.0004	46 049.761	48		$5p^56p\ 3/2[3/2]_{2}$	$5p^59d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 174.765	0.004	45 967.57	12		$5p^56p\ 3/2[3/2]_{2}$	$5p^59d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
2 177.688 3	0.0010	45 905.87	120		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^56f\ 3/2[3/2]_{2}$	05SAN/AND
2 186.650	0.003	45 717.75	12		$5p^56p\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
2 195.544	0.003	45 532.58	15		$5p^56p\ 3/2[1/2]_{1}$	$5p^59s\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
2 199.614 3	0.0004	45 448.325	39		$5p^56p\ 3/2[3/2]_{2}$	$5p^510s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 199.756 5	0.0005	45 445.387	250		$5p^56p\ 3/2[1/2]_{1}$	$5p^59s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 203.975 0	0.0003	45 358.412	86		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^58p\ 3/2[3/2]_{2}$	05SAN/AND
2 205.524 0	0.0006	45 326.560	16 000		$5p^55d\ 3/2[7/2]^{\circ}_{4}$	$5p^54f\ 3/2[7/2]_{4}$	05SAN/AND
2 211.293 0	0.0005	45 208.320	520		$5p^55d\ 3/2[7/2]^{\circ}_{4}$	$5p^54f\ 3/2[7/2]_{3}$	05SAN/AND
2 213.164 6	0.0004	45 170.093	3 050		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^57p\ 3/2[5/2]_{2}$	05SAN/AND
2 215.423	0.003	45 124.05	16		$5p^56s\ 1/2[1/2]^{\circ}_{0}$	$5p^58p\ 3/2[1/2]_{1}$	05SAN/AND
2 218.606 2	0.0004	45 059.314	33		$5p^56p\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
2 220.056 5	0.0003	45 029.881	180		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^55f\ 3/2[5/2]_{2}$	05SAN/AND
2 220.529 6	0.0006	45 020.289	19 000		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^54f\ 3/2[3/2]_{2}$	05SAN/AND
2 222.695 4	0.0005	44 976.426	230		$5p^56p\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
2 224.811 7	0.0010	44 933.647	66		$5p^55d\ 1/2[3/2]^{\circ}_{2}$	$5p^56f\ 3/2[7/2]_{3}$	05SAN/AND
2 227.859 9	0.0007	44 872.172	32		$5p^56p\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 228.004 0	0.0008	44 869.272	900		$5p^56p\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
2 230.085	0.003	44 827.40	20		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^58p\ 3/2[5/2]_{2}$	05SAN/AND
2 231.261 8	0.0008	44 803.765	910		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^57p\ 3/2[1/2]_{1}$	05SAN/AND
2 234.739 5	0.0008	44 734.048	31		$5p^56p\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
2 238.543 1	0.0010	44 658.05	1 100		$5p^55d\ 1/2[3/2]^{\circ}_{2}$	$5p^56f\ 3/2[5/2]_{3}$	05SAN/AND
2 238.968 8	0.0005	44 649.557	410		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^54f\ 3/2[7/2]_{3}$	05SAN/AND
2 240.280	0.005	44 623.43	10		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^58p\ 3/2[1/2]_{1}$	05SAN/AND
2 242.046 4	0.0006	44 588.274	520		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^58p\ 3/2[3/2]_{2}$	05SAN/AND
2 245.301 3	0.0006	44 523.642	820		$5p^55d\ 3/2[7/2]^{\circ}_{4}$	$5p^54f\ 3/2[5/2]_{3}$	05SAN/AND
2 245.809 1	0.0005	44 513.576	12 000		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^54f\ 3/2[3/2]_{1}$	05SAN/AND
2 254.591 1	0.0006	44 340.205	8 900		$5p^55d\ 3/2[7/2]^{\circ}_{4}$	$5p^54f\ 3/2[9/2]_{4}$	05SAN/AND
2 257.466 0	0.0004	44 283.743	110		$5p^55d\ 1/2[3/2]^{\circ}_{2}$	$5p^56f\ 3/2[3/2]_{2}$	05SAN/AND
2 257.818 8	0.0006	44 276.822	7 700		$5p^55d\ 3/2[7/2]^{\circ}_{4}$	$5p^57p\ 3/2[5/2]_{3}$	05SAN/AND
2 257.87	0.05	44 275.9	390	u	$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^54f\ 1/2[5/2]_{2}$	05SAN/AND
2 258.323 9	0.0006	44 266.921	2 100		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^57p\ 3/2[3/2]_{2}$	05SAN/AND
2 258.689 2	0.0006	44 259.763	3 200		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^55f\ 3/2[5/2]_{2}$	05SAN/AND
2 267.228 4	0.0005	44 093.080	110		$5p^56p\ 3/2[1/2]_{0}$	$5p^59d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
2 267.646 5	0.0005	44 084.951	160 000		$5p^55d\ 3/2[7/2]^{\circ}_{4}$	$5p^54f\ 3/2[9/2]_{5}$	05SAN/AND
2 269.078 3	0.0006	44 057.136	610		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^58p\ 3/2[5/2]_{2}$	05SAN/AND
2 269.882 4	0.0010	44 041.530	180		$5p^56p\ 3/2[5/2]_{3}$	$5p^58d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
2 270.634 5	0.0010	44 026.944	700		$5p^55d\ 3/2[7/2]^{\circ}_{3}$	$5p^54f\ 3/2[5/2]_{2}$	05SAN/AND
2 271.069 1	0.0005	44 018.520	300		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^57p\ 3/2[3/2]_{1}$	05SAN/AND
2 271.547	0.003	44 009.26	36				05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
2 273.839 6	0.0006	43 964.892	75 000		$5p^5 5d\ 3/2[3/2]^\circ_2$	$5p^5 4f\ 3/2[5/2]_3$	05SAN/AND
2 274.031 5	0.0007	43 961.180	290		$5p^5 6p\ 3/2[5/2]_2$	$5p^5 9s\ 3/2[3/2]^\circ_1$	05SAN/AND
2 274.155	0.005	43 958.79	87		$5p^5 6p\ 3/2[5/2]_3$	$5p^5 8d\ 3/2[5/2]^\circ_2$	05SAN/AND
2 274.823 6	0.0004	43 945.875	190		$5p^5 5d\ 1/2[5/2]^\circ_3$	$5p^5 6f\ 3/2[7/2]_4$	05SAN/AND
2 278.551 0	0.0005	43 873.992	150		$5p^5 6p\ 3/2[5/2]_2$	$5p^5 9s\ 3/2[3/2]^\circ_2$	05SAN/AND
2 279.572	0.003	43 854.34	56		$5p^5 6p\ 3/2[5/2]_3$	$5p^5 8d\ 3/2[3/2]^\circ_2$	05SAN/AND
2 279.721 7	0.0007	43 851.464	170		$5p^5 6p\ 3/2[5/2]_3$	$5p^5 8d\ 3/2[7/2]^\circ_3$	05SAN/AND
2 279.988 2	0.0006	43 846.339	9 700		$5p^5 5d\ 3/2[7/2]^\circ_3$	$5p^5 4f\ 3/2[7/2]_4$	05SAN/AND
2 280.661	0.003	43 833.40	17		$5p^5 5d\ 1/2[5/2]^\circ_3$	$5p^5 6f\ 3/2[7/2]_3$	05SAN/AND
2 281.480 6	0.0008	43 817.660	220		$5p^5 6p\ 3/2[3/2]_1$	$5p^5 8d\ 3/2[3/2]^\circ_1$	05SAN/AND
2 282.508 7	0.0006	43 797.925	1 400		$5p^5 6p\ 3/2[5/2]_3$	$5p^5 8d\ 3/2[7/2]^\circ_4$	05SAN/AND
2 283.432 2	0.0005	43 780.212	69		$5p^5 5d\ 1/2[5/2]^\circ_2$	$5p^5 7p\ 1/2[3/2]_2$	05SAN/AND
2 285.405 3	0.0005	43 742.418	22 000		$5p^5 5d\ 1/2[5/2]^\circ_2$	$5p^5 4f\ 1/2[7/2]_3$	05SAN/AND
2 286.153 8	0.0005	43 728.099	25 000		$5p^5 5d\ 3/2[7/2]^\circ_3$	$5p^5 4f\ 3/2[7/2]_3$	05SAN/AND
2 286.678 3	0.0006	43 718.070	5 400		$5p^5 5d\ 3/2[3/2]^\circ_2$	$5p^5 7p\ 3/2[5/2]_3$	05SAN/AND
2 290.813 1	0.0015	43 639.17	3 000		$5p^5 5d\ 1/2[5/2]^\circ_2$	$5p^5 4f\ 1/2[5/2]_3$	05SAN/AND
2 295.094 6	0.0008	43 557.767	75		$5p^5 5d\ 1/2[5/2]^\circ_3$	$5p^5 6f\ 3/2[5/2]_3$	05SAN/AND
2 302.554	0.003	43 416.66	29		$5p^5 6s\ 1/2[1/2]^\circ_0$	$5p^5 5f\ 3/2[3/2]_1$	05SAN/AND
2 302.748 5	0.0006	43 413.001	340		$5p^5 5d\ 1/2[5/2]^\circ_3$	$5p^5 6f\ 3/2[9/2]_4$	05SAN/AND
2 306.339	0.004	43 345.43	2		$5p^5 5d\ 3/2[7/2]^\circ_3$	$5p^5 7p\ 3/2[3/2]_2$	05SAN/AND
2 307.685 0	0.0006	43 320.142	1 500		$5p^5 5d\ 3/2[3/2]^\circ_2$	$5p^5 7p\ 3/2[5/2]_2$	05SAN/AND
2 315.693 0	0.0006	43 170.349	33 000		$5p^5 5d\ 3/2[3/2]^\circ_2$	$5p^5 4f\ 3/2[3/2]_2$	05SAN/AND
2 318.816	0.002	43 112.22	18		$5p^5 6p\ 3/2[1/2]_0$	$5p^5 10s\ 3/2[3/2]^\circ_1$	05SAN/AND
2 320.742 2	0.0005	43 076.432	560		$5p^5 6p\ 3/2[3/2]_1$	$5p^5 8d\ 3/2[5/2]^\circ_2$	05SAN/AND
2 322.522 2	0.0007	43 043.421	5 000		$5p^5 5d\ 3/2[7/2]^\circ_3$	$5p^5 4f\ 3/2[5/2]_3$	05SAN/AND
2 326.371 7	0.0007	42 972.201	63		$5p^5 6p\ 3/2[3/2]_1$	$5p^5 8d\ 3/2[3/2]^\circ_2$	05SAN/AND
2 327.367 1	0.0006	42 953.824	1 300		$5p^5 5d\ 3/2[3/2]^\circ_2$	$5p^5 7p\ 3/2[1/2]_1$	05SAN/AND
2 329.420	0.003	42 915.96	51		$5p^5 6s\ 1/2[1/2]^\circ_1$	$5p^5 5f\ 3/2[3/2]_1$	05SAN/AND
2 332.463 3	0.0006	42 859.982	140 000		$5p^5 5d\ 3/2[7/2]^\circ_3$	$5p^5 4f\ 3/2[9/2]_4$	05SAN/AND
2 332.668 5	0.0007	42 856.213	1 900		$5p^5 6p\ 3/2[5/2]_3$	$5p^5 9s\ 3/2[3/2]^\circ_2$	05SAN/AND
2 333.878	0.003	42 834.01	18		$5p^5 6p\ 3/2[3/2]_1$	$5p^5 8d\ 3/2[1/2]^\circ_1$	05SAN/AND
2 335.917 9	0.0006	42 796.602	220	?	$5p^5 5d\ 3/2[7/2]^\circ_3$	$5p^5 7p\ 3/2[5/2]_3$	05SAN/AND
2 339.865	0.004	42 724.42	10		$5p^5 6p\ 3/2[3/2]_1$	$5p^5 8d\ 3/2[1/2]^\circ_0$	05SAN/AND
2 343.198 9	0.0008	42 663.630	2 900		$5p^5 5d\ 3/2[3/2]^\circ_2$	$5p^5 4f\ 3/2[3/2]_1$	05SAN/AND
2 343.745 6	0.0008	42 653.681	740		$5p^5 5d\ 1/2[3/2]^\circ_2$	$5p^5 4f\ 1/2[5/2]_2$	05SAN/AND
2 355.377 4	0.0006	42 443.057	600		$5p^5 5d\ 3/2[3/2]^\circ_1$	$5p^5 5f\ 3/2[3/2]_2$	05SAN/AND
2 357.842 7	0.0006	42 398.684	2 300		$5p^5 5d\ 3/2[7/2]^\circ_3$	$5p^5 7p\ 3/2[5/2]_2$	05SAN/AND
2 358.709 9	0.0006	42 383.095	860		$5p^5 6p\ 3/2[3/2]_2$	$5p^5 8d\ 3/2[5/2]^\circ_3$	05SAN/AND
2 366.203 5	0.0012	42 248.88	1 300		$5p^5 5d\ 3/2[7/2]^\circ_3$	$5p^5 4f\ 3/2[3/2]_2$	05SAN/AND
2 369.171 4	0.0007	42 195.961	380		$5p^5 6p\ 3/2[3/2]_2$	$5p^5 8d\ 3/2[3/2]^\circ_2$	05SAN/AND
2 370.516 0	0.0008	42 172.028	380		$5p^5 5d\ 1/2[3/2]^\circ_2$	$5p^5 7p\ 1/2[1/2]_1$	05SAN/AND
2 371.302	0.003	42 158.05	120		$5p^5 5d\ 1/2[3/2]^\circ_2$	$5p^5 7p\ 1/2[3/2]_2$	05SAN/AND
2 371.986	0.003	42 145.89	26		$5p^5 5d\ 3/2[3/2]^\circ_1$	$5p^5 5f\ 3/2[3/2]_1$	05SAN/AND
2 373.432	0.003	42 120.21	3 800		$5p^5 5d\ 1/2[3/2]^\circ_2$	$5p^5 4f\ 1/2[7/2]_3$	05SAN/AND
2 374.717 3	0.0008	42 097.425	89		$5p^5 5d\ 1/2[3/2]^\circ_1$	$5p^5 8p\ 1/2[3/2]_1$	05SAN/AND
2 375.229	0.004	42 088.35	27				05SAN/AND
2 375.859 6	0.0009	42 077.187	24 000		$5p^5 5d\ 3/2[5/2]^\circ_2$	$5p^5 4f\ 3/2[5/2]_2$	05SAN/AND
2 376.763 8	0.0007	42 061.180	320		$5p^5 6p\ 3/2[3/2]_1$	$5p^5 9s\ 3/2[3/2]^\circ_1$	05SAN/AND
2 376.954 3	0.0011	42 057.809	74		$5p^5 6p\ 3/2[3/2]_2$	$5p^5 8d\ 3/2[1/2]^\circ_1$	05SAN/AND
2 379.265 8	0.0008	42 016.953	22 000		$5p^5 5d\ 1/2[3/2]^\circ_2$	$5p^5 4f\ 1/2[5/2]_3$	05SAN/AND
2 381.700	0.004	41 974.01	15		$5p^5 6p\ 3/2[3/2]_1$	$5p^5 9s\ 3/2[3/2]^\circ_2$	05SAN/AND
2 392.856 4	0.0005	41 778.329	100 000		$5p^5 5d\ 3/2[5/2]^\circ_2$	$5p^5 4f\ 3/2[7/2]_3$	05SAN/AND
2 397.653	0.006	41 694.75	10				05SAN/AND
2 414.976 5	0.0006	41 395.688	1 700		$5p^5 5d\ 3/2[5/2]^\circ_2$	$5p^5 7p\ 3/2[3/2]_2$	05SAN/AND
2 421.455 5	0.0006	41 284.936	170		$5p^5 6p\ 3/2[3/2]_2$	$5p^5 9s\ 3/2[3/2]^\circ_1$	05SAN/AND
2 423.141	0.004	41 256.22	7				05SAN/AND
2 425.167 8	0.0006	41 221.745	37 000		$5p^5 5d\ 1/2[5/2]^\circ_3$	$5p^5 4f\ 1/2[7/2]_4$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
2 425.955 2	0.0009	41 208.365	27		$5p^55d\ 1/2[3/2]^\circ_1$	$5p^59f\ 3/2[3/2]_2$	05SAN/AND
2 426.01	0.06	41 207.4	30	u	$5p^55d\ 1/2[5/2]^\circ_2$	$5p^55f\ 3/2[5/2]_2$	05SAN/AND
2 426.579 3	0.0007	41 197.769	300		$5p^56p\ 3/2[3/2]_2$	$5p^59s\ 3/2[3/2]^\circ_2$	05SAN/AND
2 429.556 3	0.0008	41 147.291	1 200		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^57p\ 3/2[3/2]_1$	05SAN/AND
2 432.727 7	0.0006	41 093.654	4 800		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^54f\ 3/2[5/2]_3$	05SAN/AND
2 434.853 7	0.0010	41 057.775	540		$5p^55d\ 1/2[5/2]^\circ_3$	$5p^57p\ 1/2[3/2]_2$	05SAN/AND
2 437.098 9	0.0014	41 019.95	1 000		$5p^55d\ 1/2[5/2]^\circ_3$	$5p^54f\ 1/2[7/2]_3$	05SAN/AND
2 437.998	0.004	41 004.83	40		$5p^55d\ 1/2[5/2]^\circ_2$	$5p^58p\ 3/2[5/2]_2$	05SAN/AND
2 443.249 7	0.0019	40 916.69	2 100		$5p^55d\ 1/2[5/2]^\circ_3$	$5p^54f\ 1/2[5/2]_3$	05SAN/AND
2 447.427 9	0.0008	40 846.848	32		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^57p\ 3/2[5/2]_3$	05SAN/AND
2 459.044 8	0.0013	40 653.90	300		$5p^56p\ 3/2[1/2]_0$	$5p^58d\ 3/2[3/2]^\circ_1$	05SAN/AND
2 459.155 3	0.0013	40 652.07	270		$5p^55d\ 1/2[5/2]^\circ_2$	$5p^55f\ 3/2[7/2]_3$	05SAN/AND
2 471.506 8	0.0008	40 448.921	130		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^57p\ 3/2[5/2]_2$	05SAN/AND
2 471.858 6	0.0020	40 443.17	240		$5p^56p\ 3/2[1/2]_1$	$5p^56d\ 1/2[3/2]^\circ_2$	05SAN/AND
2 480.695 4	0.0007	40 299.108	4 000		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^54f\ 3/2[3/2]_2$	05SAN/AND
2 484.532 4	0.0011	40 236.875	270		$5p^56p\ 3/2[1/2]_1$	$5p^57d\ 3/2[3/2]^\circ_1$	05SAN/AND
2 488.761 9	0.0011	40 168.501	79		$5p^56p\ 3/2[1/2]_1$	$5p^57d\ 3/2[5/2]^\circ_2$	05SAN/AND
2 490.436	0.003	40 141.50	13		$5p^55d\ 1/2[3/2]^\circ_1$	$5p^58f\ 3/2[5/2]_2$	05SAN/AND
2 505.892	0.004	39 893.93	7		$5p^55d\ 1/2[5/2]^\circ_2$	$5p^55f\ 3/2[5/2]_3$	05SAN/AND
2 512.286 1	0.0010	39 792.403	1 700		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^54f\ 3/2[3/2]_1$	05SAN/AND
2 516.645	0.006	39 723.49	5				05SAN/AND
2 523.000	0.003	39 623.43	38		$5p^55d\ 1/2[3/2]^\circ_2$	$5p^58p\ 3/2[5/2]_3$	05SAN/AND
2 523.681 4	0.0010	39 612.737	230		$5p^56p\ 3/2[1/2]_1$	$5p^56d\ 1/2[5/2]^\circ_2$	05SAN/AND
2 525.436	0.004	39 585.22	23		$5p^55d\ 1/2[3/2]^\circ_2$	$5p^55f\ 3/2[5/2]_2$	05SAN/AND
2 529.268	0.004	39 525.25	5		$5p^55d\ 1/2[3/2]^\circ_1$	$5p^58f\ 3/2[3/2]_2$	05SAN/AND
2 532.286 9	0.0007	39 478.130	380		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^54f\ 3/2[5/2]_2$	05SAN/AND
2 535.493	0.005	39 428.21	5				05SAN/AND
2 537.906	0.003	39 390.73	190		$5p^55d\ 1/2[5/2]^\circ_2$	$5p^55f\ 3/2[3/2]_2$	05SAN/AND
2 539.126 3	0.0006	39 371.798	5 000		$5p^56p\ 3/2[1/2]_1$	$5p^57d\ 3/2[3/2]^\circ_2$	05SAN/AND
2 542.984	0.005	39 312.08	12				05SAN/AND
2 543.926 2	0.0007	39 297.517	22 000		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^54f\ 3/2[7/2]_4$	05SAN/AND
2 544.063 6	0.0018	39 295.39	8 100		$5p^56p\ 3/2[1/2]_1$	$5p^57d\ 3/2[1/2]^\circ_1$	05SAN/AND
2 545.111	0.004	39 279.22	23				05SAN/AND
2 545.972 7	0.0008	39 265.930	2 600		$5p^56p\ 3/2[1/2]_1$	$5p^57d\ 3/2[1/2]^\circ_0$	05SAN/AND
2 546.112	0.005	39 263.78	100				05SAN/AND
2 550.666 9	0.0009	39 193.671	560		$5p^56p\ 3/2[3/2]_1$	$5p^56d\ 1/2[3/2]^\circ_1$	05SAN/AND
2 551.604 3	0.0007	39 179.273	290		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^54f\ 3/2[7/2]_3$	05SAN/AND
2 561.373	0.003	39 029.86	83		$5p^55d\ 1/2[3/2]^\circ_2$	$5p^55f\ 3/2[7/2]_3$	05SAN/AND
2 568.191 1	0.0009	38 926.247	1 400		$5p^56p\ 3/2[5/2]_2$	$5p^56d\ 1/2[5/2]^\circ_3$	05SAN/AND
2 570.096 3	0.0010	38 897.393	150		$5p^56p\ 3/2[1/2]_0$	$5p^59s\ 3/2[3/2]^\circ_1$	05SAN/AND
2 571.788 6	0.0016	38 871.80	400		$5p^56p\ 3/2[5/2]_2$	$5p^56d\ 1/2[3/2]^\circ_2$	05SAN/AND
2 576.771 1	0.0006	38 796.642	2 000		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^57p\ 3/2[3/2]_2$	05SAN/AND
2 585.511 5	0.0009	38 665.497	610		$5p^56p\ 3/2[5/2]_2$	$5p^57d\ 3/2[3/2]^\circ_1$	05SAN/AND
2 590.092 6	0.0007	38 597.114	2 500		$5p^56p\ 3/2[5/2]_2$	$5p^57d\ 3/2[5/2]^\circ_2$	05SAN/AND
2 595.895 6	0.0007	38 510.836	1 800		$5p^56p\ 3/2[5/2]_2$	$5p^57d\ 3/2[5/2]^\circ_3$	05SAN/AND
2 596.990 0	0.0006	38 494.608	63 000		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^54f\ 3/2[5/2]_3$	05SAN/AND
2 601.130 6	0.0013	38 433.336	740		$5p^56p\ 1/2[3/2]_1$	$5p^57d\ 1/2[5/2]^\circ_2$	05SAN/AND
2 602.208	0.003	38 417.42	180		$5p^56p\ 3/2[3/2]_2$	$5p^56d\ 1/2[3/2]^\circ_1$	05SAN/AND
2 609.425 8	0.0005	38 311.165	45 000		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^54f\ 3/2[9/2]_4$	05SAN/AND
2 611.282	0.005	38 283.94	90				05SAN/AND
2 612.113 7	0.0009	38 271.744	3 600		$5p^55d\ 1/2[3/2]^\circ_2$	$5p^55f\ 3/2[5/2]_3$	05SAN/AND
2 613.750 1	0.0005	38 247.785	440		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^57p\ 3/2[5/2]_3$	05SAN/AND
2 621.124 1	0.0010	38 140.189	1 700		$5p^55d\ 1/2[5/2]^\circ_3$	$5p^55f\ 3/2[7/2]_4$	05SAN/AND
2 621.237	0.002	38 138.54	270		$5p^56p\ 3/2[1/2]_1$	$5p^58s\ 3/2[3/2]^\circ_1$	05SAN/AND
2 627.934 3	0.0007	38 041.357	2 500		$5p^56p\ 3/2[5/2]_2$	$5p^56d\ 1/2[5/2]^\circ_2$	05SAN/AND
2 628.856 7	0.0007	38 028.010	17 000		$5p^56p\ 3/2[5/2]_2$	$5p^57d\ 3/2[7/2]^\circ_3$	05SAN/AND
2 635.895 2	0.0006	37 926.471	7 200		$5p^56p\ 3/2[1/2]_1$	$5p^58s\ 3/2[3/2]^\circ_2$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
2 637.149 0	0.0007	37 908.441	1 200		$5p^56p\ 3/2[5/2]_3$	$5p^56d\ 1/2[5/2]^\circ_3$	05SAN/AND
2 640.577	0.005	37 859.22	5		$5p^55d\ 1/2[3/2]^\circ_1$	$5p^57f\ 3/2[5/2]_2$	05SAN/AND
2 640.942 8	0.0018	37 853.99	420		$5p^56p\ 3/2[5/2]_3$	$5p^56d\ 1/2[3/2]^\circ_2$	05SAN/AND
2 641.230	0.005	37 849.88	75		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^57p\ 3/2[5/2]_2$	05SAN/AND
2 644.685 5	0.0010	37 800.421	510		$5p^56p\ 3/2[5/2]_2$	$5p^57d\ 3/2[3/2]^\circ_2$	05SAN/AND
2 650.046 5	0.0014	37 723.96	310		$5p^56p\ 3/2[5/2]_2$	$5p^57d\ 3/2[1/2]^\circ_1$	05SAN/AND
2 651.726 1	0.0006	37 700.062	5 300		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^54f\ 3/2[3/2]_2$	05SAN/AND
2 660.246 5	0.0005	37 579.321	120		$5p^56p\ 3/2[5/2]_3$	$5p^57d\ 3/2[5/2]^\circ_2$	05SAN/AND
2 661.096	0.005	37 567.32	5		$5p^56p\ 1/2[1/2]_1$	$5p^511d\ 3/2[5/2]^\circ_2$	05SAN/AND
2 664.821	0.005	37 514.82	5		$5p^56p\ 1/2[3/2]_2$	$5p^511d\ 3/2[7/2]^\circ_3$	05SAN/AND
2 666.368 6	0.0006	37 493.042	2 900		$5p^56p\ 3/2[5/2]_3$	$5p^57d\ 3/2[5/2]^\circ_3$	05SAN/AND
2 674.017 9	0.0012	37 385.796	260		$5p^55d\ 1/2[5/2]^\circ_3$	$5p^55f\ 3/2[9/2]_4$	05SAN/AND
2 689.44	0.07	37 171.5	710	u	$5p^55d\ 1/2[5/2]^\circ_3$	$5p^55f\ 3/2[5/2]_3$	05SAN/AND
2 699.183 4	0.0005	37 037.253	30 000		$5p^56p\ 3/2[5/2]_3$	$5p^57d\ 3/2[7/2]^\circ_4$	05SAN/AND
2 700.183	0.003	37 023.55	9		$5p^56p\ 3/2[5/2]_3$	$5p^56d\ 1/2[5/2]^\circ_2$	05SAN/AND
2 701.156 4	0.0007	37 010.202	3 500		$5p^56p\ 3/2[5/2]_3$	$5p^57d\ 3/2[7/2]^\circ_3$	05SAN/AND
2 703.962	0.003	36 971.80	290		$5p^56p\ 3/2[3/2]_1$	$5p^56d\ 1/2[3/2]^\circ_2$	05SAN/AND
2 715.89	0.07	36 809.4	80	u	$5p^56p\ 1/2[3/2]_1$	$5p^58s\ 1/2[1/2]^\circ_1$	05SAN/AND
2 715.958 9	0.0011	36 808.500	1 700		$5p^56p\ 1/2[3/2]_2$	$5p^57d\ 1/2[5/2]^\circ_3$	05SAN/AND
2 717.86	0.07	36 782.7	96	u	$5p^56p\ 3/2[5/2]_3$	$5p^57d\ 3/2[3/2]^\circ_2$	05SAN/AND
2 719.135 8	0.0009	36 765.497	3 500		$5p^56p\ 3/2[3/2]_1$	$5p^57d\ 3/2[3/2]^\circ_1$	05SAN/AND
2 721.253 2	0.0005	36 736.892	120		$5p^56p\ 1/2[3/2]_1$	$5p^58s\ 1/2[1/2]^\circ_0$	05SAN/AND
2 721.754 8	0.0008	36 730.122	840		$5p^56p\ 1/2[1/2]_1$	$5p^57d\ 1/2[3/2]^\circ_2$	05SAN/AND
2 724.203 2	0.0008	36 697.113	5 000		$5p^56p\ 3/2[3/2]_1$	$5p^57d\ 3/2[5/2]^\circ_2$	05SAN/AND
2 726.822	0.004	36 661.87	290		$5p^56p\ 3/2[1/2]_1$	$5p^57s\ 1/2[1/2]^\circ_1$	05SAN/AND
2 730.073 8	0.0005	36 618.205	5 200		$5p^55d\ 3/2[1/2]^\circ_1$	$5p^56p\ 1/2[1/2]_0$	05SAN/AND
2 731.823	0.002	36 594.76	130		$5p^56p\ 1/2[3/2]_2$	$5p^57d\ 1/2[5/2]^\circ_2$	05SAN/AND
2 733.885 3	0.0007	36 567.156	5 700		$5p^56p\ 3/2[5/2]_2$	$5p^58s\ 3/2[3/2]^\circ_1$	05SAN/AND
2 738.429 9	0.0007	36 506.474	170		$5p^56p\ 3/2[1/2]_1$	$5p^57s\ 1/2[1/2]^\circ_0$	05SAN/AND
2 749.833 3	0.0006	36 355.091	3 300		$5p^56p\ 3/2[5/2]_2$	$5p^58s\ 3/2[3/2]^\circ_2$	05SAN/AND
2 757.803	0.002	36 250.04	190		$5p^56p\ 3/2[3/2]_2$	$5p^56d\ 1/2[5/2]^\circ_3$	05SAN/AND
2 761.954 6	0.0013	36 195.549	2 900		$5p^56p\ 3/2[3/2]_2$	$5p^56d\ 1/2[3/2]^\circ_2$	05SAN/AND
2 766.096 2	0.0011	36 141.358	5 900		$5p^56p\ 3/2[3/2]_1$	$5p^56d\ 1/2[5/2]^\circ_2$	05SAN/AND
2 774.654 8	0.0008	36 029.883	1 100		$5p^56p\ 3/2[1/2]_0$	$5p^56d\ 1/2[3/2]^\circ_1$	05SAN/AND
2 776.816 2	0.0020	36 001.84	770		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^56p\ 1/2[3/2]_2$	05SAN/AND
2 777.786	0.003	35 989.27	110		$5p^56p\ 3/2[3/2]_2$	$5p^57d\ 3/2[3/2]^\circ_1$	05SAN/AND
2 780.068	0.003	35 959.73	1 300		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^56p\ 1/2[1/2]_1$	05SAN/AND
2 784.660 8	0.0007	35 900.425	1 600		$5p^56p\ 3/2[3/2]_1$	$5p^57d\ 3/2[3/2]^\circ_2$	05SAN/AND
2 789.775 7	0.0005	35 834.607	18 000		$5p^56p\ 3/2[3/2]_2$	$5p^57d\ 3/2[5/2]^\circ_3$	05SAN/AND
2 792.899	0.002	35 794.53	130		$5p^56p\ 3/2[3/2]_1$	$5p^57d\ 3/2[1/2]^\circ_0$	05SAN/AND
2 793.311 8	0.0008	35 789.246	15 000		$5p^55d\ 3/2[1/2]^\circ_0$	$5p^56p\ 1/2[1/2]_1$	05SAN/AND
2 815.320 9	0.0010	35 509.473	13	?	$5p^56p\ 1/2[1/2]_1$	$5p^511s\ 3/2[3/2]^\circ_2$	05SAN/AND
2 816.924	0.002	35 489.27	68 000		$5p^55d\ 3/2[1/2]^\circ_1$	$5p^56p\ 1/2[3/2]_2$	05SAN/AND
2 820.270	0.002	35 447.16	1 500		$5p^55d\ 3/2[1/2]^\circ_1$	$5p^56p\ 1/2[1/2]_1$	05SAN/AND
2 826.811	0.003	35 365.14	160		$5p^56p\ 3/2[3/2]_2$	$5p^56d\ 1/2[5/2]^\circ_2$	05SAN/AND
2 827.880 0	0.0006	35 351.777	160		$5p^56p\ 3/2[3/2]_2$	$5p^57d\ 3/2[7/2]^\circ_3$	05SAN/AND
2 829.039 2	0.0006	35 337.293	15 000		$5p^56p\ 3/2[5/2]_3$	$5p^58s\ 3/2[3/2]^\circ_2$	05SAN/AND
2 841.530 0	0.0006	35 181.965	610		$5p^56s\ 1/2[1/2]^\circ_1$	$5p^57p\ 3/2[1/2]_0$	05SAN/AND
2 846.202 5	0.0013	35 124.210	5 600		$5p^56p\ 3/2[3/2]_2$	$5p^57d\ 3/2[3/2]^\circ_2$	05SAN/AND
2 848.942	0.003	35 090.43	260		$5p^56p\ 3/2[5/2]_2$	$5p^57s\ 1/2[1/2]^\circ_1$	05SAN/AND
2 852.412 4	0.0007	35 047.746	1 500		$5p^56p\ 3/2[3/2]_2$	$5p^57d\ 3/2[1/2]^\circ_1$	05SAN/AND
2 855.250	0.003	35 012.91	190		$5p^56p\ 1/2[1/2]_1$	$5p^58s\ 1/2[1/2]^\circ_1$	05SAN/AND
2 858.687 6	0.0011	34 970.815	690		$5p^56p\ 1/2[3/2]_2$	$5p^58s\ 1/2[1/2]^\circ_1$	05SAN/AND
2 861.171 2	0.0009	34 940.461	400		$5p^56p\ 1/2[1/2]_1$	$5p^58s\ 1/2[1/2]^\circ_0$	05SAN/AND
2 866.355 4	0.0005	34 877.269	14 000		$5p^56s\ 1/2[1/2]^\circ_1$	$5p^54f\ 3/2[5/2]_2$	05SAN/AND
2 883.728 1	0.0010	34 667.166	5 300		$5p^56p\ 3/2[3/2]_1$	$5p^58s\ 3/2[3/2]^\circ_1$	05SAN/AND
2 901.477 4	0.0008	34 455.104	100		$5p^56p\ 3/2[3/2]_1$	$5p^58s\ 3/2[3/2]^\circ_2$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
2 926.261 7	0.0011	34 163.297	1 300		$5p^56s\ 3/2[3/2]^{\circ}_{2}$	$5p^56p\ 1/2[3/2]_{1}$	05SAN/AND
2 931.079 9	0.0006	34 107.140	160 000		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^54f\ 3/2[5/2]_{2}$	05SAN/AND
2 940.938 1	0.0004	33 992.815	160		$5p^55d\ 3/2[1/2]^{\circ}_{0}$	$5p^56p\ 1/2[3/2]_{1}$	05SAN/AND
2 949.780 6	0.0006	33 890.921	2 900		$5p^56p\ 3/2[3/2]_{2}$	$5p^58s\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
2 968.355 2	0.0009	33 678.856	5 400		$5p^56p\ 3/2[3/2]_{2}$	$5p^58s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
2 970.837 4	0.0005	33 650.719	4 300		$5p^55d\ 3/2[1/2]^{\circ}_{1}$	$5p^56p\ 1/2[3/2]_{1}$	05SAN/AND
2 975.169 7	0.0006	33 601.720	4 200		$5p^56p\ 3/2[1/2]_{0}$	$5p^57d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
2 977.271 0	0.0006	33 578.006	69		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^56p\ 1/2[1/2]_{0}$	05SAN/AND
2 990.842 7	0.0007	33 425.643	8 200		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^57p\ 3/2[3/2]_{2}$	05SAN/AND
2 994.635 3	0.0008	33 383.312	1 300		$5p^56s\ 1/2[1/2]^{\circ}_{0}$	$5p^57p\ 3/2[1/2]_{1}$	05SAN/AND
2 997.180 9	0.0007	33 354.960	1 800		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^56f\ 3/2[3/2]_{2}$	05SAN/AND
3 006.735	0.003	33 248.97	250		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^57p\ 3/2[5/2]_{2}$	05SAN/AND
3 012.033	0.003	33 190.50	320		$5p^56p\ 3/2[3/2]_{1}$	$5p^57s\ 1/2[1/2]^{\circ}_{1}$	05SAN/AND
3 020.341 1	0.0004	33 099.203	920		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^54f\ 3/2[3/2]_{2}$	05SAN/AND
3 020.896 7	0.0006	33 093.115	2 500		$5p^56s\ 1/2[1/2]^{\circ}_{0}$	$5p^54f\ 3/2[3/2]_{1}$	05SAN/AND
3 040.232	0.002	32 882.65	2 100		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^57p\ 3/2[1/2]_{1}$	05SAN/AND
3 060.939 5	0.0006	32 660.213	900		$5p^56p\ 3/2[1/2]_{0}$	$5p^57d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
3 067.301 3	0.0008	32 592.477	3 900		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^54f\ 3/2[3/2]_{1}$	05SAN/AND
3 078.03	0.09	32 478.9	120	u	$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^57p\ 3/2[5/2]_{2}$	05SAN/AND
3 080.856 4	0.0016	32 449.082	3 300		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^56p\ 1/2[3/2]_{2}$	05SAN/AND
3 084.863 0	0.0020	32 406.94	1 800		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^56p\ 1/2[1/2]_{1}$	05SAN/AND
3 092.293 7	0.0007	32 329.069	9 700		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^54f\ 3/2[3/2]_{2}$	05SAN/AND
3 113.143 8	0.0016	32 112.556	79		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^57p\ 3/2[1/2]_{1}$	05SAN/AND
3 141.535 6	0.0009	31 822.348	4 600		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^54f\ 3/2[3/2]_{1}$	05SAN/AND
3 151.186 5	0.0008	31 724.891	29 000		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^54f\ 1/2[5/2]_{2}$	05SAN/AND
3 161.350	0.002	31 622.90	54		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^57p\ 1/2[1/2]_{0}$	05SAN/AND
3 173.344 0	0.0014	31 503.384	1 500		$5p^56p\ 3/2[1/2]_{0}$	$5p^58s\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
3 201.198	0.002	31 229.28	3 200		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^57p\ 1/2[3/2]_{2}$	05SAN/AND
3 219.186	0.004	31 054.79	4 000		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^54f\ 3/2[5/2]_{2}$	05SAN/AND
3 250.465 7	0.0015	30 755.951	8 300		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^54f\ 3/2[7/2]_{3}$	05SAN/AND
3 265.910 3	0.0006	30 610.510	52 000		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^56p\ 1/2[3/2]_{1}$	05SAN/AND
3 267.124	0.003	30 599.14	65 000		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^56p\ 1/2[3/2]_{2}$	05SAN/AND
3 271.627 8	0.0005	30 557.016	85 000		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^56p\ 1/2[1/2]_{1}$	05SAN/AND
3 291.421	0.004	30 373.27	310		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^57p\ 3/2[3/2]_{2}$	05SAN/AND
3 324.477 0	0.0017	30 071.268	2 100		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^54f\ 3/2[5/2]_{3}$	05SAN/AND
3 329.416 7	0.0009	30 026.655	350		$5p^56p\ 3/2[1/2]_{0}$	$5p^57s\ 1/2[1/2]^{\circ}_{1}$	05SAN/AND
3 345.657	0.002	29 880.90	750		$5p^56p\ 3/2[1/2]_{1}$	$5p^56d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
3 368.569 1	0.0018	29 677.670	57 000		$5p^55d\ 3/2[7/2]^{\circ}_{3}$	$5p^56p\ 1/2[3/2]_{2}$	05SAN/AND
3 397.31	0.12	29 426.6	350	u	$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^57p\ 3/2[5/2]_{2}$	05SAN/AND
3 410.115 1	0.0016	29 316.113	280		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^58p\ 3/2[1/2]_{0}$	05SAN/AND
3 412.333	0.005	29 297.06	400		$5p^56d\ 3/2[7/2]^{\circ}_{4}$	$5p^510f\ 3/2[9/2]_{5}$	05SAN/AND
3 413.830 8	0.0008	29 284.206	130		$5p^56p\ 1/2[1/2]_{0}$	$5p^58d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
3 427.997	0.010	29 163.19	50		$5p^56d\ 3/2[3/2]^{\circ}_{2}$	$5p^510f\ 3/2[5/2]_{3}$	05SAN/AND
3 431.460	0.002	29 133.762	890		$5p^55d\ 1/2[3/2]^{\circ}_{2}$	$5p^54f\ 3/2[7/2]_{3}$	05SAN/AND
3 440.143	0.010	29 060.23	50		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^57p\ 3/2[1/2]_{1}$	05SAN/AND
3 449.074	0.003	28 984.99	180		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^58p\ 3/2[3/2]_{2}$	05SAN/AND
3 470.148	0.002	28 808.969	90		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^58p\ 3/2[3/2]_{1}$	05SAN/AND
3 474.843	0.002	28 770.04	300		$5p^55d\ 1/2[5/2]^{\circ}_{2}$	$5p^54f\ 3/2[3/2]_{1}$	05SAN/AND
3 475.988	0.003	28 760.57	290		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^56p\ 1/2[3/2]_{1}$	05SAN/AND
3 488.618 0	0.0018	28 656.445	440		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^55f\ 3/2[5/2]_{2}$	05SAN/AND
3 514.047	0.002	28 449.081	15 000		$5p^55d\ 1/2[3/2]^{\circ}_{2}$	$5p^54f\ 3/2[5/2]_{3}$	05SAN/AND
3 531.372	0.002	28 309.513	6 800		$5p^56p\ 3/2[5/2]_{2}$	$5p^56d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
3 532.482 7	0.0020	28 300.612	40		$5p^56p\ 1/2[1/2]_{0}$	$5p^58d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
3 541.279	0.003	28 230.32	110		$5p^56d\ 3/2[3/2]^{\circ}_{2}$	$5p^59f\ 3/2[5/2]_{3}$	05SAN/AND
3 544.800	0.002	28 202.275	390		$5p^55d\ 1/2[3/2]^{\circ}_{2}$	$5p^57p\ 3/2[5/2]_{3}$	05SAN/AND
3 546.375 2	0.0016	28 189.752	42		$5p^56d\ 3/2[7/2]^{\circ}_{3}$	$5p^59f\ 3/2[7/2]_{4}$	05SAN/AND
3 551.164 1	0.0020	28 151.738	280		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^54f\ 3/2[7/2]_{4}$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
3 566.144	0.002	28 033.490	2 700		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^54f\ 3/2[7/2]_{3}$	05SAN/AND
3 576.557	0.002	27 951.869	41		$5p^56d\ 3/2[7/2]^{\circ}_{3}$	$5p^55f\ 1/2[5/2]_{2}$	05SAN/AND
3 595.535	0.002	27 804.338	170		$5p^55d\ 1/2[3/2]^{\circ}_{2}$	$5p^57p\ 3/2[5/2]_{2}$	05SAN/AND
3 605.447	0.002	27 727.903	5 100		$5p^55d\ 3/2[5/2]^{\circ}_{2}$	$5p^56p\ 1/2[3/2]_{2}$	05SAN/AND
3 606.834 7	0.0012	27 717.235	28		$5p^56d\ 3/2[7/2]^{\circ}_{3}$	$5p^55f\ 1/2[7/2]_{4}$	05SAN/AND
3 610.934	0.003	27 685.77	4 700		$5p^55d\ 3/2[5/2]^{\circ}_{2}$	$5p^56p\ 1/2[1/2]_{1}$	05SAN/AND
3 615.011 2	0.0016	27 654.545	11 000		$5p^55d\ 1/2[3/2]^{\circ}_{2}$	$5p^54f\ 3/2[3/2]_{2}$	05SAN/AND
3 617.810	0.005	27 633.15	34		$5p^56d\ 3/2[5/2]^{\circ}_{2}$	$5p^59f\ 3/2[7/2]_{3}$	05SAN/AND
3 618.527	0.004	27 627.68	6 800		$5p^56p\ 1/2[3/2]_{1}$	$5p^56d\ 1/2[3/2]^{\circ}_{1}$	05SAN/AND
3 639.431	0.008	27 468.99	69		$5p^56p\ 1/2[3/2]_{1}$	$5p^55g\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
3 655.426	0.002	27 348.804	1 900		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^54f\ 3/2[5/2]_{3}$	05SAN/AND
3 655.549 1	0.0017	27 347.881	120		$5p^56d\ 3/2[5/2]^{\circ}_{3}$	$5p^59f\ 3/2[7/2]_{4}$	05SAN/AND
3 656.122	0.004	27 343.60	40		$5p^56d\ 3/2[5/2]^{\circ}_{3}$	$5p^59f\ 3/2[5/2]_{3}$	05SAN/AND
3 666.508	0.003	27 266.14	28		$5p^57s\ 3/2[3/2]^{\circ}_{2}$	$5p^57f\ 3/2[5/2]_{3}$	05SAN/AND
3 674.17	0.14	27 209.3	21	u	$5p^56d\ 3/2[1/2]^{\circ}_{1}$	$5p^58f\ 3/2[5/2]_{2}$	05SAN/AND
3 680.109 6	0.0013	27 165.370	17 000		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^54f\ 3/2[9/2]_{4}$	05SAN/AND
3 682.486 5	0.0011	27 147.835	1 400		$5p^55d\ 1/2[3/2]^{\circ}_{2}$	$5p^54f\ 3/2[3/2]_{1}$	05SAN/AND
3 687.626	0.003	27 109.999	94		$5p^56d\ 3/2[5/2]^{\circ}_{3}$	$5p^55f\ 1/2[5/2]_{2}$	05SAN/AND
3 688.714 3	0.0017	27 102.002	350		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^57p\ 3/2[5/2]_{3}$	05SAN/AND
3 694.784 3	0.0012	27 057.479	40		$5p^56d\ 3/2[1/2]^{\circ}_{0}$	$5p^58f\ 3/2[3/2]_{1}$	05SAN/AND
3 717.668 4	0.0016	26 890.930	45		$5p^54f\ 3/2[3/2]_{1}$	$5p^510g\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
3 724.756 7	0.0011	26 839.757	3 400		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^55f\ 3/2[3/2]_{2}$	05SAN/AND
3 730.238	0.003	26 800.32	160		$5p^54f\ 3/2[9/2]_{5}$	$5p^511g\ 3/2[11/2]^{\circ}_{6}$	05SAN/AND
3 732.331	0.004	26 785.29	76		$5p^57p\ 3/2[5/2]_{2}$	$5p^513d\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
3 732.556 1	0.0008	26 783.676	13 000		$5p^56p\ 3/2[1/2]_{1}$	$5p^56d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
3 743.682 3	0.0015	26 704.077	89		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^57p\ 3/2[5/2]_{2}$	05SAN/AND
3 747.760 7	0.0014	26 675.017	56		$5p^56d\ 3/2[7/2]^{\circ}_{4}$	$5p^58f\ 3/2[7/2]_{4}$	05SAN/AND
3 751.802 3	0.0016	26 646.283	24		$5p^57s\ 3/2[3/2]^{\circ}_{1}$	$5p^57f\ 3/2[3/2]_{2}$	05SAN/AND
3 759.313 8	0.0012	26 593.042	83		$5p^56d\ 3/2[1/2]^{\circ}_{1}$	$5p^58f\ 3/2[3/2]_{2}$	05SAN/AND
3 764.166 0	0.0014	26 558.763	43		$5p^56d\ 3/2[1/2]^{\circ}_{1}$	$5p^58f\ 3/2[3/2]_{1}$	05SAN/AND
3 764.802	0.002	26 554.274	1 300		$5p^55d\ 1/2[5/2]^{\circ}_{3}$	$5p^54f\ 3/2[3/2]_{2}$	05SAN/AND
3 766.079	0.004	26 545.27	60		$5p^54f\ 3/2[9/2]_{4}$	$5p^511g\ 3/2[11/2]^{\circ}_{5}$	05SAN/AND
3 783.515 9	0.0008	26 422.938	33		$5p^56d\ 3/2[7/2]^{\circ}_{4}$	$5p^58f\ 3/2[9/2]_{4}$	05SAN/AND
3 785.437 8	0.0011	26 409.524	110 000		$5p^56p\ 3/2[3/2]_{1}$	$5p^56d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
3 789.008 2	0.0015	26 384.638	74		$5p^54f\ 3/2[3/2]_{2}$	$5p^510g\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
3 789.482	0.003	26 381.34	23		$5p^57p\ 3/2[5/2]_{3}$	$5p^513d\ 3/2[7/2]^{\circ}_{4}$	05SAN/AND
3 790.628 2	0.0011	26 373.362	470		$5p^56d\ 3/2[7/2]^{\circ}_{4}$	$5p^58f\ 3/2[9/2]_{5}$	05SAN/AND
3 799.447 8	0.0017	26 312.144	33		$5p^57p\ 3/2[1/2]_{1}$	$5p^512d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
3 803.153 6	0.0014	26 286.506	47		$5p^57p\ 3/2[1/2]_{1}$	$5p^512d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
3 805.125 0	0.0011	26 272.887	270 000		$5p^56p\ 3/2[1/2]_{1}$	$5p^56d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
3 817.858 0	0.0013	26 185.266	31		$5p^54f\ 3/2[5/2]_{3}$	$5p^55g\ 1/2[7/2]^{\circ}_{4}$	05SAN/AND
3 825.043 9	0.0012	26 136.075	370		$5p^56d\ 3/2[7/2]^{\circ}_{3}$	$5p^58f\ 3/2[9/2]_{4}$	05SAN/AND
3 828.884 2	0.0015	26 109.861	16		$5p^57p\ 3/2[1/2]_{1}$	$5p^513s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
3 833.383	0.002	26 079.218	79		$5p^56d\ 3/2[5/2]^{\circ}_{2}$	$5p^58f\ 3/2[5/2]_{2}$	05SAN/AND
3 837.629 3	0.0013	26 050.364	190		$5p^56d\ 3/2[3/2]^{\circ}_{2}$	$5p^58f\ 3/2[5/2]_{3}$	05SAN/AND
3 840.245	0.004	26 032.62	160		$5p^54f\ 3/2[9/2]_{5}$	$5p^510g\ 3/2[11/2]^{\circ}_{6}$	05SAN/AND
3 848.951 5	0.0012	25 973.735	37		$5p^56d\ 3/2[3/2]^{\circ}_{2}$	$5p^58f\ 3/2[3/2]_{2}$	05SAN/AND
3 850.545	0.008	25 962.99	16		$5p^57p\ 3/2[5/2]_{2}$	$5p^512d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
3 853.521 2	0.0013	25 942.935	47		$5p^57p\ 3/2[5/2]_{2}$	$5p^512d\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
3 861.499 6	0.0008	25 889.335	52 000		$5p^55d\ 3/2[5/2]^{\circ}_{2}$	$5p^56p\ 1/2[3/2]_{1}$	05SAN/AND
3 867.125	0.003	25 851.673	120		$5p^54f\ 3/2[3/2]_{1}$	$5p^59g\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
3 870.179 8	0.0012	25 831.270	4 400		$5p^56p\ 1/2[1/2]_{1}$	$5p^56d\ 1/2[3/2]^{\circ}_{1}$	05SAN/AND
3 874.164 1	0.0012	25 804.705	310		$5p^56d\ 3/2[5/2]^{\circ}_{2}$	$5p^58f\ 3/2[7/2]_{3}$	05SAN/AND
3 876.501	0.004	25 789.15	800		$5p^56p\ 1/2[3/2]_{2}$	$5p^56d\ 1/2[3/2]^{\circ}_{1}$	05SAN/AND
3 878.252	0.003	25 777.509	130		$5p^54f\ 3/2[9/2]_{4}$	$5p^510g\ 3/2[11/2]^{\circ}_{5}$	05SAN/AND
3 880.963	0.003	25 759.497	26		$5p^57p\ 3/2[5/2]_{2}$	$5p^513s\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
3 883.356	0.002	25 743.629	4		$5p^57p\ 3/2[5/2]_{2}$	$5p^513s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
3 896.986 0	0.0010	25 653.588	340 000		$5p^56p\ 3/2[1/2]_1$	$5p^56d\ 3/2[1/2]^\circ_1$	05SAN/AND
3 899.631	0.003	25 636.19	80		$5p^56p\ 1/2[3/2]_2$	$5p^55g\ 3/2[5/2]^\circ_3$	05SAN/AND
3 900.072	0.003	25 633.293	810		$5p^56p\ 3/2[3/2]_2$	$5p^56d\ 3/2[3/2]^\circ_1$	05SAN/AND
3 904.599	0.007	25 603.57	97		$5p^54f\ 3/2[5/2]_3$	$5p^510g\ 3/2[7/2]^\circ_4$	05SAN/AND
3 906.940 0	0.0012	25 588.231	38 000		$5p^56p\ 3/2[5/2]_2$	$5p^56d\ 3/2[5/2]^\circ_3$	05SAN/AND
3 913.355 2	0.0011	25 546.285	490		$5p^56d\ 3/2[5/2]^\circ_3$	$5p^58f\ 3/2[7/2]_4$	05SAN/AND
3 915.056 9	0.0015	25 535.181	55		$5p^57p\ 3/2[5/2]_3$	$5p^512d\ 3/2[7/2]^\circ_4$	05SAN/AND
3 934.987	0.002	25 405.853	49		$5p^56p\ 1/2[3/2]_1$	$5p^56d\ 1/2[3/2]^\circ_2$	05SAN/AND
3 941.421 6	0.0012	25 364.376	33		$5p^54f\ 3/2[3/2]_2$	$5p^59g\ 3/2[7/2]^\circ_3$	05SAN/AND
3 944.285	0.005	25 345.97	160		$5p^54f\ 3/2[3/2]_2$	$5p^59g\ 3/2[5/2]^\circ_3$	05SAN/AND
3 944.450 6	0.0012	25 344.899	16		$5p^54f\ 3/2[3/2]_2$	$5p^59g\ 3/2[5/2]^\circ_2$	05SAN/AND
3 956.956	0.016	25 264.80	48		$5p^57p\ 3/2[3/2]_1$	$5p^512d\ 3/2[5/2]^\circ_2$	05SAN/AND
3 959.505 4	0.0010	25 248.535	420 000		$5p^55d\ 3/2[1/2]^\circ_1$	$5p^56p\ 3/2[1/2]_0$	05SAN/AND
3 965.196 4	0.0007	25 212.299	250 000		$5p^56p\ 3/2[5/2]_2$	$5p^56d\ 3/2[5/2]^\circ_2$	05SAN/AND
3 967.204 0	0.0008	25 199.540	5 200		$5p^56p\ 1/2[3/2]_1$	$5p^57d\ 3/2[3/2]^\circ_1$	05SAN/AND
3 971.771	0.007	25 170.57	40		$5p^57p\ 3/2[1/2]_1$	$5p^511d\ 3/2[5/2]^\circ_2$	05SAN/AND
3 974.250 4	0.0011	25 154.862	210 000		$5p^56p\ 3/2[1/2]_1$	$5p^56d\ 3/2[1/2]^\circ_0$	05SAN/AND
3 976.518	0.004	25 140.52	55		$5p^57p\ 3/2[1/2]_1$	$5p^511d\ 3/2[1/2]^\circ_1$	05SAN/AND
3 977.999	0.002	25 131.156	53 000		$5p^56p\ 1/2[3/2]_1$	$5p^57d\ 3/2[5/2]^\circ_2$	05SAN/AND
3 978.363	0.002	25 128.858	1 000		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^56p\ 1/2[3/2]_2$	05SAN/AND
3 984.268	0.003	25 091.61	20		$5p^57p\ 3/2[1/2]_1$	$5p^511d\ 3/2[1/2]^\circ_0$	05SAN/AND
3 999.767 6	0.0017	24 994.386	360		$5p^54f\ 3/2[9/2]_5$	$5p^59g\ 3/2[11/2]^\circ_6$	05SAN/AND
4 010.587 3	0.0015	24 926.958	65		$5p^56d\ 3/2[1/2]^\circ_1$	$5p^57f\ 3/2[5/2]_2$	05SAN/AND
4 011.034 4	0.0013	24 924.179	81		$5p^54f\ 3/2[7/2]_3$	$5p^510g\ 3/2[9/2]^\circ_4$	05SAN/AND
4 018.073	0.003	24 880.518	31		$5p^57p\ 3/2[1/2]_1$	$5p^512s\ 3/2[3/2]^\circ_2$	05SAN/AND
4 030.135	0.007	24 806.05	110		$5p^54f\ 3/2[7/2]_4$	$5p^510g\ 3/2[9/2]^\circ_5$	05SAN/AND
4 032.121 9	0.0010	24 793.831	140		$5p^57p\ 3/2[5/2]_2$	$5p^511d\ 3/2[7/2]^\circ_3$	05SAN/AND
4 039.854 5	0.0007	24 746.375	800 000		$5p^56p\ 3/2[5/2]_2$	$5p^56d\ 3/2[7/2]^\circ_3$	05SAN/AND
4 041.005	0.005	24 739.33	1 300		$5p^54f\ 3/2[9/2]_4$	$5p^59g\ 3/2[11/2]^\circ_5$	05SAN/AND
4 047.192 4	0.0012	24 701.509	45 000		$5p^56p\ 3/2[5/2]_2$	$5p^56d\ 3/2[3/2]^\circ_2$	05SAN/AND
4 047.811	0.003	24 697.731	29		$5p^57s\ 3/2[3/2]^\circ_1$	$5p^59p\ 3/2[1/2]_0$	05SAN/AND
4 053.970 1	0.0015	24 660.212	21 000		$5p^56p\ 1/2[1/2]_0$	$5p^56d\ 1/2[3/2]^\circ_1$	05SAN/AND
4 060.544	0.005	24 620.29	38		$5p^54f\ 3/2[5/2]_2$	$5p^510g\ 3/2[7/2]^\circ_3$	05SAN/AND
4 067.959 7	0.0003	24 575.408 1	80 000		$5p^56p\ 1/2[3/2]_1$	$5p^56d\ 1/2[5/2]^\circ_2$	05SAN/AND
4 068.781 1	0.0004	24 570.447	200 000		$5p^56p\ 3/2[5/2]_3$	$5p^56d\ 3/2[5/2]^\circ_3$	05SAN/AND
4 075.443	0.004	24 530.29	55		$5p^54f\ 3/2[3/2]_1$	$5p^57d\ 1/2[5/2]^\circ_2$	05SAN/AND
4 078.103	0.005	24 514.28	26		$5p^57p\ 3/2[5/2]_2$	$5p^512s\ 3/2[3/2]^\circ_2$	05SAN/AND
4 089.655 2	0.0010	24 445.039	280		$5p^56d\ 3/2[1/2]^\circ_0$	$5p^57f\ 3/2[3/2]_1$	05SAN/AND
4 090.350	0.002	24 440.888	42		$5p^57p\ 3/2[5/2]_3$	$5p^511d\ 3/2[5/2]^\circ_3$	05SAN/AND
4 097.893	0.002	24 395.899	17		$5p^57p\ 3/2[5/2]_3$	$5p^511d\ 3/2[7/2]^\circ_3$	05SAN/AND
4 100.324 8	0.0013	24 381.431	330		$5p^54f\ 3/2[3/2]_1$	$5p^58g\ 3/2[5/2]^\circ_2$	05SAN/AND
4 101.047 0	0.0006	24 377.137	150		$5p^57p\ 3/2[5/2]_3$	$5p^511d\ 3/2[7/2]^\circ_4$	05SAN/AND
4 106.787 6	0.0006	24 343.063	240		$5p^56d\ 3/2[7/2]^\circ_4$	$5p^57f\ 3/2[7/2]_4$	05SAN/AND
4 108.237 4	0.0007	24 334.472	1 800		$5p^56p\ 1/2[3/2]_1$	$5p^57d\ 3/2[3/2]^\circ_2$	05SAN/AND
4 121.182 7	0.0006	24 258.035	1 900		$5p^56p\ 1/2[3/2]_1$	$5p^57d\ 3/2[1/2]^\circ_1$	05SAN/AND
4 132.005 7	0.0011	24 194.498	13 000		$5p^56p\ 3/2[5/2]_3$	$5p^56d\ 3/2[5/2]^\circ_2$	05SAN/AND
4 145.404	0.003	24 116.302	73		$5p^57p\ 3/2[5/2]_3$	$5p^512s\ 3/2[3/2]^\circ_2$	05SAN/AND
4 151.272 2	0.0004	24 082.210	32 000		$5p^56p\ 3/2[5/2]_2$	$5p^56d\ 3/2[1/2]^\circ_1$	05SAN/AND
4 151.732 0	0.0009	24 079.544	2 900		$5p^56d\ 3/2[1/2]^\circ_1$	$5p^57f\ 3/2[3/2]_2$	05SAN/AND
4 166.736	0.002	23 992.836	35		$5p^57s\ 3/2[3/2]^\circ_1$	$5p^56f\ 3/2[5/2]_2$	05SAN/AND
4 168.995 9	0.0009	23 979.831	160		$5p^56d\ 3/2[7/2]^\circ_4$	$5p^57f\ 3/2[9/2]_4$	05SAN/AND
4 174.831 2	0.0015	23 946.315	230		$5p^56d\ 3/2[1/2]^\circ_1$	$5p^57f\ 3/2[3/2]_1$	05SAN/AND
4 176.107 8	0.0008	23 938.995	360		$5p^56d\ 3/2[7/2]^\circ_3$	$5p^57f\ 3/2[7/2]_3$	05SAN/AND
4 177.832	0.002	23 929.118	29		$5p^56d\ 3/2[7/2]^\circ_4$	$5p^57f\ 3/2[5/2]_3$	05SAN/AND
4 179.801	0.002	23 917.844	120		$5p^54f\ 3/2[3/2]_2$	$5p^58g\ 3/2[7/2]^\circ_3$	05SAN/AND
4 184.323 6	0.0013	23 891.992	320		$5p^54f\ 3/2[7/2]_3$	$5p^59g\ 3/2[9/2]^\circ_4$	05SAN/AND
4 186.237 4	0.0013	23 881.070	380		$5p^54f\ 3/2[3/2]_2$	$5p^58g\ 3/2[5/2]^\circ_3$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
4 187.355	0.003	23 874.697	170		5p^{5}4f 3/2[3/2]$_2$	5p^{5}8g 3/2[5/2]$^\circ_2$	05SAN/AND
4 187.546 2	0.0010	23 873.606	2 500		5p^{5}6d 3/2[7/2]$^\circ_4$	5p^{5}7f 3/2[9/2]$_5$	05SAN/AND
4 190.377	0.004	23 857.48	48		5p^{5}7p 3/2[3/2]$_2$	5p^{5}11d 3/2[5/2]$^\circ_2$	05SAN/AND
4 194.097	0.004	23 836.32	20		5p^{5}7p 3/2[3/2]$_1$	5p^{5}12s 3/2[3/2]$^\circ_1$	05SAN/AND
4 201.048 9	0.0016	23 796.875	280		5p^{5}6d 3/2[5/2]$^\circ_2$	5p^{5}7f 3/2[5/2]$_2$	05SAN/AND
4 205.128	0.004	23 773.790	250		5p^{5}4f 3/2[7/2]$_4$	5p^{5}9g 3/2[9/2]$^\circ_5$	05SAN/AND
4 206.420	0.004	23 766.49	40		5p^{5}4f 3/2[7/2]$_4$	5p^{5}9g 3/2[7/2]$^\circ_4$	05SAN/AND
4 208.129	0.003	23 756.836	200		5p^{5}7s 3/2[3/2]$^\circ_2$	5p^{5}6f 3/2[5/2]$_3$	05SAN/AND
4 213.141 7	0.0003	23 728.572 5	200 000		5p^{5}6p 3/2[5/2]$_3$	5p^{5}6d 3/2[7/2]$^\circ_3$	05SAN/AND
4 219.474 0	0.0007	23 692.963	1 200		5p^{5}6d 3/2[7/2]$^\circ_3$	5p^{5}7f 3/2[9/2]$_4$	05SAN/AND
4 220.521 2	0.0009	23 687.084	720		5p^{5}6d 3/2[3/2]$^\circ_2$	5p^{5}7f 3/2[5/2]$_3$	05SAN/AND
4 221.121 5	0.0004	23 683.716	29 000		5p^{5}6p 3/2[5/2]$_3$	5p^{5}6d 3/2[3/2]$^\circ_2$	05SAN/AND
4 228.536 4	0.0020	23 642.186	30		5p^{5}6d 3/2[7/2]$^\circ_3$	5p^{5}7f 3/2[5/2]$_3$	05SAN/AND
4 232.198 1	0.0003	23 621.731 4	190 000		5p^{5}6p 1/2[3/2]$_2$	5p^{5}6d 1/2[5/2]$^\circ_3$	05SAN/AND
4 234.410 5	0.0003	23 609.390 2	98 000		5p^{5}6p 1/2[1/2]$_1$	5p^{5}6d 1/2[3/2]$^\circ_2$	05SAN/AND
4 238.550	0.004	23 586.34	130		5p^{5}4f 3/2[5/2]$_2$	5p^{5}9g 3/2[7/2]$^\circ_3$	05SAN/AND
4 241.134	0.004	23 571.96	67		5p^{5}4f 3/2[9/2]$_5$	5p^{5}8g 3/2[9/2]$^\circ_5$	05SAN/AND
4 241.983	0.005	23 567.24	9 600		5p^{5}6p 1/2[3/2]$_2$	5p^{5}6d 1/2[3/2]$^\circ_2$	05SAN/AND
4 246.556 5	0.0015	23 541.864	1 200		5p^{5}4f 3/2[9/2]$_5$	5p^{5}8g 3/2[11/2]$^\circ_6$	05SAN/AND
4 256.367 4	0.0015	23 487.601	110		5p^{5}7p 3/2[1/2]$_1$	5p^{5}10d 3/2[3/2]$^\circ_2$	05SAN/AND
4 259.002 0	0.0011	23 473.072	1 600		5p^{5}6d 3/2[5/2]$^\circ_2$	5p^{5}7f 3/2[7/2]$_3$	05SAN/AND
4 261.331 3	0.0010	23 460.241	370		5p^{5}6d 3/2[3/2]$^\circ_2$	5p^{5}7f 3/2[3/2]$_2$	05SAN/AND
4 264.702 3	0.0004	23 441.697 8	1 400 000		5p^{5}6p 3/2[5/2]$_3$	5p^{5}6d 3/2[7/2]$^\circ_4$	05SAN/AND
4 267.862 2	0.0016	23 424.342	150		5p^{5}7p 3/2[1/2]$_1$	5p^{5}10d 3/2[1/2]$^\circ_0$	05SAN/AND
4 271.735 9	0.0015	23 403.101	3 400		5p^{5}6p 1/2[1/2]$_1$	5p^{5}7d 3/2[3/2]$^\circ_1$	05SAN/AND
4 277.130 0	0.0003	23 373.586 5	1 800 000		5p^{5}6s 3/2[3/2]$^\circ_2$	5p^{5}6p 3/2[3/2]$_2$	05SAN/AND
4 279.433	0.005	23 361.01	630		5p^{5}6p 1/2[3/2]$_2$	5p^{5}7d 3/2[3/2]$^\circ_1$	05SAN/AND
4 284.251	0.003	23 334.736	1 800		5p^{5}6p 1/2[1/2]$_1$	5p^{5}7d 3/2[5/2]$^\circ_2$	05SAN/AND
4 287.573	0.004	23 316.66	430		5p^{5}4f 3/2[9/2]$_4$	5p^{5}8g 3/2[9/2]$^\circ_4$	05SAN/AND
4 288.375 0	0.0003	23 312.297 1	510 000		5p^{5}6p 3/2[3/2]$_1$	5p^{5}6d 3/2[5/2]$^\circ_2$	05SAN/AND
4 292.001 7	0.0004	23 292.599	7 200		5p^{5}6p 1/2[3/2]$_2$	5p^{5}7d 3/2[5/2]$^\circ_2$	05SAN/AND
4 293.064 1	0.0015	23 286.835	830		5p^{5}4f 3/2[9/2]$_4$	5p^{5}8g 3/2[11/2]$^\circ_5$	05SAN/AND
4 300.652 7	0.0003	23 245.745 6	190 000		5p^{5}6p 3/2[1/2]$_0$	5p^{5}6d 3/2[3/2]$^\circ_1$	05SAN/AND
4 306.474 0	0.0011	23 214.323	2 200		5p^{5}6d 3/2[5/2]$^\circ_3$	5p^{5}7f 3/2[7/2]$_4$	05SAN/AND
4 307.961	0.003	23 206.311	3 500		5p^{5}6p 1/2[3/2]$_2$	5p^{5}7d 3/2[5/2]$^\circ_3$	05SAN/AND
4 312.862 4	0.0016	23 179.938	110		5p^{5}7p 3/2[5/2]$_2$	5p^{5}10d 3/2[5/2]$^\circ_2$	05SAN/AND
4 313.541	0.004	23 176.29	69		5p^{5}6d 3/2[5/2]$^\circ_2$	5p^{5}7f 3/2[5/2]$_3$	05SAN/AND
4 320.399 1	0.0012	23 139.503	320		5p^{5}7p 3/2[5/2]$_2$	5p^{5}10d 3/2[7/2]$^\circ_3$	05SAN/AND
4 323.468 9	0.0013	23 123.073	620		5p^{5}4f 3/2[5/2]$_3$	5p^{5}8g 3/2[7/2]$^\circ_4$	05SAN/AND
4 325.420	0.003	23 112.642	110		5p^{5}7p 3/2[1/2]$_1$	5p^{5}11s 3/2[3/2]$^\circ_2$	05SAN/AND
4 327.565	0.003	23 101.188	380		5p^{5}6p 1/2[3/2]$_1$	5p^{5}8s 3/2[3/2]$^\circ_1$	05SAN/AND
4 330.253 3	0.0003	23 086.845 8	43 000		5p^{5}6p 3/2[1/2]$_1$	5p^{5}7s 3/2[3/2]$^\circ_1$	05SAN/AND
4 348.596	0.002	22 989.466	120		5p^{5}7s 3/2[3/2]$^\circ_1$	5p^{5}6f 3/2[3/2]$_2$	05SAN/AND
4 350.010 1	0.0015	22 981.992	150		5p^{5}6d 3/2[3/2]$^\circ_1$	5p^{5}8f 3/2[5/2]$_2$	05SAN/AND
4 360.966	0.005	22 924.26	35		5p^{5}4f 3/2[9/2]$_5$	5p^{5}10d 3/2[7/2]$^\circ_4$	05SAN/AND
4 363.298 6	0.0003	22 912.001 2	760 000		5p^{5}6p 3/2[3/2]$_2$	5p^{5}6d 3/2[5/2]$^\circ_3$	05SAN/AND
4 373.035 4	0.0003	22 860.987 4	370 000		5p^{5}5d 3/2[1/2]$^\circ_1$	5p^{5}6p 3/2[3/2]$_2$	05SAN/AND
4 380.094	0.003	22 824.146	92		5p^{5}7p 3/2[5/2]$_3$	5p^{5}10d 3/2[5/2]$^\circ_3$	05SAN/AND
4 384.442 4	0.0003	22 801.511 0	96 000		5p^{5}6p 3/2[3/2]$_1$	5p^{5}6d 3/2[3/2]$^\circ_2$	05SAN/AND
4 384.655 0	0.0014	22 800.405	1 800		5p^{5}6d 3/2[5/2]$^\circ_3$	5p^{5}7f 3/2[5/2]$_3$	05SAN/AND
4 387.214	0.003	22 787.104	90		5p^{5}7p 3/2[5/2]$_2$	5p^{5}11s 3/2[3/2]$^\circ_1$	05SAN/AND
4 388.779	0.004	22 778.98	4 900		5p^{5}6p 1/2[1/2]$_1$	5p^{5}6d 1/2[5/2]$^\circ_2$	05SAN/AND
4 395.077	0.003	22 746.341	76		5p^{5}7p 3/2[5/2]$_2$	5p^{5}11s 3/2[3/2]$^\circ_2$	05SAN/AND
4 395.998	0.003	22 741.576	120		5p^{5}7p 3/2[5/2]$_3$	5p^{5}10d 3/2[7/2]$^\circ_3$	05SAN/AND
4 396.913 8	0.0004	22 736.838 1	10 000		5p^{5}6p 1/2[3/2]$_2$	5p^{5}6d 1/2[5/2]$^\circ_2$	05SAN/AND
4 397.773 4	0.0014	22 732.394	460		5p^{5}7p 3/2[5/2]$_3$	5p^{5}10d 3/2[7/2]$^\circ_4$	05SAN/AND
4 399.496 9	0.0003	22 723.488 7	33 000		5p^{5}6p 1/2[3/2]$_2$	5p^{5}7d 3/2[7/2]$^\circ_3$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
4 405.255 5	0.0003	22 693.785 0	390 000		$5p^56p\ 3/2[1/2]_1$	$5p^57s\ 3/2[3/2]^{\circ}_2$	05SAN/AND
4 415.194 7	0.0017	22 642.699	91		$5p^57p\ 3/2[3/2]_1$	$5p^510d\ 3/2[3/2]^{\circ}_1$	05SAN/AND
4 424.055 7	0.0003	22 597.348 3	19 000		$5p^56s\ 3/2[3/2]^{\circ}_2$	$5p^56p\ 3/2[3/2]_1$	05SAN/AND
4 435.700 1	0.0003	22 538.027 7	53 000		$5p^56p\ 1/2[1/2]_1$	$5p^57d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
4 436.086 7	0.0011	22 536.064	970		$5p^56p\ 3/2[3/2]_2$	$5p^56d\ 3/2[5/2]^{\circ}_2$	05SAN/AND
4 441.383	0.004	22 509.192	30		$5p^57s\ 3/2[3/2]^{\circ}_1$	$5p^56f\ 3/2[3/2]_1$	05SAN/AND
4 444.004 4	0.0004	22 495.912 5	8 500		$5p^56p\ 1/2[3/2]_2$	$5p^57d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
4 446.840	0.002	22 481.567	160		$5p^57p\ 3/2[3/2]_1$	$5p^510d\ 3/2[5/2]^{\circ}_2$	05SAN/AND
4 447.836	0.003	22 476.535	11		$5p^54f\ 3/2[5/2]_3$	$5p^510d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
4 450.794 6	0.0013	22 461.593	1 500		$5p^56p\ 1/2[1/2]_1$	$5p^57d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
4 453.385 5	0.0017	22 448.526	560		$5p^54f\ 3/2[7/2]_3$	$5p^58g\ 3/2[9/2]^{\circ}_4$	05SAN/AND
4 455.351	0.003	22 438.623	82		$5p^54f\ 3/2[7/2]_3$	$5p^58g\ 3/2[7/2]^{\circ}_3$	05SAN/AND
4 457.689 8	0.0003	22 426.850 1	64 000		$5p^55d\ 3/2[1/2]^{\circ}_0$	$5p^56p\ 3/2[3/2]_1$	05SAN/AND
4 458.472 4	0.0013	22 422.913	21		$5p^57p\ 3/2[3/2]_1$	$5p^510d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
4 459.157	0.004	22 419.47	490		$5p^56p\ 1/2[3/2]_2$	$5p^57d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
4 473.337 9	0.0017	22 348.400	180		$5p^57p\ 3/2[5/2]_3$	$5p^511s\ 3/2[3/2]^{\circ}_2$	05SAN/AND
4 476.952 8	0.0015	22 330.356	710		$5p^54f\ 3/2[7/2]_4$	$5p^58g\ 3/2[9/2]^{\circ}_5$	05SAN/AND
4 478.997	0.004	22 320.17	80		$5p^54f\ 3/2[7/2]_4$	$5p^58g\ 3/2[7/2]^{\circ}_4$	05SAN/AND
4 488.019 5	0.0020	22 275.294	270		$5p^57p\ 3/2[3/2]_2$	$5p^510d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
4 489.123 6	0.0016	22 269.815	1 200		$5p^54f\ 3/2[3/2]_1$	$5p^57g\ 3/2[5/2]^{\circ}_2$	05SAN/AND
4 496.749 8	0.0004	22 232.047 4	15 000		$5p^56p\ 1/2[1/2]_0$	$5p^57d\ 3/2[3/2]^{\circ}_1$	05SAN/AND
4 501.551 5	0.0003	22 208.333 7	1 200 000		$5p^56s\ 3/2[3/2]^{\circ}_1$	$5p^56p\ 3/2[1/2]_0$	05SAN/AND
4 506.853 7	0.0003	22 182.206 6	16 000		$5p^56p\ 3/2[3/2]_1$	$5p^56d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
4 508.418	0.002	22 174.511	140		$5p^57p\ 3/2[3/2]_2$	$5p^510d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
4 515.492	0.004	22 139.771	330		$5p^54f\ 3/2[5/2]_2$	$5p^58g\ 3/2[7/2]^{\circ}_3$	05SAN/AND
4 523.005 4	0.0014	22 102.995	380		$5p^54f\ 3/2[5/2]_2$	$5p^58g\ 3/2[5/2]^{\circ}_3$	05SAN/AND
4 526.741 6	0.0003	22 084.752 2	2 000 000		$5p^55d\ 3/2[1/2]^{\circ}_1$	$5p^56p\ 3/2[3/2]_1$	05SAN/AND
4 529.740 4	0.0011	22 070.132	260		$5p^56p\ 3/2[3/2]_2$	$5p^56d\ 3/2[7/2]^{\circ}_3$	05SAN/AND
4 538.965 6	0.0003	22 025.276 0	410 000		$5p^56p\ 3/2[3/2]_2$	$5p^56d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
4 575.264	0.006	21 850.54	8		$5p^54f\ 3/2[7/2]_3$	$5p^510d\ 3/2[5/2]^{\circ}_2$	05SAN/AND
4 577.410	0.004	21 840.296	12		$5p^57p\ 3/2[3/2]_2$	$5p^511s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
4 584.183 8	0.0014	21 808.023	360		$5p^54f\ 3/2[3/2]_2$	$5p^57g\ 3/2[7/2]^{\circ}_3$	05SAN/AND
4 585.964	0.002	21 799.558	88		$5p^57p\ 3/2[3/2]_2$	$5p^511s\ 3/2[3/2]^{\circ}_2$	05SAN/AND
4 591.265	0.005	21 774.39	36		$5p^54f\ 3/2[7/2]_4$	$5p^510d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
4 593.600	0.003	21 763.321	3 700		$5p^54f\ 3/2[3/2]_2$	$5p^57g\ 3/2[5/2]^{\circ}_3$	05SAN/AND
4 593.65	0.21	21 763.1	320	u	$5p^54f\ 3/2[3/2]_2$	$5p^57g\ 3/2[5/2]^{\circ}_2$	05SAN/AND
4 603.790 3	0.0007	21 715.149	10 000 000		$5p^56s\ 3/2[3/2]^{\circ}_2$	$5p^56p\ 3/2[5/2]_3$	05SAN/AND
4 610.513 4	0.0003	21 683.484 3	8 700		$5p^56p\ 3/2[3/2]_1$	$5p^56d\ 3/2[1/2]^{\circ}_0$	05SAN/AND
4 616.169 1	0.0004	21 656.918 5	420 000		$5p^56s\ 1/2[1/2]^{\circ}_1$	$5p^56p\ 1/2[1/2]_0$	05SAN/AND
4 623.094 3	0.0003	21 624.477 7	35 000		$5p^56p\ 1/2[3/2]_1$	$5p^57s\ 1/2[1/2]^{\circ}_1$	05SAN/AND
4 625.403	0.004	21 613.683	70		$5p^57p\ 3/2[5/2]_2$	$5p^57g\ 3/2[5/2]^{\circ}_3$	05SAN/AND
4 625.502	0.005	21 613.22	67		$5p^57p\ 3/2[5/2]_2$	$5p^57g\ 3/2[5/2]^{\circ}_2$	05SAN/AND
4 629.660	0.012	21 593.81	30		$5p^54f\ 3/2[5/2]_2$	$5p^510d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
4 646.518 3	0.0004	21 515.466 3	280 000		$5p^56p\ 3/2[5/2]_2$	$5p^57s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
4 656.544 4	0.0005	21 469.141	26 000		$5p^56p\ 1/2[3/2]_1$	$5p^57s\ 1/2[1/2]^{\circ}_0$	05SAN/AND
4 657.047	0.003	21 466.823	1 200		$5p^54f\ 3/2[9/2]_5$	$5p^57g\ 3/2[9/2]^{\circ}_5$	05SAN/AND
4 660.322	0.004	21 451.737	21		$5p^54f\ 3/2[9/2]_5$	$5p^57g\ 3/2[7/2]^{\circ}_4$	05SAN/AND
4 665.896 8	0.0014	21 426.109	980		$5p^56d\ 3/2[1/2]^{\circ}_1$	$5p^56f\ 3/2[5/2]_2$	05SAN/AND
4 666.845 6	0.0005	21 421.753	5 700		$5p^54f\ 3/2[9/2]_5$	$5p^57g\ 3/2[11/2]^{\circ}_6$	05SAN/AND
4 669.822	0.003	21 408.099	57		$5p^57p\ 3/2[1/2]_0$	$5p^510d\ 3/2[3/2]^{\circ}_1$	05SAN/AND
4 670.286 0	0.0004	21 405.972 8	99 000		$5p^56p\ 3/2[3/2]_2$	$5p^56d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
4 685.949 8	0.0012	21 334.420	82		$5p^56d\ 3/2[7/2]^{\circ}_4$	$5p^59p\ 3/2[5/2]_3$	05SAN/AND
4 692.474	0.003	21 304.756	230		$5p^56p\ 1/2[1/2]_1$	$5p^58s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
4 695.607 8	0.0004	21 290.539 4	5 500		$5p^56p\ 1/2[1/2]_0$	$5p^57d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
4 699.080	0.002	21 274.809	82		$5p^54f\ 3/2[3/2]_1$	$5p^59d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
4 699.964	0.004	21 270.807	210		$5p^57s\ 3/2[3/2]^{\circ}_2$	$5p^57p\ 1/2[1/2]_1$	05SAN/AND
4 701.768	0.003	21 262.645	920		$5p^56p\ 1/2[3/2]_2$	$5p^58s\ 3/2[3/2]^{\circ}_1$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
4 702.395	0.003	21 259.810	50		5p^{5}7p 3/2[5/2]$_3$	5p^{5}7g 3/2[7/2]$^\circ_4$	05SAN/AND
4 702.928 3	0.0015	21 257.399	130	?	5p^{5}7s 3/2[3/2]$^\circ_1$	5p^{5}7p 1/2[1/2]$_0$	05SAN/AND
4 703.06	0.22	21 256.8	120	u	5p^{5}7s 3/2[3/2]$^\circ_2$	5p^{5}7p 1/2[3/2]$_2$	05SAN/AND
4 704.742 8	0.0016	21 249.201	49		5p^{5}6d 3/2[3/2]$^\circ_2$	5p^{5}9p 3/2[3/2]$_2$	05SAN/AND
4 713.110	0.002	21 211.479	340		5p^{5}4f 3/2[9/2]$_4$	5p^{5}7g 3/2[9/2]$^\circ_4$	05SAN/AND
4 723.062 9	0.0006	21 166.780	4 100		5p^{5}4f 3/2[9/2]$_4$	5p^{5}7g 3/2[11/2]$^\circ_5$	05SAN/AND
4 729.692 4	0.0017	21 137.111	84		5p^{5}7p 3/2[1/2]$_1$	5p^{5}9d 3/2[5/2]$^\circ_2$	05SAN/AND
4 730.98	0.22	21 131.4	84	u	5p^{5}7p 3/2[5/2]$_2$	5p^{5}9d 3/2[3/2]$^\circ_1$	05SAN/AND
4 732.985 6	0.0003	21 122.404 4	150 000		5p^{5}6p 3/2[5/2]$_2$	5p^{5}7s 3/2[3/2]$^\circ_2$	05SAN/AND
4 734.479	0.005	21 115.74	160		5p^{5}7s 3/2[3/2]$^\circ_2$	5p^{5}4f 1/2[5/2]$_3$	05SAN/AND
4 739.653	0.004	21 092.691	2 100		5p^{5}6p 1/2[1/2]$_1$	5p^{5}8s 3/2[3/2]$^\circ_2$	05SAN/AND
4 741.233	0.002	21 085.664	49		5p^{5}6d 3/2[3/2]$^\circ_1$	5p^{5}10p 3/2[3/2]$_2$	05SAN/AND
4 745.482 9	0.0014	21 066.779	370		5p^{5}7p 3/2[1/2]$_1$	5p^{5}9d 3/2[3/2]$^\circ_2$	05SAN/AND
4 749.137	0.003	21 050.571	370		5p^{5}6p 1/2[3/2]$_2$	5p^{5}8s 3/2[3/2]$^\circ_2$	05SAN/AND
4 757.631	0.003	21 012.988	2 400		5p^{5}4f 3/2[5/2]$_3$	5p^{5}7g 3/2[7/2]$^\circ_4$	05SAN/AND
4 763.636 0	0.0005	20 986.499	700 000		5p^{5}6s 1/2[1/2]$^\circ_0$	5p^{5}6p 1/2[1/2]$_1$	05SAN/AND
4 764.06	0.23	20 984.6	170	u	5p^{5}7p 3/2[1/2]$_1$	5p^{5}9d 3/2[1/2]$^\circ_1$	05SAN/AND
4 767.649 6	0.0020	20 968.832	250		5p^{5}4f 3/2[5/2]$_3$	5p^{5}7g 3/2[5/2]$^\circ_3$	05SAN/AND
4 775.989 2	0.0011	20 932.218	320		5p^{5}7p 3/2[1/2]$_1$	5p^{5}9d 3/2[1/2]$^\circ_0$	05SAN/AND
4 776.448	0.002	20 930.206	140		5p^{5}6d 3/2[3/2]$^\circ_1$	5p^{5}10p 3/2[5/2]$_2$	05SAN/AND
4 786.378 1	0.0004	20 886.785 5	190 000		5p^{5}5d 3/2[3/2]$^\circ_1$	5p^{5}6p 1/2[1/2]$_0$	05SAN/AND
4 791.652	0.004	20 863.799	69		5p^{5}7s 3/2[3/2]$^\circ_1$	5p^{5}7p 1/2[3/2]$_2$	05SAN/AND
4 793.508	0.005	20 855.72	65		5p^{5}4f 3/2[3/2]$_2$	5p^{5}9d 3/2[7/2]$^\circ_3$	05SAN/AND
4 793.870	0.005	20 854.14	43		5p^{5}7p 3/2[1/2]$_0$	5p^{5}11s 3/2[3/2]$^\circ_1$	05SAN/AND
4 794.770	0.003	20 850.231	25		5p^{5}4f 3/2[3/2]$_2$	5p^{5}9d 3/2[3/2]$^\circ_2$	05SAN/AND
4 800.850 8	0.0011	20 823.821	89		5p^{5}7p 3/2[5/2]$_2$	5p^{5}9d 3/2[5/2]$^\circ_3$	05SAN/AND
4 804.536 9	0.0010	20 807.845	1 400		5p^{5}6d 3/2[7/2]$^\circ_4$	5p^{5}6f 3/2[7/2]$_4$	05SAN/AND
4 813.106 4	0.0013	20 770.798	330		5p^{5}7p 3/2[5/2]$_2$	5p^{5}9d 3/2[5/2]$^\circ_2$	05SAN/AND
4 813.739	0.002	20 768.070	49		5p^{5}4f 3/2[3/2]$_2$	5p^{5}9d 3/2[1/2]$^\circ_1$	05SAN/AND
4 815.155	0.003	20 761.961	84		5p^{5}6d 3/2[7/2]$^\circ_3$	5p^{5}6f 3/2[5/2]$_2$	05SAN/AND
4 820.622 8	0.0015	20 738.412	39		5p^{5}6d 3/2[5/2]$^\circ_2$	5p^{5}9p 3/2[3/2]$_2$	05SAN/AND
4 828.186 1	0.0012	20 705.926	1 000		5p^{5}7p 3/2[5/2]$_2$	5p^{5}9d 3/2[7/2]$^\circ_3$	05SAN/AND
4 830.186 5	0.0005	20 697.351	2 500 000		5p^{5}6s 3/2[3/2]$^\circ_2$	5p^{5}6p 3/2[5/2]$_2$	05SAN/AND
4 848.712	0.003	20 618.274	52		5p^{5}7p 3/2[5/2]$_2$	5p^{5}9d 3/2[1/2]$^\circ_1$	05SAN/AND
4 870.039 6	0.0005	20 527.980	1 900 000		5p^{5}6s 1/2[1/2]$^\circ_1$	5p^{5}6p 1/2[3/2]$_2$	05SAN/AND
4 876.787	0.002	20 499.578	88		5p^{5}6d 3/2[5/2]$^\circ_2$	5p^{5}9p 3/2[5/2]$_2$	05SAN/AND
4 880.050 7	0.0012	20 485.869	490 000		5p^{5}6s 1/2[1/2]$^\circ_1$	5p^{5}6p 1/2[1/2]$_1$	05SAN/AND
4 882.863	0.003	20 474.069	75		5p^{5}4f 3/2[9/2]$_5$	5p^{5}9d 3/2[7/2]$^\circ_4$	05SAN/AND
4 884.944 9	0.0017	20 465.345	330		5p^{5}7p 3/2[1/2]$_1$	5p^{5}10s 3/2[3/2]$^\circ_2$	05SAN/AND
4 887.814 8	0.0017	20 453.328	240		5p^{5}6d 3/2[3/2]$^\circ_2$	5p^{5}6f 3/2[7/2]$_3$	05SAN/AND
4 890.712 8	0.0005	20 441.209	3 200		5p^{5}6d 3/2[1/2]$^\circ_0$	5p^{5}6f 3/2[3/2]$_1$	05SAN/AND
4 892.686	0.003	20 432.965	260		5p^{5}7p 3/2[3/2]$_1$	5p^{5}9d 3/2[3/2]$^\circ_1$	05SAN/AND
4 894.377 1	0.0013	20 425.905	270		5p^{5}7p 3/2[5/2]$_3$	5p^{5}9d 3/2[5/2]$^\circ_3$	05SAN/AND
4 895.138 2	0.0006	20 422.730	6 500		5p^{5}6d 3/2[1/2]$^\circ_1$	5p^{5}6f 3/2[3/2]$_2$	05SAN/AND
4 895.856	0.004	20 419.734	84		5p^{5}6d 3/2[7/2]$^\circ_4$	5p^{5}6f 3/2[5/2]$_3$	05SAN/AND
4 898.558 7	0.0015	20 408.469	2 300		5p^{5}6d 3/2[7/2]$^\circ_3$	5p^{5}6f 3/2[7/2]$_3$	05SAN/AND
4 907.118 3	0.0019	20 372.871	14		5p^{5}7p 3/2[5/2]$_3$	5p^{5}9d 3/2[5/2]$^\circ_2$	05SAN/AND
4 909.617	0.003	20 362.501	11		5p^{5}4f 3/2[9/2]$_4$	5p^{5}9d 3/2[5/2]$^\circ_3$	05SAN/AND
4 914.238 2	0.0018	20 343.354	2 800		5p^{5}4f 3/2[7/2]$_3$	5p^{5}7g 3/2[9/2]$^\circ_4$	05SAN/AND
4 917.757 5	0.0011	20 328.796	280		5p^{5}4f 3/2[7/2]$_3$	5p^{5}7g 3/2[7/2]$^\circ_3$	05SAN/AND
4 922.790 9	0.0011	20 308.011	180		5p^{5}7p 3/2[5/2]$_3$	5p^{5}9d 3/2[7/2]$^\circ_3$	05SAN/AND
4 924.114	0.004	20 302.552	22		5p^{5}7p 3/2[5/2]$_3$	5p^{5}9d 3/2[3/2]$^\circ_2$	05SAN/AND
4 925.700 1	0.0013	20 296.017	1 700		5p^{5}6d 3/2[5/2]$^\circ_2$	5p^{5}6f 3/2[5/2]$_2$	05SAN/AND
4 929.058 4	0.0005	20 282.189	2 600		5p^{5}7p 3/2[5/2]$_3$	5p^{5}9d 3/2[7/2]$^\circ_4$	05SAN/AND
4 930.811 2	0.0019	20 274.979	730		5p^{5}6d 3/2[7/2]$^\circ_4$	5p^{5}6f 3/2[9/2]$_4$	05SAN/AND
4 938.201	0.002	20 244.637	110		5p^{5}4f 3/2[9/2]$_4$	5p^{5}9d 3/2[7/2]$^\circ_3$	05SAN/AND
4 942.943 5	0.0005	20 225.215	3 400		5p^{5}4f 3/2[7/2]$_4$	5p^{5}7g 3/2[9/2]$^\circ_5$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
4 946.651	0.002	20 210.057	390		$5p^54f\ 3/2[7/2]_4$	$5p^57g\ 3/2[7/2]^\circ_4$	05SAN/AND
4 952.852 6	0.0005	20 184.752	3 700 000		$5p^55d\ 3/2[1/2]^\circ_1$	$5p^56p\ 3/2[5/2]_2$	05SAN/AND
4 954.577 4	0.0005	20 177.725	11 000		$5p^56d\ 3/2[3/2]^\circ_2$	$5p^56f\ 3/2[5/2]_3$	05SAN/AND
4 961.274 0	0.0014	20 150.490	370		$5p^57p\ 3/2[5/2]_2$	$5p^510s\ 3/2[3/2]^\circ_1$	05SAN/AND
4 965.409	0.002	20 133.708	190		$5p^56p\ 1/2[1/2]_0$	$5p^58s\ 3/2[3/2]^\circ_1$	05SAN/AND
4 965.616	0.002	20 132.871	120		$5p^56d\ 3/2[7/2]^\circ_3$	$5p^56f\ 3/2[5/2]_3$	05SAN/AND
4 972.596 5	0.0004	20 104.608 2	820 000		$5p^56p\ 3/2[5/2]_3$	$5p^57s\ 3/2[3/2]^\circ_2$	05SAN/AND
4 973.977	0.004	20 099.028	200		$5p^57p\ 3/2[5/2]_2$	$5p^510s\ 3/2[3/2]^\circ_2$	05SAN/AND
4 980.569	0.002	20 072.426	660		$5p^57p\ 3/2[3/2]_1$	$5p^59d\ 3/2[5/2]^\circ_2$	05SAN/AND
4 981.624 2	0.0004	20 068.175 1	26 000		$5p^56d\ 3/2[7/2]^\circ_4$	$5p^56f\ 3/2[9/2]_5$	05SAN/AND
4 984.719	0.002	20 055.715	160		$5p^54f\ 3/2[5/2]_3$	$5p^59d\ 3/2[3/2]^\circ_2$	05SAN/AND
4 989.777	0.004	20 035.388	82		$5p^54f\ 3/2[5/2]_3$	$5p^59d\ 3/2[7/2]^\circ_4$	05SAN/AND
4 991.131 4	0.0020	20 029.950	1 600		$5p^54f\ 3/2[5/2]_2$	$5p^57g\ 3/2[7/2]^\circ_3$	05SAN/AND
4 998.085 5	0.0014	20 002.081	110		$5p^57p\ 3/2[3/2]_1$	$5p^59d\ 3/2[3/2]^\circ_2$	05SAN/AND
5 001.579 9	0.0004	19 988.106 5	20 000		$5p^56d\ 3/2[7/2]^\circ_3$	$5p^56f\ 3/2[9/2]_4$	05SAN/AND
5 002.293 6	0.0012	19 985.255	490		$5p^54f\ 3/2[5/2]_2$	$5p^57g\ 3/2[5/2]^\circ_3$	05SAN/AND
5 013.009 2	0.0009	19 942.536	16 000		$5p^56d\ 3/2[5/2]^\circ_2$	$5p^56f\ 3/2[7/2]_3$	05SAN/AND
5 029.525	0.002	19 877.049	1 000		$5p^57p\ 3/2[3/2]_2$	$5p^59d\ 3/2[5/2]^\circ_3$	05SAN/AND
5 035.817	0.003	19 852.215	280		$5p^56d\ 3/2[3/2]^\circ_1$	$5p^57f\ 3/2[3/2]_2$	05SAN/AND
5 041.957 8	0.0004	19 828.036 5	21 000		$5p^56p\ 1/2[1/2]_1$	$5p^57s\ 1/2[1/2]^\circ_1$	05SAN/AND
5 043.802 8	0.0004	19 820.783 4	2 700 000		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^56p\ 3/2[3/2]_2$	05SAN/AND
5 048.222 0	0.0017	19 803.433	3 900		$5p^56d\ 3/2[3/2]^\circ_2$	$5p^56f\ 3/2[3/2]_2$	05SAN/AND
5 052.690 0	0.0004	19 785.921 2	92 000		$5p^56p\ 1/2[3/2]_2$	$5p^57s\ 1/2[1/2]^\circ_1$	05SAN/AND
5 059.868 6	0.0007	19 757.851	280 000		$5p^55d\ 3/2[3/2]^\circ_1$	$5p^56p\ 1/2[3/2]_2$	05SAN/AND
5 060.936 3	0.0018	19 753.682	210		$5p^57p\ 3/2[3/2]_2$	$5p^59d\ 3/2[3/2]^\circ_2$	05SAN/AND
5 070.677 7	0.0004	19 715.733 5	6 000		$5p^55d\ 3/2[3/2]^\circ_1$	$5p^56p\ 1/2[1/2]_1$	05SAN/AND
5 074.444 4	0.0015	19 701.099	1 000		$5p^57p\ 3/2[5/2]_3$	$5p^510s\ 3/2[3/2]^\circ_2$	05SAN/AND
5 080.116 5	0.0004	19 679.102 4	17 000		$5p^56d\ 3/2[5/2]^\circ_3$	$5p^56f\ 3/2[7/2]_4$	05SAN/AND
5 081.770 0	0.0004	19 672.699 4	47 000		$5p^56p\ 1/2[1/2]_1$	$5p^57s\ 1/2[1/2]^\circ_0$	05SAN/AND
5 082.074	0.003	19 671.523	240		$5p^57p\ 3/2[3/2]_2$	$5p^59d\ 3/2[1/2]^\circ_1$	05SAN/AND
5 083.255	0.003	19 666.951	680		$5p^56d\ 3/2[5/2]^\circ_2$	$5p^56f\ 3/2[5/2]_3$	05SAN/AND
5 096.597 4	0.0004	19 615.466 6	290 000		$5p^56p\ 3/2[3/2]_1$	$5p^57s\ 3/2[3/2]^\circ_1$	05SAN/AND
5 109.325 8	0.0018	19 566.601	130		$5p^56d\ 3/2[5/2]^\circ_3$	$5p^56f\ 3/2[7/2]_3$	05SAN/AND
5 125.968	0.003	19 503.078	21		$5p^54f\ 3/2[5/2]_2$	$5p^59d\ 3/2[3/2]^\circ_1$	05SAN/AND
5 139.397	0.002	19 452.115	310		$5p^57p\ 3/2[3/2]_1$	$5p^510s\ 3/2[3/2]^\circ_1$	05SAN/AND
5 142.234 0	0.0018	19 441.384	61		$5p^54f\ 3/2[7/2]_3$	$5p^59d\ 3/2[5/2]^\circ_2$	05SAN/AND
5 159.441	0.002	19 376.547	20		$5p^54f\ 3/2[7/2]_3$	$5p^59d\ 3/2[7/2]^\circ_3$	05SAN/AND
5 159.537 1	0.0016	19 376.186	120		$5p^54f\ 3/2[7/2]_4$	$5p^59d\ 3/2[5/2]^\circ_3$	05SAN/AND
5 173.689	0.003	19 323.186	220		$5p^56d\ 3/2[3/2]^\circ_2$	$5p^56f\ 3/2[3/2]_1$	05SAN/AND
5 181.879	0.003	19 292.647	260		$5p^56d\ 3/2[5/2]^\circ_2$	$5p^56f\ 3/2[3/2]_2$	05SAN/AND
5 182.319 7	0.0018	19 291.005	2 900		$5p^56d\ 3/2[5/2]^\circ_3$	$5p^56f\ 3/2[5/2]_3$	05SAN/AND
5 200.814 6	0.0005	19 222.404 6	4 400		$5p^56p\ 3/2[3/2]_1$	$5p^57s\ 3/2[3/2]^\circ_2$	05SAN/AND
5 205.876	0.002	19 203.714	150		$5p^57p\ 3/2[3/2]_2$	$5p^510s\ 3/2[3/2]^\circ_1$	05SAN/AND
5 207.322	0.004	19 198.382	340		$5p^57p\ 3/2[1/2]_0$	$5p^59d\ 3/2[3/2]^\circ_1$	05SAN/AND
5 209.581 3	0.0004	19 190.057 2	650 000		$5p^56s\ 1/2[1/2]^\circ_0$	$5p^56p\ 1/2[3/2]_1$	05SAN/AND
5 219.867	0.005	19 152.245	600		$5p^57p\ 3/2[3/2]_2$	$5p^510s\ 3/2[3/2]^\circ_2$	05SAN/AND
5 221.505	0.003	19 146.235	1 000		$5p^56d\ 3/2[5/2]^\circ_3$	$5p^56f\ 3/2[9/2]_4$	05SAN/AND
5 227.036 2	0.0018	19 125.976	7 500 000		$5p^56s\ 3/2[3/2]^\circ_2$	$5p^56p\ 3/2[1/2]_1$	05SAN/AND
5 249.385 0	0.0004	19 044.549 5	2 900 000		$5p^56s\ 3/2[3/2]^\circ_1$	$5p^56p\ 3/2[3/2]_1$	05SAN/AND
5 256.594 2	0.0012	19 018.431	4 900		$5p^56p\ 3/2[1/2]_0$	$5p^56d\ 3/2[1/2]^\circ_1$	05SAN/AND
5 258.217	0.003	19 012.560	640		$5p^57s\ 3/2[3/2]^\circ_2$	$5p^58p\ 3/2[3/2]_2$	05SAN/AND
5 263.180 4	0.0004	18 994.632 1	9 400		$5p^54f\ 3/2[3/2]_1$	$5p^56g\ 3/2[5/2]^\circ_2$	05SAN/AND
5 274.054 0	0.0004	18 955.471 0	1 100 000		$5p^55d\ 3/2[1/2]^\circ_0$	$5p^56p\ 3/2[1/2]_1$	05SAN/AND
5 275.402	0.004	18 950.628	330		$5p^57s\ 3/2[3/2]^\circ_1$	$5p^58p\ 3/2[1/2]_0$	05SAN/AND
5 284.858	0.002	18 916.720	120		$5p^56d\ 3/2[5/2]^\circ_3$	$5p^56f\ 3/2[3/2]_2$	05SAN/AND
5 306.595 4	0.0004	18 839.232 7	130 000		$5p^56p\ 3/2[3/2]_2$	$5p^57s\ 3/2[3/2]^\circ_1$	05SAN/AND
5 314.163	0.007	18 812.40	130		$5p^56d\ 3/2[5/2]^\circ_2$	$5p^56f\ 3/2[3/2]_1$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
5 315.257 6	0.0005	18 808.531 0	6 300		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^57p\ 3/2[1/2]_{0}$	05SAN/AND
5 319.750	0.005	18 792.649	40		$5p^56d\ 3/2[1/2]^{\circ}_{1}$	$5p^54f\ 1/2[5/2]_{2}$	05SAN/AND
5 339.760	0.003	18 722.225	880		$5p^57s\ 3/2[3/2]^{\circ}_{2}$	$5p^58p\ 3/2[5/2]_{3}$	05SAN/AND
5 349.131 5	0.0005	18 689.425 7	1 000 000		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^56p\ 1/2[3/2]_{1}$	05SAN/AND
5 358.432 5	0.0004	18 656.985 3	17 000		$5p^56p\ 1/2[1/2]_{0}$	$5p^57s\ 1/2[1/2]^{\circ}_{1}$	05SAN/AND
5 369.225	0.004	18 619.484	640		$5p^57s\ 3/2[3/2]^{\circ}_{1}$	$5p^58p\ 3/2[3/2]_{2}$	05SAN/AND
5 370.987 7	0.0004	18 613.373 4	2 200 000		$5p^55d\ 3/2[1/2]^{\circ}_{1}$	$5p^56p\ 3/2[1/2]_{1}$	05SAN/AND
5 387.179 3	0.0006	18 557.430	2 000		$5p^54f\ 3/2[3/2]_{2}$	$5p^56g\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
5 402.784 7	0.0004	18 503.829 4	120 000		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^54f\ 3/2[5/2]_{2}$	05SAN/AND
5 407.189 9	0.0004	18 488.754 7	10 000		$5p^54f\ 3/2[3/2]_{2}$	$5p^56g\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
5 407.437 4	0.0018	18 487.908	2 000		$5p^54f\ 3/2[3/2]_{2}$	$5p^56g\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
5 419.672 7	0.0004	18 446.171 0	290 000		$5p^56p\ 3/2[3/2]_{2}$	$5p^57s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
5 420.461	0.004	18 443.487	760		$5p^57s\ 3/2[3/2]^{\circ}_{1}$	$5p^58p\ 3/2[3/2]_{1}$	05SAN/AND
5 431.019	0.003	18 407.633	180		$5p^57p\ 3/2[5/2]_{2}$	$5p^56g\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
5 463.84	0.30	18 297.0	75	u	$5p^56d\ 3/2[1/2]^{\circ}_{1}$	$5p^57p\ 1/2[3/2]_{2}$	05SAN/AND
5 485.473 8	0.0018	18 224.902	1 800		$5p^54f\ 3/2[9/2]_{5}$	$5p^56g\ 3/2[9/2]^{\circ}_{5}$	05SAN/AND
5 487.694	0.005	18 217.528	140		$5p^57p\ 3/2[1/2]_{0}$	$5p^510s\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
5 492.691	0.005	18 200.957	54		$5p^54f\ 3/2[9/2]_{5}$	$5p^56g\ 3/2[7/2]^{\circ}_{4}$	05SAN/AND
5 501.022	0.010	18 173.39	29		$5p^56d\ 3/2[3/2]^{\circ}_{2}$	$5p^54f\ 1/2[5/2]_{2}$	05SAN/AND
5 507.131 5	0.0004	18 153.230 5	30 000		$5p^54f\ 3/2[9/2]_{5}$	$5p^56g\ 3/2[11/2]^{\circ}_{6}$	05SAN/AND
5 551.217	0.003	18 009.067	190		$5p^57p\ 3/2[5/2]_{3}$	$5p^56g\ 3/2[7/2]^{\circ}_{4}$	05SAN/AND
5 563.024 4	0.0005	17 970.842 9	3 900 000		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^56p\ 3/2[3/2]_{2}$	05SAN/AND
5 579.028 5	0.0004	17 919.291 9	28 000		$5p^55d\ 3/2[3/2]^{\circ}_{1}$	$5p^56p\ 1/2[3/2]_{1}$	05SAN/AND
5 583.902	0.007	17 903.65	25		$5p^56d\ 3/2[3/2]^{\circ}_{1}$	$5p^59p\ 3/2[1/2]_{0}$	05SAN/AND
5 585.567 0	0.0004	17 898.315 7	26 000		$5p^54f\ 3/2[9/2]_{4}$	$5p^56g\ 3/2[11/2]^{\circ}_{5}$	05SAN/AND
5 589.882	0.007	17 884.50	17		$5p^57s\ 3/2[3/2]^{\circ}_{1}$	$5p^58p\ 3/2[1/2]_{1}$	05SAN/AND
5 609.373	0.004	17 822.356	770		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^57p\ 3/2[3/2]_{2}$	05SAN/AND
5 617.414	0.003	17 796.845	360		$5p^56d\ 3/2[7/2]^{\circ}_{3}$	$5p^54f\ 1/2[7/2]_{4}$	05SAN/AND
5 628.152 8	0.0016	17 762.888	340		$5p^54f\ 3/2[5/2]_{3}$	$5p^56g\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
5 628.353 6	0.0011	17 762.254	18 000		$5p^54f\ 3/2[5/2]_{3}$	$5p^56g\ 3/2[7/2]^{\circ}_{4}$	05SAN/AND
5 649.996 5	0.0014	17 694.215	1 700		$5p^54f\ 3/2[5/2]_{3}$	$5p^56g\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
5 650.262	0.007	17 693.38	65		$5p^54f\ 3/2[5/2]_{3}$	$5p^56g\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
5 650.671	0.006	17 692.102	120		$5p^57p\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
5 655.260	0.005	17 677.747	79		$5p^56d\ 3/2[3/2]^{\circ}_{2}$	$5p^57p\ 1/2[3/2]_{2}$	05SAN/AND
5 659.415	0.007	17 664.77	82		$5p^56d\ 3/2[1/2]^{\circ}_{1}$	$5p^57p\ 1/2[3/2]_{1}$	05SAN/AND
5 666.980	0.003	17 641.188	290		$5p^56d\ 3/2[3/2]^{\circ}_{1}$	$5p^59p\ 3/2[3/2]_{2}$	05SAN/AND
5 688.664	0.004	17 573.944	2 800		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^57p\ 3/2[3/2]_{1}$	05SAN/AND
5 693.777	0.006	17 558.163	29		$5p^56d\ 3/2[3/2]^{\circ}_{1}$	$5p^59p\ 3/2[3/2]_{1}$	05SAN/AND
5 700.767	0.004	17 536.634	890		$5p^56d\ 3/2[3/2]^{\circ}_{2}$	$5p^54f\ 1/2[5/2]_{3}$	05SAN/AND
5 725.506	0.003	17 460.861	530		$5p^57p\ 3/2[3/2]_{2}$	$5p^56g\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
5 744.753	0.003	17 402.360	1 100		$5p^56d\ 3/2[3/2]^{\circ}_{1}$	$5p^59p\ 3/2[5/2]_{2}$	05SAN/AND
5 755.280	0.004	17 370.530	500		$5p^57s\ 3/2[3/2]^{\circ}_{2}$	$5p^55f\ 3/2[5/2]_{3}$	05SAN/AND
5 757.099	0.003	17 365.043	15		$5p^54f\ 3/2[3/2]_{1}$	$5p^58d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
5 766.744	0.007	17 336.00	24		$5p^55f\ 3/2[3/2]_{1}$	$5p^511g\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
5 772.995	0.003	17 317.228	240		$5p^57p\ 3/2[1/2]_{1}$	$5p^58d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
5 783.222	0.009	17 286.61	19		$5p^56d\ 3/2[5/2]^{\circ}_{3}$	$5p^54f\ 1/2[5/2]_{2}$	05SAN/AND
5 793.653	0.005	17 255.483	55		$5p^54f\ 3/2[3/2]_{1}$	$5p^58d\ 3/2[1/2]^{\circ}_{0}$	05SAN/AND
5 807.953 8	0.0008	17 212.995	2 000		$5p^57p\ 3/2[1/2]_{1}$	$5p^58d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
5 812.750 7	0.0008	17 198.791	4 100		$5p^56d\ 3/2[3/2]^{\circ}_{1}$	$5p^56f\ 3/2[5/2]_{2}$	05SAN/AND
5 814.164 0	0.0007	17 194.610 0	450 000		$5p^55d\ 3/2[3/2]^{\circ}_{2}$	$5p^56p\ 3/2[3/2]_{1}$	05SAN/AND
5 831.140 6	0.0007	17 144.551	2 400 000		$5p^56s\ 3/2[3/2]^{\circ}_{1}$	$5p^56p\ 3/2[5/2]_{2}$	05SAN/AND
5 836.38	0.34	17 129.2	270	u	$5p^56d\ 3/2[5/2]^{\circ}_{2}$	$5p^54f\ 1/2[7/2]_{3}$	05SAN/AND
5 845.844 5	0.0006	17 101.427 7	16 000		$5p^54f\ 3/2[7/2]_{3}$	$5p^56g\ 3/2[9/2]^{\circ}_{4}$	05SAN/AND
5 853.789 5	0.0014	17 078.217	1 400		$5p^54f\ 3/2[7/2]_{3}$	$5p^56g\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
5 854.948 2	0.0008	17 074.837	3 900		$5p^57p\ 3/2[1/2]_{1}$	$5p^58d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
5 863.690 4	0.0006	17 049.380 9	41 000		$5p^55d\ 3/2[7/2]^{\circ}_{3}$	$5p^56p\ 3/2[3/2]_{2}$	05SAN/AND
5 867.186	0.007	17 039.224	20		$5p^55f\ 3/2[3/2]_{2}$	$5p^511g\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
5 869.055 0	0.0019	17 033.797	570		$5p^57p\;3/2[5/2]_2$	$5p^58d\;3/2[5/2]^\circ_3$	05SAN/AND
5 871.796	0.008	17 025.85	38		$5p^56d\;3/2[5/2]^\circ_2$	$5p^54f\;1/2[5/2]_3$	05SAN/AND
5 877.707	0.005	17 008.722	61		$5p^54f\;3/2[7/2]_3$	$5p^56g\;3/2[5/2]^\circ_2$	05SAN/AND
5 881.938	0.003	16 996.489	150	?	$5p^54f\;3/2[3/2]_2$	$5p^58d\;3/2[3/2]^\circ_2$	05SAN/AND
5 882.888	0.004	16 993.743	1 400		$5p^57p\;3/2[3/2]_1$	$5p^58d\;3/2[3/2]^\circ_1$	05SAN/AND
5 886.508 3	0.0008	16 983.293	20 000		$5p^54f\;3/2[7/2]_4$	$5p^56g\;3/2[9/2]^\circ_5$	05SAN/AND
5 892.757 2	0.0007	16 965.283	1 700		$5p^57p\;3/2[1/2]_1$	$5p^58d\;3/2[1/2]^\circ_0$	05SAN/AND
5 894.821	0.003	16 959.344	2 400		$5p^54f\;3/2[7/2]_4$	$5p^56g\;3/2[7/2]^\circ_4$	05SAN/AND
5 897.758	0.003	16 950.897	2 700		$5p^57p\;3/2[5/2]_2$	$5p^58d\;3/2[5/2]^\circ_2$	05SAN/AND
5 911.334	0.003	16 911.970	430		$5p^54f\;3/2[7/2]_4$	$5p^56g\;3/2[11/2]^\circ_5$	05SAN/AND
5 925.631 1	0.0005	16 871.164 9	5 100 000		$5p^55d\;3/2[7/2]^\circ_4$	$5p^56p\;3/2[5/2]_3$	05SAN/AND
5 934.252	0.003	16 846.656	740		$5p^57p\;3/2[5/2]_2$	$5p^58d\;3/2[3/2]^\circ_2$	05SAN/AND
5 935.283 3	0.0007	16 843.728 5	11 000		$5p^57p\;3/2[5/2]_2$	$5p^58d\;3/2[7/2]^\circ_3$	05SAN/AND
5 958.050 5	0.0005	16 779.365 2	8 700		$5p^54f\;3/2[5/2]_2$	$5p^56g\;3/2[7/2]^\circ_3$	05SAN/AND
5 977.143 7	0.0005	16 725.766 1	17 000		$5p^55d\;1/2[3/2]^\circ_1$	$5p^54f\;3/2[3/2]_2$	05SAN/AND
5 982.537 5	0.0007	16 710.687	3 500		$5p^54f\;3/2[5/2]_2$	$5p^56g\;3/2[5/2]^\circ_3$	05SAN/AND
5 982.831	0.005	16 709.865	720		$5p^54f\;3/2[5/2]_2$	$5p^56g\;3/2[5/2]^\circ_2$	05SAN/AND
5 983.318	0.005	16 708.505	450		$5p^57p\;3/2[5/2]_2$	$5p^58d\;3/2[1/2]^\circ_1$	05SAN/AND
5 984.386 7	0.0004	16 705.522 7	140 000		$5p^55d\;1/2[5/2]^\circ_2$	$5p^56p\;1/2[3/2]_2$	05SAN/AND
5 999.512 0	0.0005	16 663.407 0	3 400		$5p^55d\;1/2[5/2]^\circ_2$	$5p^56p\;1/2[1/2]_1$	05SAN/AND
6 009.440 9	0.0013	16 635.876	3 000		$5p^57p\;3/2[5/2]_3$	$5p^58d\;3/2[5/2]^\circ_3$	05SAN/AND
6 028.188 3	0.0005	16 584.139 5	910		$5p^54f\;3/2[9/2]_5$	$5p^58d\;3/2[7/2]^\circ_4$	05SAN/AND
6 032.422	0.005	16 572.501	37		$5p^54f\;3/2[9/2]_4$	$5p^58d\;3/2[5/2]^\circ_3$	05SAN/AND
6 039.542	0.005	16 552.964	280		$5p^57p\;3/2[5/2]_3$	$5p^58d\;3/2[5/2]^\circ_2$	05SAN/AND
6 039.846	0.006	16 552.129	160		$5p^55f\;3/2[9/2]_5$	$5p^511g\;3/2[11/2]^\circ_6$	05SAN/AND
6 068.391 8	0.0007	16 474.269 4	900		$5p^57s\;3/2[3/2]^\circ_1$	$5p^55f\;3/2[3/2]_2$	05SAN/AND
6 076.722 4	0.0005	16 451.684 8	76 000		$5p^56p\;3/2[1/2]_0$	$5p^57s\;3/2[3/2]^\circ_1$	05SAN/AND
6 077.809	0.003	16 448.744	640		$5p^57p\;3/2[5/2]_3$	$5p^58d\;3/2[3/2]^\circ_2$	05SAN/AND
6 078.893 2	0.0009	16 445.810	1 900		$5p^57p\;3/2[5/2]_3$	$5p^58d\;3/2[7/2]^\circ_3$	05SAN/AND
6 098.750 2	0.0006	16 392.264 3	18 000		$5p^57p\;3/2[5/2]_3$	$5p^58d\;3/2[7/2]^\circ_4$	05SAN/AND
6 099.943	0.009	16 389.06	56		$5p^54f\;3/2[5/2]_3$	$5p^58d\;3/2[5/2]^\circ_3$	05SAN/AND
6 102.409 3	0.0006	16 382.435 3	900		$5p^54f\;3/2[9/2]_4$	$5p^58d\;3/2[7/2]^\circ_3$	05SAN/AND
6 109.816	0.005	16 362.575	600		$5p^55f\;3/2[5/2]_3$	$5p^55g\;1/2[7/2]^\circ_4$	05SAN/AND
6 116.536	0.014	16 344.60	220		$5p^55f\;3/2[5/2]_3$	$5p^513d\;3/2[5/2]^\circ_3$	05SAN/AND
6 122.424	0.004	16 328.879	77		$5p^54f\;3/2[9/2]_4$	$5p^58d\;3/2[7/2]^\circ_4$	05SAN/AND
6 128.606 9	0.0005	16 312.407 0	980 000		$5p^55d\;3/2[3/2]^\circ_2$	$5p^56p\;3/2[5/2]_3$	05SAN/AND
6 132.54	0.38	16 301.9	400	u	$5p^57p\;3/2[1/2]_1$	$5p^59s\;3/2[3/2]^\circ_1$	05SAN/AND
6 144.301	0.013	16 270.74	120		$5p^55f\;3/2[3/2]_2$	$5p^510g\;3/2[5/2]^\circ_3$	05SAN/AND
6 151.190 5	0.0005	16 252.517 7	6 500		$5p^57p\;3/2[3/2]_1$	$5p^58d\;3/2[5/2]^\circ_2$	05SAN/AND
6 163.887	0.003	16 219.041	1 400		$5p^55d\;1/2[3/2]^\circ_1$	$5p^54f\;3/2[3/2]_1$	05SAN/AND
6 165.503 5	0.0006	16 214.788 5	3 300		$5p^57p\;3/2[1/2]_1$	$5p^59s\;3/2[3/2]^\circ_2$	05SAN/AND
6 170.400	0.003	16 201.922	42		$5p^54f\;3/2[5/2]_3$	$5p^58d\;3/2[3/2]^\circ_2$	05SAN/AND
6 172.880 3	0.0007	16 195.411 4	2 100		$5p^56d\;3/2[3/2]^\circ_1$	$5p^56f\;3/2[3/2]_2$	05SAN/AND
6 179.857	0.005	16 177.128	670		$5p^57s\;3/2[3/2]^\circ_1$	$5p^55f\;3/2[3/2]_1$	05SAN/AND
6 190.895	0.002	16 148.286	640		$5p^57p\;3/2[3/2]_1$	$5p^58d\;3/2[3/2]^\circ_2$	05SAN/AND
6 191.985	0.004	16 145.441	370		$5p^54f\;3/2[5/2]_3$	$5p^58d\;3/2[7/2]^\circ_4$	05SAN/AND
6 214.472 2	0.0005	16 087.020 3	9 900		$5p^57p\;3/2[3/2]_2$	$5p^58d\;3/2[5/2]^\circ_3$	05SAN/AND
6 223.431	0.003	16 063.863	290		$5p^54f\;3/2[5/2]_2$	$5p^58d\;3/2[3/2]^\circ_1$	05SAN/AND
6 227.740	0.004	16 052.748	230		$5p^56d\;3/2[1/2]^\circ_1$	$5p^58p\;3/2[3/2]_2$	05SAN/AND
6 244.311	0.003	16 010.149	120		$5p^57p\;3/2[3/2]_1$	$5p^58d\;3/2[1/2]^\circ_1$	05SAN/AND
6 273.507 6	0.0006	15 935.638 5	2 800		$5p^57p\;3/2[5/2]_2$	$5p^59s\;3/2[3/2]^\circ_1$	05SAN/AND
6 287.612 0	0.0011	15 899.892	5 300		$5p^57p\;3/2[3/2]_2$	$5p^58d\;3/2[3/2]^\circ_2$	05SAN/AND
6 298.068	0.005	15 873.495	33		$5p^57d\;3/2[7/2]^\circ_3$	$5p^510f\;3/2[7/2]_3$	05SAN/AND
6 298.976	0.012	15 871.21	14		$5p^57d\;3/2[7/2]^\circ_4$	$5p^510f\;3/2[7/2]_4$	05SAN/AND
6 308.014 4	0.0015	15 848.466	1 300		$5p^57p\;3/2[5/2]_2$	$5p^59s\;3/2[3/2]^\circ_2$	05SAN/AND
6 320.777	0.005	15 816.466	63		$5p^56d\;3/2[1/2]^\circ_0$	$5p^58p\;3/2[1/2]_1$	05SAN/AND
6 321.505	0.006	15 814.646	77		$5p^58s\;3/2[3/2]^\circ_2$	$5p^55f\;1/2[5/2]_3$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
6 330.201	0.007	15 792.919	75		$5p^5 5f\ 3/2[7/2]_3$	$5p^5 11g\ 3/2[9/2]^{\circ}_4$	05SAN/AND
6 333.618	0.007	15 784.399	510		$5p^5 5f\ 3/2[9/2]_5$	$5p^5 10g\ 3/2[11/2]^{\circ}_6$	05SAN/AND
6 335.041	0.004	15 780.853	210		$5p^5 5f\ 3/2[5/2]_3$	$5p^5 10g\ 3/2[7/2]^{\circ}_4$	05SAN/AND
6 342.724	0.003	15 761.739	1 200		$5p^5 7p\ 3/2[3/2]_2$	$5p^5 8d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
6 343.763 9	0.0007	15 759.154 9	2 400		$5p^5 7p\ 3/2[1/2]_0$	$5p^5 8d\ 3/2[3/2]^{\circ}_1$	05SAN/AND
6 357.855 8	0.0008	15 724.226	1 300		$5p^5 6d\ 3/2[1/2]^{\circ}_1$	$5p^5 5f\ 3/2[5/2]_2$	05SAN/AND
6 367.088	0.006	15 701.426	290		$5p^5 7d\ 3/2[7/2]^{\circ}_4$	$5p^5 10f\ 3/2[9/2]_5$	05SAN/AND
6 399.671	0.004	15 621.485	620		$5p^5 4f\ 3/2[7/2]_3$	$5p^5 8d\ 3/2[5/2]^{\circ}_2$	05SAN/AND
6 408.451	0.005	15 600.083	340		$5p^5 5f\ 3/2[7/2]_3$	$5p^5 5g\ 1/2[9/2]^{\circ}_4$	05SAN/AND
6 409.441	0.005	15 597.672	48		$5p^5 8p\ 3/2[5/2]_3$	$5p^5 14d\ 3/2[7/2]^{\circ}_4$	05SAN/AND
6 414.182 3	0.0008	15 586.143 7	850		$5p^5 4f\ 3/2[7/2]_4$	$5p^5 8d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
6 419.524 7	0.0006	15 573.172 8	200 000		$5p^5 6s\ 3/2[3/2]^{\circ}_1$	$5p^5 6p\ 3/2[1/2]_1$	05SAN/AND
6 438.172	0.003	15 528.068	290		$5p^5 5f\ 3/2[3/2]_1$	$5p^5 9g\ 3/2[5/2]^{\circ}_2$	05SAN/AND
6 440.094	0.006	15 523.434	53		$5p^5 7d\ 3/2[1/2]^{\circ}_1$	$5p^5 8p\ 1/2[3/2]_1$	05SAN/AND
6 440.853	0.003	15 521.605	1 140		$5p^5 6d\ 3/2[1/2]^{\circ}_1$	$5p^5 8p\ 3/2[5/2]_2$	05SAN/AND
6 442.650	0.008	15 517.275	21		$5p^5 4f\ 3/2[7/2]_3$	$5p^5 8d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
6 443.876	0.003	15 514.323	280		$5p^5 4f\ 3/2[7/2]_3$	$5p^5 8d\ 3/2[7/2]^{\circ}_3$	05SAN/AND
6 470.475 8	0.0006	15 450.544 3	6 900		$5p^5 7p\ 3/2[5/2]_3$	$5p^5 9s\ 3/2[3/2]^{\circ}_2$	05SAN/AND
6 477.647	0.003	15 433.439	280		$5p^5 6d\ 3/2[3/2]^{\circ}_2$	$5p^5 8p\ 3/2[3/2]_2$	05SAN/AND
6 485.252	0.003	15 415.341	190		$5p^5 7d\ 3/2[5/2]^{\circ}_3$	$5p^5 10f\ 3/2[7/2]_4$	05SAN/AND
6 489.386	0.003	15 405.521	810		$5p^5 4f\ 3/2[5/2]_2$	$5p^5 8d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
6 495.532 6	0.0006	15 390.943 7	830 000		$5p^5 5d\ 3/2[7/2]^{\circ}_3$	$5p^5 6p\ 3/2[5/2]_3$	05SAN/AND
6 497.988	0.002	15 385.128	670		$5p^5 6d\ 3/2[7/2]^{\circ}_4$	$5p^5 8p\ 3/2[5/2]_3$	05SAN/AND
6 516.028	0.003	15 342.533	240		$5p^5 4f\ 3/2[7/2]_4$	$5p^5 8d\ 3/2[7/2]^{\circ}_4$	05SAN/AND
6 520.168	0.006	15 332.791	95		$5p^5 8p\ 3/2[3/2]_2$	$5p^5 14d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
6 524.495	0.005	15 322.624	66		$5p^5 4f\ 3/2[5/2]_2$	$5p^5 8d\ 3/2[5/2]^{\circ}_2$	05SAN/AND
6 526.576	0.019	15 317.74	89		$5p^5 6d\ 3/2[1/2]^{\circ}_1$	$5p^5 8p\ 3/2[1/2]_1$	05SAN/AND
6 532.305	0.005	15 304.303	240		$5p^5 7d\ 3/2[5/2]^{\circ}_2$	$5p^5 10f\ 3/2[7/2]_3$	05SAN/AND
6 536.444 8	0.0008	15 294.611 0	1 000 000		$5p^5 5d\ 3/2[3/2]^{\circ}_2$	$5p^5 6p\ 3/2[5/2]_2$	05SAN/AND
6 548.078	0.003	15 267.439	610		$5p^5 7d\ 3/2[5/2]^{\circ}_2$	$5p^5 10f\ 3/2[5/2]_3$	05SAN/AND
6 552.361	0.006	15 257.461	49		$5p^5 6d\ 3/2[3/2]^{\circ}_2$	$5p^5 8p\ 3/2[3/2]_1$	05SAN/AND
6 555.405	0.006	15 250.376	80		$5p^5 5f\ 3/2[3/2]_2$	$5p^5 9g\ 3/2[7/2]^{\circ}_3$	05SAN/AND
6 561.045 8	0.0007	15 237.263 6	1 440		$5p^5 7p\ 3/2[3/2]_1$	$5p^5 9s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
6 563.308	0.004	15 232.012	230		$5p^5 5f\ 3/2[3/2]_2$	$5p^5 9g\ 3/2[5/2]^{\circ}_3$	05SAN/AND
6 569.174	0.003	15 218.410	190		$5p^5 4f\ 3/2[5/2]_2$	$5p^5 8d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
6 570.445	0.007	15 215.467	170		$5p^5 4f\ 3/2[5/2]_2$	$5p^5 8d\ 3/2[7/2]^{\circ}_3$	05SAN/AND
6 574.069	0.009	15 207.08	44		$5p^5 8p\ 3/2[5/2]_2$	$5p^5 13d\ 3/2[7/2]^{\circ}_3$	05SAN/AND
6 574.515	0.010	15 206.05	53		$5p^5 6d\ 1/2[5/2]^{\circ}_2$	$5p^5 8p\ 1/2[3/2]_1$	05SAN/AND
6 575.509	0.004	15 203.748	200		$5p^5 4f\ 3/2[5/2]_3$	$5p^5 9s\ 3/2[3/2]^{\circ}_2$	05SAN/AND
6 598.802	0.007	15 150.081	44		$5p^5 7p\ 3/2[3/2]_1$	$5p^5 9s\ 3/2[3/2]^{\circ}_2$	05SAN/AND
6 599.530	0.003	15 148.410	190		$5p^5 7d\ 3/2[3/2]^{\circ}_1$	$5p^5 8p\ 1/2[1/2]_1$	05SAN/AND
6 601.833	0.004	15 143.127	210		$5p^5 6d\ 3/2[3/2]^{\circ}_2$	$5p^5 8p\ 3/2[5/2]_3$	05SAN/AND
6 606.939	0.003	15 131.424	180		$5p^5 7d\ 3/2[3/2]^{\circ}_2$	$5p^5 9f\ 3/2[5/2]_3$	05SAN/AND
6 620.858 1	0.0005	15 099.612 4	12 000		$5p^5 5d\ 3/2[5/2]^{\circ}_2$	$5p^5 6p\ 3/2[3/2]_2$	05SAN/AND
6 628.007 5	0.0005	15 083.325 1	53 000		$5p^5 5d\ 1/2[3/2]^{\circ}_2$	$5p^5 6p\ 1/2[3/2]_2$	05SAN/AND
6 638.249	0.004	15 060.054	200		$5p^5 6d\ 3/2[7/2]^{\circ}_3$	$5p^5 5f\ 3/2[5/2]_2$	05SAN/AND
6 646.566 3	0.0005	15 041.209 1	880 000		$5p^5 5d\ 1/2[3/2]^{\circ}_2$	$5p^5 6p\ 1/2[1/2]_1$	05SAN/AND
6 652.356	0.014	15 028.12	140		$5p^5 5f\ 3/2[7/2]_3$	$5p^5 10g\ 3/2[9/2]^{\circ}_4$	05SAN/AND
6 663.864 5	0.0007	15 002.165 1	11 000		$5p^5 6d\ 3/2[7/2]^{\circ}_4$	$5p^5 5f\ 3/2[7/2]_4$	05SAN/AND
6 664.853	0.006	14 999.939	120		$5p^5 6d\ 1/2[5/2]^{\circ}_3$	$5p^5 10f\ 3/2[7/2]_4$	05SAN/AND
6 668.001	0.004	14 992.859	380		$5p^5 6d\ 1/2[3/2]^{\circ}_2$	$5p^5 10f\ 3/2[5/2]_3$	05SAN/AND
6 669.776 6	0.0009	14 988.867	1 200		$5p^5 7p\ 3/2[3/2]_2$	$5p^5 9s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
6 682.562	0.004	14 960.189	94		$5p^5 8p\ 3/2[5/2]_3$	$5p^5 13d\ 3/2[7/2]^{\circ}_4$	05SAN/AND
6 690.631	0.007	14 942.149	38		$5p^5 6d\ 1/2[3/2]^{\circ}_2$	$5p^5 8p\ 1/2[1/2]_1$	05SAN/AND
6 699.371 3	0.0010	14 922.654	960		$5p^5 6d\ 3/2[5/2]^{\circ}_2$	$5p^5 8p\ 3/2[3/2]_2$	05SAN/AND
6 705.920	0.004	14 908.082	330		$5p^5 7d\ 3/2[7/2]^{\circ}_3$	$5p^5 9f\ 3/2[7/2]_4$	05SAN/AND
6 708.796 4	0.0006	14 901.689 5	2 800		$5p^5 7p\ 3/2[3/2]_2$	$5p^5 9s\ 3/2[3/2]^{\circ}_2$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
6 724.465 6	0.0005	14 866.966 1	960 000		$5p^5 5d\ 1/2[5/2]^{\circ}_2$	$5p^5 6p\ 1/2[3/2]_1$	05SAN/AND
6 728.781	0.004	14 857.431	160		$5p^5 6d\ 3/2[7/2]^{\circ}_3$	$5p^5 8p\ 3/2[5/2]_2$	05SAN/AND
6 735.067 7	0.0006	14 843.563 2	1 600		$5p^5 6p\ 1/2[3/2]_1$	$5p^5 6d\ 3/2[3/2]^{\circ}_1$	05SAN/AND
6 746.111	0.006	14 819.265	32		$5p^5 8p\ 3/2[5/2]_3$	$5p^5 14s\ 3/2[3/2]^{\circ}_2$	05SAN/AND
6 758.741	0.003	14 791.573	470		$5p^5 6d\ 3/2[7/2]^{\circ}_4$	$5p^5 5f\ 3/2[7/2]_3$	05SAN/AND
6 766.065	0.004	14 775.560	35		$5p^5 7p\ 3/2[1/2]_0$	$5p^5 8d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
6 769.908	0.005	14 767.173	29		$5p^5 5f\ 3/2[9/2]_5$	$5p^5 9g\ 3/2[9/2]^{\circ}_5$	05SAN/AND
6 779.286	0.008	14 746.745	710		$5p^5 5f\ 3/2[5/2]_3$	$5p^5 9g\ 3/2[7/2]^{\circ}_4$	05SAN/AND
6 779.554	0.006	14 746.162	990		$5p^5 5f\ 3/2[9/2]_5$	$5p^5 9g\ 3/2[11/2]^{\circ}_6$	05SAN/AND
6 787.576	0.006	14 728.736	70		$5p^5 5f\ 3/2[5/2]_3$	$5p^5 9g\ 3/2[5/2]^{\circ}_3$	05SAN/AND
6 799.586	0.007	14 702.721	28		$5p^5 8p\ 3/2[3/2]_2$	$5p^5 13d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
6 801.563	0.005	14 698.446	49		$5p^5 6d\ 3/2[3/2]^{\circ}_2$	$5p^5 8p\ 3/2[1/2]_1$	05SAN/AND
6 831.349	0.003	14 634.358	260		$5p^5 7d\ 3/2[1/2]^{\circ}_1$	$5p^5 9f\ 3/2[3/2]_2$	05SAN/AND
6 850.177 6	0.0019	14 594.135	8 700		$5p^5 6d\ 3/2[5/2]^{\circ}_2$	$5p^5 5f\ 3/2[5/2]_2$	05SAN/AND
6 863.717 4	0.0006	14 565.345 7	4 700		$5p^5 6d\ 3/2[3/2]^{\circ}_1$	$5p^5 4f\ 1/2[5/2]_2$	05SAN/AND
6 871.169	0.005	14 549.551	15		$5p^5 6d\ 3/2[3/2]^{\circ}_2$	$5p^5 5f\ 3/2[7/2]_3$	05SAN/AND
6 892.417 3	0.0007	14 504.696 2	18 000		$5p^5 6d\ 3/2[7/2]^{\circ}_3$	$5p^5 5f\ 3/2[7/2]_3$	05SAN/AND
6 925.422	0.005	14 435.572	1 400		$5p^5 7d\ 3/2[7/2]^{\circ}_3$	$5p^5 5f\ 1/2[7/2]_4$	05SAN/AND
6 946.626 6	0.0009	14 391.506 7	2 700		$5p^5 6d\ 3/2[5/2]^{\circ}_2$	$5p^5 8p\ 3/2[5/2]_2$	05SAN/AND
6 955.499 8	0.0006	14 373.147 5	3 700 000		$5p^5 5d\ 3/2[7/2]^{\circ}_3$	$5p^5 6p\ 3/2[5/2]_2$	05SAN/AND
6 979.668 0	0.0006	14 323.378 5	1 600 000		$5p^5 5d\ 3/2[5/2]^{\circ}_2$	$5p^5 6p\ 3/2[3/2]_1$	05SAN/AND
6 993.335 0	0.0008	14 295.386 6	4 400		$5p^5 6d\ 1/2[5/2]^{\circ}_2$	$5p^5 5f\ 1/2[7/2]_3$	05SAN/AND
7 016.713 1	0.0005	14 247.758 0	11 000		$5p^5 6d\ 3/2[7/2]^{\circ}_4$	$5p^5 5f\ 3/2[9/2]_4$	05SAN/AND
7 085.666 0	0.0008	14 109.109 4	39 000		$5p^5 6d\ 3/2[1/2]^{\circ}_0$	$5p^5 5f\ 3/2[3/2]_1$	05SAN/AND
7 110.375	0.011	14 060.08	2 700		$5p^5 6d\ 1/2[3/2]^{\circ}_2$	$5p^5 9f\ 3/2[5/2]_3$	05SAN/AND
7 121.169 7	0.0005	14 038.766 7	85 000		$5p^5 6d\ 3/2[5/2]^{\circ}_2$	$5p^5 5f\ 3/2[7/2]_3$	05SAN/AND
7 123.869 6	0.0010	14 033.446	1 200		$5p^5 6d\ 3/2[7/2]^{\circ}_4$	$5p^5 5f\ 3/2[5/2]_3$	05SAN/AND
7 130.539 9	0.0005	14 020.318 5	230 000		$5p^5 6d\ 3/2[7/2]^{\circ}_4$	$5p^5 5f\ 3/2[9/2]_5$	05SAN/AND
7 135.873	0.003	14 009.839	5 700		$5p^5 6d\ 1/2[5/2]^{\circ}_3$	$5p^5 9f\ 3/2[7/2]_4$	05SAN/AND
7 139.524 9	0.0009	14 002.674 2	610		$5p^5 7p\ 3/2[1/2]_0$	$5p^5 9s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
7 149.541 4	0.0005	13 983.056 6	1 300 000		$5p^5 5d\ 1/2[5/2]^{\circ}_3$	$5p^5 6p\ 1/2[3/2]_2$	05SAN/AND
7 160.896 5	0.0005	13 960.883 7	160 000		$5p^5 6d\ 3/2[7/2]^{\circ}_3$	$5p^5 5f\ 3/2[9/2]_4$	05SAN/AND
7 188.369 8	0.0005	13 907.526 7	63 000		$5p^5 6d\ 3/2[1/2]^{\circ}_1$	$5p^5 5f\ 3/2[3/2]_2$	05SAN/AND
7 206.040 3	0.0005	13 873.423 3	110 000		$5p^5 6d\ 3/2[5/2]^{\circ}_3$	$5p^5 5f\ 3/2[7/2]_4$	05SAN/AND
7 248.882 6	0.0005	13 791.429 0	96 000		$5p^5 6d\ 3/2[3/2]^{\circ}_2$	$5p^5 5f\ 3/2[5/2]_3$	05SAN/AND
7 272.535 9	0.0008	13 746.574 0	3 100		$5p^5 6d\ 3/2[7/2]^{\circ}_3$	$5p^5 5f\ 3/2[5/2]_3$	05SAN/AND
7 276.210 3	0.0009	13 739.632 2	2 400		$5p^5 7d\ 3/2[5/2]^{\circ}_2$	$5p^5 5f\ 1/2[7/2]_3$	05SAN/AND
7 284.906 3	0.0006	13 723.231 2	14 000		$5p^5 5d\ 3/2[3/2]^{\circ}_2$	$5p^5 6p\ 3/2[1/2]_1$	05SAN/AND
7 317.112	0.004	13 662.829	480		$5p^5 6d\ 3/2[5/2]^{\circ}_3$	$5p^5 5f\ 3/2[7/2]_3$	05SAN/AND
7 345.306 9	0.0008	13 610.385 4	40 000		$5p^5 6d\ 3/2[1/2]^{\circ}_1$	$5p^5 5f\ 3/2[3/2]_1$	05SAN/AND
7 369.357 4	0.0006	13 565.967 2	78 000		$5p^5 4f\ 3/2[3/2]_1$	$5p^5 5g\ 3/2[5/2]^{\circ}_2$	05SAN/AND
7 384.933 8	0.0011	13 537.354	2 200		$5p^5 6d\ 1/2[5/2]^{\circ}_3$	$5p^5 5f\ 1/2[7/2]_4$	05SAN/AND
7 437.777 6	0.0006	13 441.174 4	55 000		$5p^5 5d\ 3/2[5/2]^{\circ}_2$	$5p^5 6p\ 3/2[5/2]_3$	05SAN/AND
7 516.510	0.009	13 300.384	850		$5p^5 5f\ 3/2[5/2]_3$	$5p^5 8g\ 3/2[7/2]^{\circ}_4$	05SAN/AND
7 517.869 6	0.0007	13 297.978 9	3 100		$5p^5 6d\ 1/2[3/2]^{\circ}_2$	$5p^5 5f\ 1/2[5/2]_3$	05SAN/AND
7 520.332 5	0.0014	13 293.624	1 500		$5p^5 5f\ 3/2[9/2]_5$	$5p^5 8g\ 3/2[11/2]^{\circ}_6$	05SAN/AND
7 523.388 5	0.0006	13 288.224 1	44 000		$5p^5 6d\ 3/2[3/2]^{\circ}_2$	$5p^5 5f\ 3/2[3/2]_2$	05SAN/AND
7 527.683 2	0.0006	13 280.643 0	5 200		$5p^5 6d\ 3/2[5/2]^{\circ}_2$	$5p^5 5f\ 3/2[5/2]_3$	05SAN/AND
7 548.870 9	0.0009	13 243.367 9	1 700		$5p^5 6d\ 3/2[7/2]^{\circ}_3$	$5p^5 5f\ 3/2[3/2]_2$	05SAN/AND
7 590.696 8	0.0005	13 170.395 3	20 000		$5p^5 4f\ 3/2[3/2]_2$	$5p^5 5g\ 3/2[7/2]^{\circ}_3$	05SAN/AND
7 620.425 2	0.0010	13 119.015 9	2 500		$5p^5 6d\ 3/2[5/2]^{\circ}_3$	$5p^5 5f\ 3/2[9/2]_4$	05SAN/AND
7 651.112	0.003	13 066.399	1 400		$5p^5 5f\ 3/2[9/2]_4$	$5p^5 8g\ 3/2[11/2]^{\circ}_5$	05SAN/AND
7 651.948 5	0.0006	13 064.970 5	91 000		$5p^5 4f\ 3/2[3/2]_2$	$5p^5 5g\ 3/2[5/2]^{\circ}_3$	05SAN/AND
7 655.301 0	0.0006	13 059.248 9	19 000		$5p^5 4f\ 3/2[3/2]_2$	$5p^5 5g\ 3/2[5/2]^{\circ}_2$	05SAN/AND
7 678.026 7	0.0007	13 020.595 9	2 000		$5p^5 7p\ 3/2[5/2]_2$	$5p^5 5g\ 3/2[7/2]^{\circ}_3$	05SAN/AND
7 695.468 9	0.0008	12 991.084 2	4 100		$5p^5 6d\ 3/2[3/2]^{\circ}_2$	$5p^5 5f\ 3/2[3/2]_1$	05SAN/AND
7 704.636	0.003	12 975.627	1 700		$5p^5 6d\ 1/2[5/2]^{\circ}_2$	$5p^5 8f\ 3/2[7/2]_3$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
7 719.024	0.003	12 951.442	2 000		$5p^57d\ 3/2[3/2]^\circ_2$	$5p^58f\ 3/2[5/2]_3$	05SAN/AND
7 719.131	0.007	12 951.262	770		$5p^57d\ 3/2[1/2]^\circ_1$	$5p^58f\ 3/2[3/2]_2$	05SAN/AND
7 746.979 8	0.0006	12 904.704 8	31 000		$5p^56d\ 3/2[5/2]^\circ_3$	$5p^55f\ 3/2[5/2]_3$	05SAN/AND
7 776.872 2	0.0007	12 855.102 6	17 000		$5p^54f\ 3/2[9/2]_5$	$5p^55g\ 3/2[9/2]^\circ_5$	05SAN/AND
7 777.283	0.004	12 854.424	1 800		$5p^57d\ 3/2[7/2]^\circ_3$	$5p^58f\ 3/2[9/2]_4$	05SAN/AND
7 823.918 1	0.0019	12 777.804	1 900		$5p^57d\ 3/2[7/2]^\circ_4$	$5p^58f\ 3/2[9/2]_5$	05SAN/AND
7 824.140 2	0.0010	12 777.441 4	3 800		$5p^56d\ 3/2[5/2]^\circ_2$	$5p^55f\ 3/2[3/2]_2$	05SAN/AND
7 852.519 2	0.0007	12 731.264 0	240 000		$5p^54f\ 3/2[9/2]_5$	$5p^55g\ 3/2[11/2]^\circ_6$	05SAN/AND
7 858.635 5	0.0008	12 721.355 5	20 000		$5p^56p\ 3/2[1/2]_1$	$5p^55d\ 1/2[3/2]^\circ_1$	05SAN/AND
7 919.452	0.003	12 623.663	1 500		$5p^57d\ 3/2[5/2]^\circ_3$	$5p^58f\ 3/2[7/2]_4$	05SAN/AND
7 920.520 0	0.0009	12 621.961 6	1 300		$5p^57p\ 3/2[5/2]_3$	$5p^55g\ 3/2[7/2]^\circ_4$	05SAN/AND
7 923.418	0.002	12 617.345	7 000		$5p^54f\ 1/2[5/2]_3$	$5p^55g\ 1/2[7/2]^\circ_4$	05SAN/AND
7 934.486 1	0.0012	12 599.744 9	16 000		$5p^54f\ 3/2[9/2]_4$	$5p^55g\ 3/2[9/2]^\circ_4$	05SAN/AND
7 964.418	0.007	12 552.393	1 300		$5p^55f\ 3/2[7/2]_3$	$5p^58g\ 3/2[9/2]^\circ_4$	05SAN/AND
7 991.575 3	0.0020	12 509.737	7 800		$5p^54f\ 1/2[7/2]_3$	$5p^55g\ 1/2[9/2]^\circ_4$	05SAN/AND
7 997.438 7	0.0007	12 500.565 3	2 200 000		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^56p\ 3/2[3/2]_2$	05SAN/AND
8 012.981 0	0.0007	12 476.318 8	210 000		$5p^54f\ 3/2[9/2]_4$	$5p^55g\ 3/2[11/2]^\circ_5$	05SAN/AND
8 047.126 8	0.0007	12 423.379 1	820 000		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^56p\ 3/2[5/2]_2$	05SAN/AND
8 061.323 9	0.0013	12 401.500	2 700		$5p^56d\ 3/2[5/2]^\circ_3$	$5p^55f\ 3/2[3/2]_2$	05SAN/AND
8 078.028 1	0.0009	12 375.855 5	3 900		$5p^54f\ 3/2[5/2]_3$	$5p^55g\ 3/2[7/2]^\circ_3$	05SAN/AND
8 078.496 2	0.0006	12 375.138 5	130 000		$5p^54f\ 3/2[5/2]_3$	$5p^55g\ 3/2[7/2]^\circ_4$	05SAN/AND
8 082.011 6	0.0011	12 369.755 7	2 300		$5p^57p\ 3/2[3/2]_1$	$5p^56d\ 1/2[3/2]^\circ_1$	05SAN/AND
8 100.268	0.007	12 341.876	1 600		$5p^55f\ 3/2[7/2]_4$	$5p^58g\ 3/2[9/2]^\circ_5$	05SAN/AND
8 122.467 3	0.0012	12 308.145 7	9 900		$5p^54f\ 1/2[7/2]_4$	$5p^55g\ 1/2[9/2]^\circ_5$	05SAN/AND
8 122.628	0.002	12 307.902	790		$5p^54f\ 1/2[7/2]_4$	$5p^55g\ 1/2[9/2]^\circ_4$	05SAN/AND
8 147.432 9	0.0007	12 270.431 0	18 000		$5p^54f\ 3/2[5/2]_3$	$5p^55g\ 3/2[5/2]^\circ_3$	05SAN/AND
8 151.234 4	0.0010	12 264.708 4	900		$5p^54f\ 3/2[5/2]_3$	$5p^55g\ 3/2[5/2]^\circ_2$	05SAN/AND
8 280.104 5	0.0006	12 073.823 6	4 200		$5p^57p\ 3/2[3/2]_2$	$5p^55g\ 3/2[7/2]^\circ_3$	05SAN/AND
8 343.269	0.003	11 982.416	4 200		$5p^54f\ 1/2[5/2]_2$	$5p^55g\ 1/2[7/2]^\circ_3$	05SAN/AND
8 368.542	0.005	11 946.230	1 500		$5p^55f\ 3/2[3/2]_1$	$5p^57g\ 3/2[5/2]^\circ_2$	05SAN/AND
8 454.032 9	0.0009	11 825.424 8	5 000		$5p^56d\ 3/2[3/2]^\circ_1$	$5p^58p\ 3/2[3/2]_2$	05SAN/AND
8 521.624 4	0.0017	11 731.629	68 000		$5p^54f\ 3/2[7/2]_3$	$5p^55g\ 3/2[9/2]^\circ_4$	05SAN/AND
8 549.029	0.015	11 694.02	430		$5p^55f\ 3/2[3/2]_2$	$5p^57g\ 3/2[7/2]^\circ_3$	05SAN/AND
8 551.103 6	0.0008	11 691.185 0	19 000		$5p^54f\ 3/2[7/2]_3$	$5p^55g\ 3/2[7/2]^\circ_3$	05SAN/AND
8 581.838	0.011	11 649.315	1 800		$5p^55f\ 3/2[3/2]_2$	$5p^57g\ 3/2[5/2]^\circ_3$	05SAN/AND
8 608.306 7	0.0008	11 613.496 2	170 000		$5p^54f\ 3/2[7/2]_4$	$5p^55g\ 3/2[9/2]^\circ_5$	05SAN/AND
8 608.388 2	0.0014	11 613.386 3	5 000		$5p^54f\ 3/2[7/2]_4$	$5p^55g\ 3/2[9/2]^\circ_4$	05SAN/AND
8 638.48	0.03	11 572.93	470		$5p^54f\ 3/2[7/2]_4$	$5p^55g\ 3/2[7/2]^\circ_3$	05SAN/AND
8 639.004 3	0.0008	11 572.229 4	21 000		$5p^54f\ 3/2[7/2]_4$	$5p^55g\ 3/2[7/2]^\circ_4$	05SAN/AND
8 695.604 5	0.0008	11 496.905 3	42 000		$5p^56d\ 3/2[3/2]^\circ_1$	$5p^55f\ 3/2[5/2]_2$	05SAN/AND
8 700.859 5	0.0010	11 489.961 7	3 900		$5p^54f\ 3/2[7/2]_4$	$5p^55g\ 3/2[11/2]^\circ_5$	05SAN/AND
8 775.425 0	0.0008	11 392.330 9	84 000		$5p^54f\ 3/2[5/2]_2$	$5p^55g\ 3/2[7/2]^\circ_3$	05SAN/AND
8 838.324	0.004	11 311.257	1 000		$5p^58p\ 3/2[5/2]_3$	$5p^510d\ 3/2[7/2]^\circ_4$	05SAN/AND
8 851.612 9	0.0010	11 294.274 8	7 000		$5p^56d\ 3/2[3/2]^\circ_1$	$5p^58p\ 3/2[5/2]_2$	05SAN/AND
8 857.391 6	0.0008	11 286.906 3	34 000		$5p^54f\ 3/2[5/2]_2$	$5p^55g\ 3/2[5/2]^\circ_3$	05SAN/AND
8 861.883 9	0.0012	11 281.184 8	2 900		$5p^54f\ 3/2[5/2]_2$	$5p^55g\ 3/2[5/2]^\circ_2$	05SAN/AND
8 897.880 7	0.0017	11 235.546	840		$5p^56p\ 1/2[3/2]_1$	$5p^56d\ 3/2[3/2]^\circ_2$	05SAN/AND
8 916.108 5	0.0007	11 212.577 0	14 000		$5p^57p\ 3/2[1/2]_1$	$5p^56d\ 1/2[3/2]^\circ_2$	05SAN/AND
8 933.830	0.004	11 190.336	1 600		$5p^55f\ 3/2[5/2]_3$	$5p^57g\ 3/2[7/2]^\circ_4$	05SAN/AND
8 947.266	0.002	11 173.531	3 000		$5p^55f\ 3/2[9/2]_5$	$5p^57g\ 3/2[11/2]^\circ_6$	05SAN/AND
8 966.167 4	0.0006	11 149.976 3	24 000		$5p^56p\ 3/2[5/2]_2$	$5p^55d\ 1/2[3/2]^\circ_1$	05SAN/AND
8 978.093 4	0.0007	11 135.165 3	4 300		$5p^57p\ 3/2[1/2]_0$	$5p^56d\ 1/2[3/2]^\circ_1$	05SAN/AND
9 083.222 5	0.0007	11 006.287 7	5 200		$5p^57p\ 3/2[1/2]_1$	$5p^57d\ 3/2[3/2]^\circ_1$	05SAN/AND
9 132.945 4	0.0014	10 946.365 9	4 400		$5p^55f\ 3/2[9/2]_4$	$5p^57g\ 3/2[11/2]^\circ_5$	05SAN/AND
9 139.99	0.02	10 937.92	560		$5p^57p\ 3/2[1/2]_1$	$5p^57d\ 3/2[5/2]^\circ_2$	05SAN/AND
9 212.363 7	0.0009	10 851.999 3	54 000		$5p^55d\ 3/2[5/2]^\circ_2$	$5p^56p\ 3/2[1/2]_1$	05SAN/AND
9 220.751 4	0.0007	10 842.127 7	330 000		$5p^55d\ 3/2[5/2]^\circ_3$	$5p^56p\ 3/2[5/2]_3$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
9 314.788	0.012	10 732.672	1 300	b	$5p^{5}5g\ 3/2[9/2]^{\circ}_{5}$	$5p^{5}8h\ 3/2[11/2]_{6}$	05SAN/AND
9 314.788	0.012	10 732.672	1 300	b	$5p^{5}5g\ 3/2[9/2]^{\circ}_{4}$	$5p^{5}8h\ 3/2[11/2]_{5}$	05SAN/AND
9 392.389	0.006	10 643.998	2 000		$5p^{5}6d\ 1/2[5/2]^{\circ}_{2}$	$5p^{5}7f\ 3/2[7/2]_{3}$	05SAN/AND
9 395.951 9	0.0014	10 639.962 1	2 000		$5p^{5}7p\ 3/2[5/2]_{2}$	$5p^{5}7d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
9 441.919	0.004	10 588.163	5 500		$5p^{5}7d\ 3/2[3/2]^{\circ}_{2}$	$5p^{5}7f\ 3/2[5/2]_{3}$	05SAN/AND
9 456.732 0	0.0008	10 571.577 4	15 000		$5p^{5}7p\ 3/2[5/2]_{2}$	$5p^{5}7d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
9 518.668 5	0.0010	10 502.790 0	5 000		$5p^{5}7p\ 3/2[5/2]_{3}$	$5p^{5}6d\ 1/2[5/2]^{\circ}_{3}$	05SAN/AND
9 534.545 8	0.0009	10 485.300 4	10 000		$5p^{5}7p\ 3/2[5/2]_{2}$	$5p^{5}7d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
9 568.279 0	0.0014	10 448.334 4	1 500		$5p^{5}7p\ 3/2[5/2]_{3}$	$5p^{5}6d\ 1/2[3/2]^{\circ}_{2}$	05SAN/AND
9 569.269 8	0.0018	10 447.252 6	2 700		$5p^{5}5f\ 3/2[7/2]_{3}$	$5p^{5}7g\ 3/2[9/2]^{\circ}_{4}$	05SAN/AND
9 577.978 2	0.0013	10 437.753 8	2 100		$5p^{5}7d\ 3/2[1/2]^{\circ}_{1}$	$5p^{5}7f\ 3/2[3/2]_{2}$	05SAN/AND
9 602.302 7	0.0012	10 411.313 0	5 500		$5p^{5}7d\ 3/2[7/2]^{\circ}_{3}$	$5p^{5}7f\ 3/2[9/2]_{4}$	05SAN/AND
9 627.294	0.012	10 384.287	400		$5p^{5}7d\ 3/2[7/2]^{\circ}_{4}$	$5p^{5}7f\ 3/2[9/2]_{4}$	05SAN/AND
9 629.281 3	0.0015	10 382.143 5	2 400		$5p^{5}7p\ 3/2[1/2]_{1}$	$5p^{5}6d\ 1/2[5/2]^{\circ}_{2}$	05SAN/AND
9 648.637 1	0.0010	10 361.316 3	1 000		$5p^{5}7d\ 3/2[3/2]^{\circ}_{2}$	$5p^{5}7f\ 3/2[3/2]_{2}$	05SAN/AND
9 654.548 4	0.0008	10 354.972 2	2 200		$5p^{5}4f\ 3/2[3/2]_{1}$	$5p^{5}7d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
9 665.107	0.005	10 343.660	1 700		$5p^{5}7d\ 3/2[3/2]^{\circ}_{1}$	$5p^{5}7f\ 3/2[5/2]_{2}$	05SAN/AND
9 674.171	0.009	10 333.969	960		$5p^{5}7d\ 3/2[1/2]^{\circ}_{0}$	$5p^{5}7f\ 3/2[3/2]_{1}$	05SAN/AND
9 701.812 5	0.0015	10 304.526 4	1 100		$5p^{5}7d\ 3/2[1/2]^{\circ}_{1}$	$5p^{5}7f\ 3/2[3/2]_{1}$	05SAN/AND
9 713.899	0.002	10 291.705	6 400		$5p^{5}7d\ 3/2[5/2]^{\circ}_{3}$	$5p^{5}7f\ 3/2[7/2]_{4}$	05SAN/AND
9 718.111 0	0.0008	10 287.244 4	31 000		$5p^{5}6s\ 1/2[1/2]^{\circ}_{1}$	$5p^{5}6p\ 3/2[1/2]_{0}$	05SAN/AND
9 726.809 4	0.0015	10 278.044 9	10 000		$5p^{5}7d\ 3/2[7/2]^{\circ}_{4}$	$5p^{5}7f\ 3/2[9/2]_{5}$	05SAN/AND
9 766.050	0.004	10 236.747	6 200		$5p^{5}5f\ 3/2[7/2]_{4}$	$5p^{5}7g\ 3/2[9/2]^{\circ}_{5}$	05SAN/AND
9 789.063	0.002	10 212.682	270		$5p^{5}5f\ 3/2[5/2]_{3}$	$5p^{5}9d\ 3/2[7/2]^{\circ}_{4}$	05SAN/AND
9 799.783 4	0.0009	10 201.509 7	2 900		$5p^{5}4f\ 3/2[5/2]_{3}$	$5p^{5}6d\ 1/2[3/2]^{\circ}_{2}$	05SAN/AND
9 808.981	0.016	10 191.944	590		$5p^{5}5f\ 3/2[7/2]_{4}$	$5p^{5}7g\ 3/2[11/2]^{\circ}_{5}$	05SAN/AND
9 826.610	0.009	10 173.660	1 000		$5p^{5}7p\ 3/2[5/2]_{3}$	$5p^{5}7d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
9 847.288 1	0.0010	10 152.296 4	12 000		$5p^{5}7p\ 1/2[3/2]_{1}$	$5p^{5}7d\ 1/2[5/2]^{\circ}_{2}$	05SAN/AND
9 851.576 9	0.0009	10 147.876 7	4 300		$5p^{5}7p\ 3/2[3/2]_{1}$	$5p^{5}6d\ 1/2[3/2]^{\circ}_{2}$	05SAN/AND
9 858.047 6	0.0010	10 141.215 8	22 000		$5p^{5}7p\ 3/2[1/2]_{1}$	$5p^{5}7d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
9 881.134 3	0.0010	10 117.521 5	1 200		$5p^{5}6p\ 1/2[3/2]_{1}$	$5p^{5}6d\ 3/2[1/2]^{\circ}_{0}$	05SAN/AND
9 909.804	0.008	10 088.251	1 600		$5p^{5}7d\ 3/2[5/2]^{\circ}_{2}$	$5p^{5}7f\ 3/2[7/2]_{3}$	05SAN/AND
9 910.657 4	0.0009	10 087.382 3	27 000		$5p^{5}7p\ 3/2[5/2]_{3}$	$5p^{5}7d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
9 932.913 3	0.0010	10 064.780 3	63 000		$5p^{5}7p\ 3/2[1/2]_{1}$	$5p^{5}7d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
9 962.057	0.003	10 035.336	31 000		$5p^{5}7p\ 3/2[1/2]_{1}$	$5p^{5}7d\ 3/2[1/2]^{\circ}_{0}$	05SAN/AND
9 973.111	0.015	10 024.214	240		$5p^{5}5f\ 3/2[9/2]_{4}$	$5p^{5}9d\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
9 973.315	0.005	10 024.009	1 100		$5p^{5}4f\ 3/2[9/2]_{4}$	$5p^{5}7d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
9 981.469 7	0.0011	10 015.818 8	24 000		$5p^{5}7p\ 3/2[5/2]_{2}$	$5p^{5}6d\ 1/2[5/2]^{\circ}_{2}$	05SAN/AND
9 994.794 1	0.0014	10 002.466 4	140 000		$5p^{5}7p\ 3/2[5/2]_{2}$	$5p^{5}7d\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
vacuum							
10 046.277 6	0.0008	9 953.935 6	5 600		$5p^{5}7p\ 3/2[3/2]_{2}$	$5p^{5}6d\ 1/2[5/2]^{\circ}_{3}$	05SAN/AND
10 058.755 8	0.0013	9 941.587 4	21 000		$5p^{5}7p\ 3/2[3/2]_{1}$	$5p^{5}7d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
10 075.882 8	0.0012	9 924.688 7	2 200		$5p^{5}4f\ 3/2[3/2]_{2}$	$5p^{5}7d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
10 101.541 9	0.0011	9 899.478 8	16 000		$5p^{5}7p\ 3/2[3/2]_{2}$	$5p^{5}6d\ 1/2[3/2]^{\circ}_{2}$	05SAN/AND
10 124.202	0.003	9 877.322	1 300		$5p^{5}5f\ 3/2[5/2]_{2}$	$5p^{5}7g\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
10 128.426 4	0.0018	9 873.202 0	54 000		$5p^{5}7p\ 3/2[3/2]_{1}$	$5p^{5}7d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
10 154.084 2	0.0013	9 848.253 9	3 400		$5p^{5}4f\ 3/2[3/2]_{2}$	$5p^{5}7d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
10 178.808 8	0.0008	9 824.332 2	300 000		$5p^{5}5d\ 3/2[5/2]^{\circ}_{3}$	$5p^{5}6p\ 3/2[5/2]_{2}$	05SAN/AND
10 179.710 4	0.0018	9 823.462 2	15 000		$5p^{5}4f\ 3/2[9/2]_{5}$	$5p^{5}7d\ 3/2[7/2]^{\circ}_{4}$	05SAN/AND
10 230.293 1	0.0018	9 774.891 0	7 600		$5p^{5}7p\ 3/2[5/2]_{2}$	$5p^{5}7d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
10 273.526	0.002	9 733.756 3	13 000		$5p^{5}7p\ 1/2[3/2]_{2}$	$5p^{5}7d\ 1/2[5/2]^{\circ}_{3}$	05SAN/AND
10 310.921 0	0.0015	9 698.454 7	2 700		$5p^{5}7p\ 3/2[5/2]_{2}$	$5p^{5}7d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
10 316.520 3	0.0017	9 693.190 9	1 600		$5p^{5}7p\ 3/2[3/2]_{2}$	$5p^{5}7d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
10 330.357 3	0.0014	9 680.207 3	6 600		$5p^{5}6d\ 3/2[3/2]^{\circ}_{1}$	$5p^{5}5f\ 3/2[3/2]_{2}$	05SAN/AND
10 382.505 4	0.0013	9 631.586 6	270 000		$5p^{5}7p\ 3/2[5/2]_{3}$	$5p^{5}7d\ 3/2[7/2]^{\circ}_{4}$	05SAN/AND
10 397.278 5	0.0011	9 617.901 5	1 300		$5p^{5}7p\ 3/2[5/2]_{3}$	$5p^{5}6d\ 1/2[5/2]^{\circ}_{2}$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
10 402.28	0.06	9 613.28	860		$5p^57p\ 1/2[3/2]_2$	$5p^57d\ 1/2[3/2]^{\circ}_2$	05SAN/AND
10 411.733 3	0.0016	9 604.548 8	31 000		$5p^57p\ 3/2[5/2]_3$	$5p^57d\ 3/2[7/2]^{\circ}_3$	05SAN/AND
10 417.408	0.002	9 599.317	9 300		$5p^57p\ 1/2[1/2]_1$	$5p^57d\ 1/2[3/2]^{\circ}_2$	05SAN/AND
10 449.530	0.002	9 569.808 3	920		$5p^54f\ 1/2[7/2]_4$	$5p^57d\ 1/2[5/2]^{\circ}_3$	05SAN/AND
10 451.271	0.004	9 568.214	410		$5p^54f\ 3/2[9/2]_4$	$5p^57d\ 3/2[7/2]^{\circ}_4$	05SAN/AND
10 462.57	0.02	9 557.88	550		$5p^54f\ 1/2[7/2]_3$	$5p^57d\ 1/2[5/2]^{\circ}_2$	05SAN/AND
10 480.890 1	0.0018	9 541.174 3	10 000		$5p^54f\ 3/2[9/2]_4$	$5p^57d\ 3/2[7/2]^{\circ}_3$	05SAN/AND
10 483.797 9	0.0012	9 538.528 0	130 000		$5p^57p\ 3/2[3/2]_2$	$5p^57d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
10 504.170 4	0.0015	9 520.028 4	1 700		$5p^57p\ 1/2[3/2]_2$	$5p^57d\ 1/2[5/2]^{\circ}_2$	05SAN/AND
10 507.389 2	0.0009	9 517.112 0	470 000		$5p^55d\ 3/2[3/2]^{\circ}_1$	$5p^56p\ 3/2[1/2]_0$	05SAN/AND
10 578.585 5	0.0013	9 453.059 7	1 300		$5p^54f\ 3/2[7/2]_4$	$5p^56d\ 1/2[5/2]^{\circ}_3$	05SAN/AND
10 594.220 5	0.0014	9 439.108 8	290		$5p^56p\ 1/2[1/2]_1$	$5p^56d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
10 641.704 9	0.0009	9 396.990 5	4 500		$5p^56p\ 1/2[3/2]_2$	$5p^56d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
10 652.240 3	0.0017	9 387.696 6	390		$5p^55f\ 3/2[7/2]_4$	$5p^59d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
10 655.566	0.002	9 384.766 5	3 500		$5p^54f\ 3/2[5/2]_3$	$5p^57d\ 3/2[7/2]^{\circ}_4$	05SAN/AND
10 657.496	0.005	9 383.067	950		$5p^56d\ 3/2[3/2]^{\circ}_1$	$5p^55f\ 3/2[3/2]_1$	05SAN/AND
10 664.420 8	0.0012	9 376.974 3	1 000		$5p^57p\ 3/2[5/2]_3$	$5p^57d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
10 722.659 1	0.0012	9 326.044 8	1 400		$5p^58p\ 3/2[1/2]_1$	$5p^59d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
10 732.557 4	0.0014	9 317.443 8	35 000		$5p^57p\ 3/2[3/2]_1$	$5p^56d\ 1/2[5/2]^{\circ}_2$	05SAN/AND
10 810.836 9	0.0014	9 249.977 7	190 000		$5p^56p\ 3/2[3/2]_1$	$5p^55d\ 1/2[3/2]^{\circ}_1$	05SAN/AND
10 817.977 6	0.0013	9 243.872 0	1 800		$5p^58p\ 3/2[1/2]_1$	$5p^59d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
10 819.973 8	0.0018	9 242.166 5	5 900		$5p^54f\ 3/2[7/2]_3$	$5p^57d\ 3/2[5/2]^{\circ}_2$	05SAN/AND
10 824.692 7	0.0012	9 238.137 6	1 900		$5p^54f\ 1/2[5/2]_2$	$5p^57d\ 1/2[5/2]^{\circ}_3$	05SAN/AND
10 848.354 5	0.0012	9 217.987 9	780		$5p^54f\ 3/2[5/2]_2$	$5p^56d\ 1/2[3/2]^{\circ}_2$	05SAN/AND
10 872.014 9	0.0013	9 197.927 0	750		$5p^58p\ 3/2[3/2]_1$	$5p^59d\ 3/2[3/2]^{\circ}_1$	05SAN/AND
10 878.392 8	0.0012	9 192.534 4	980		$5p^58p\ 3/2[5/2]_2$	$5p^59d\ 3/2[5/2]^{\circ}_2$	05SAN/AND
10 879.631	0.002	9 191.488 0	800		$5p^58p\ 3/2[1/2]_1$	$5p^59d\ 3/2[1/2]^{\circ}_0$	05SAN/AND
10 952.722 8	0.0018	9 130.149 8	5 900		$5p^54f\ 3/2[5/2]_3$	$5p^57d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
10 955.700	0.003	9 127.668	3 300		$5p^58p\ 3/2[5/2]_2$	$5p^59d\ 3/2[7/2]^{\circ}_3$	05SAN/AND
10 959.233	0.004	9 124.726	120		$5p^56f\ 3/2[5/2]_3$	$5p^512d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
11 017.443 2	0.0016	9 076.516 1	15 000		$5p^57p\ 3/2[3/2]_1$	$5p^57d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
11 026.515 1	0.0012	9 069.048 5	570		$5p^57p\ 3/2[3/2]_2$	$5p^56d\ 1/2[5/2]^{\circ}_2$	05SAN/AND
11 042.768 8	0.0018	9 055.699 8	1 100		$5p^57p\ 3/2[3/2]_2$	$5p^57d\ 3/2[7/2]^{\circ}_3$	05SAN/AND
11 064.823 1	0.0014	9 037.650 2	11 000		$5p^54f\ 3/2[7/2]_4$	$5p^57d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
11 096.690 1	0.0010	9 011.696 2	4 800		$5p^54f\ 3/2[5/2]_2$	$5p^57d\ 3/2[3/2]^{\circ}_1$	05SAN/AND
11 105.268 7	0.0017	9 004.734 9	830		$5p^58p\ 3/2[5/2]_3$	$5p^59d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
11 128.334 2	0.0014	8 986.070 9	99		$5p^54f\ 3/2[3/2]_1$	$5p^58s\ 3/2[3/2]^{\circ}_2$	05SAN/AND
11 147.487 5	0.0014	8 970.631 3	660		$5p^57p\ 3/2[3/2]_1$	$5p^57d\ 3/2[1/2]^{\circ}_0$	05SAN/AND
11 184.693	0.005	8 940.791	120		$5p^58d\ 3/2[7/2]^{\circ}_4$	$5p^510f\ 3/2[9/2]_5$	05SAN/AND
11 204.440 2	0.0017	8 925.033 2	740		$5p^55f\ 3/2[5/2]_2$	$5p^59d\ 3/2[7/2]^{\circ}_3$	05SAN/AND
11 211.310 5	0.0014	8 919.563 8	250		$5p^55f\ 3/2[5/2]_2$	$5p^59d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
11 225.931 6	0.0018	8 907.946 7	2 800		$5p^57p\ 3/2[1/2]_1$	$5p^58s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
11 232.736	0.007	8 902.550	270				05SAN/AND
11 252.581 1	0.0013	8 886.850 0	750		$5p^58p\ 3/2[5/2]_3$	$5p^59d\ 3/2[7/2]^{\circ}_3$	05SAN/AND
11 285.376	0.005	8 861.025	4 500		$5p^58p\ 3/2[5/2]_3$	$5p^59d\ 3/2[7/2]^{\circ}_4$	05SAN/AND
11 290.459	0.003	8 857.036	6 000		$5p^54f\ 3/2[5/2]_2$	$5p^57d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
11 315.566	0.002	8 837.383 7	1 900		$5p^58p\ 3/2[3/2]_1$	$5p^59d\ 3/2[5/2]^{\circ}_2$	05SAN/AND
11 327.442 2	0.0016	8 828.118 3	61 000		$5p^57p\ 3/2[3/2]_2$	$5p^57d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
11 338.121 1	0.0014	8 819.803 5	3 100		$5p^56p\ 1/2[1/2]_1$	$5p^56d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
11 421.856 9	0.0016	8 755.143 9	3 800		$5p^55g\ 3/2[5/2]^{\circ}_2$	$5p^57h\ 3/2[7/2]_3$	05SAN/AND
11 426.374 5	0.0013	8 751.682 4	19 000		$5p^57p\ 3/2[3/2]_2$	$5p^57d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
11 429.232	0.003	8 749.494	5 000		$5p^55g\ 3/2[5/2]^{\circ}_3$	$5p^57h\ 3/2[7/2]_4$	05SAN/AND
11 450.299	0.003	8 733.396 0	9 000		$5p^55g\ 3/2[11/2]^{\circ}_6$	$5p^57h\ 3/2[13/2]_7$	05SAN/AND
11 450.705 0	0.0016	8 733.086 7	7 700		$5p^55g\ 3/2[11/2]^{\circ}_5$	$5p^57h\ 3/2[13/2]_6$	05SAN/AND
11 461.823	0.004	8 724.615	910		$5p^58p\ 3/2[1/2]_1$	$5p^510s\ 3/2[3/2]^{\circ}_2$	05SAN/AND
11 475.242	0.005	8 714.413	2 600		$5p^58p\ 3/2[3/2]_2$	$5p^59d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
11 485.014 4	0.0017	8 706.998 2	19 000		$5p^57p\ 3/2[1/2]_0$	$5p^57d\ 3/2[3/2]^{\circ}_1$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
11 499.704	0.002	8 695.876 2	53 000		$5p^57p\ 3/2[1/2]_1$	$5p^58s\ 3/2[3/2]^\circ_2$	05SAN/AND
11 505.598 9	0.0019	8 691.420 6	1 500		$5p^54f\ 3/2[3/2]_2$	$5p^58s\ 3/2[3/2]^\circ_1$	05SAN/AND
11 506.444 3	0.0013	8 690.782 1	900		$5p^58p\ 3/2[1/2]_0$	$5p^59d\ 3/2[3/2]^\circ_1$	05SAN/AND
11 512.237 5	0.0013	8 686.408 7	4 000		$5p^54f\ 3/2[7/2]_3$	$5p^56d\ 1/2[5/2]^\circ_2$	05SAN/AND
11 529.958 5	0.0019	8 673.058 1	2 200		$5p^54f\ 3/2[7/2]_3$	$5p^57d\ 3/2[7/2]^\circ_3$	05SAN/AND
11 532.608 9	0.0013	8 671.064 8	4 100		$5p^55f\ 3/2[3/2]_1$	$5p^56g\ 3/2[5/2]^\circ_2$	05SAN/AND
11 536.168	0.006	8 668.390	6 100		$5p^55g\ 3/2[7/2]^\circ_4$	$5p^57h\ 3/2[9/2]_5$	05SAN/AND
11 537.123	0.003	8 667.672	4 800		$5p^55g\ 3/2[7/2]^\circ_3$	$5p^57h\ 3/2[9/2]_4$	05SAN/AND
11 567.664	0.002	8 644.787 8	390		$5p^55g\ 3/2[7/2]^\circ_4$	$5p^57h\ 3/2[7/2]_4$	05SAN/AND
11 568.717	0.003	8 644.000 8	320		$5p^55g\ 3/2[7/2]^\circ_3$	$5p^57h\ 3/2[7/2]_3$	05SAN/AND
11 582.402	0.005	8 633.788	4 300		$5p^55g\ 3/2[9/2]^\circ_4$	$5p^57h\ 3/2[11/2]_5$	05SAN/AND
11 582.539	0.005	8 633.686	5 500		$5p^55g\ 3/2[9/2]^\circ_5$	$5p^57h\ 3/2[11/2]_6$	05SAN/AND
11 591.291	0.005	8 627.167	1 100	b	$5p^55g\ 3/2[9/2]^\circ_4$	$5p^57h\ 3/2[9/2]_5$	05SAN/AND
11 591.291	0.005	8 627.167	1 100	b	$5p^55g\ 3/2[9/2]^\circ_4$	$5p^57h\ 3/2[9/2]_4$	05SAN/AND
11 591.291	0.005	8 627.167	1 100	b	$5p^55g\ 3/2[9/2]^\circ_5$	$5p^57h\ 3/2[9/2]_5$	05SAN/AND
11 591.291	0.005	8 627.167	1 100	b	$5p^55g\ 3/2[9/2]^\circ_5$	$5p^57h\ 3/2[9/2]_4$	05SAN/AND
11 640.021 7	0.0015	8 591.049 3	1 300		$5p^58p\ 3/2[3/2]_2$	$5p^59d\ 3/2[3/2]^\circ_2$	05SAN/AND
11 652.490	0.003	8 581.857	2 200		$5p^54f\ 3/2[7/2]_4$	$5p^57d\ 3/2[7/2]^\circ_4$	05SAN/AND
11 665.567 4	0.0015	8 572.236 3	900		$5p^58p\ 3/2[5/2]_2$	$5p^510s\ 3/2[3/2]^\circ_1$	05SAN/AND
11 689.315	0.018	8 554.821	210		$5p^54f\ 3/2[7/2]_4$	$5p^57d\ 3/2[7/2]^\circ_3$	05SAN/AND
11 707.380 6	0.0016	8 541.620 3	41 000		$5p^57p\ 3/2[5/2]_2$	$5p^58s\ 3/2[3/2]^\circ_1$	05SAN/AND
11 721.404 4	0.0011	8 531.400 9	2 250		$5p^57s\ 3/2[3/2]^\circ_2$	$5p^54f\ 3/2[5/2]_2$	05SAN/AND
11 725.564	0.003	8 528.374	2 900		$5p^57p\ 1/2[3/2]_1$	$5p^58s\ 1/2[1/2]^\circ_1$	05SAN/AND
11 731.395 9	0.0016	8 524.134 8	370		$5p^58s\ 3/2[3/2]^\circ_2$	$5p^56f\ 3/2[5/2]_3$	05SAN/AND
11 736.048	0.015	8 520.756	270		$5p^58p\ 3/2[5/2]_2$	$5p^510s\ 3/2[3/2]^\circ_2$	05SAN/AND
11 752.433 5	0.0020	8 508.876 1	300		$5p^58p\ 3/2[3/2]_2$	$5p^59d\ 3/2[1/2]^\circ_1$	05SAN/AND
11 801.159 9	0.0011	8 473.743 3	33 000		$5p^56p\ 3/2[3/2]_2$	$5p^55d\ 1/2[3/2]^\circ_1$	05SAN/AND
11 826.078 1	0.0019	8 455.888 7	1 800		$5p^57p\ 1/2[3/2]_1$	$5p^58s\ 1/2[1/2]^\circ_0$	05SAN/AND
11 843.524 0	0.0014	8 443.432 9	1 600		$5p^55f\ 3/2[3/2]_2$	$5p^56g\ 3/2[7/2]^\circ_3$	05SAN/AND
11 844.077 4	0.0010	8 443.038 4	71 000		$5p^57s\ 3/2[3/2]^\circ_1$	$5p^57p\ 3/2[1/2]_0$	05SAN/AND
11 922.426	0.004	8 387.555	1 000		$5p^54f\ 3/2[5/2]_2$	$5p^56d\ 1/2[5/2]^\circ_2$	05SAN/AND
11 940.636	0.005	8 374.763	5 600		$5p^55f\ 3/2[3/2]_2$	$5p^56g\ 3/2[5/2]^\circ_3$	05SAN/AND
11 941.436	0.004	8 374.202	880		$5p^54f\ 3/2[5/2]_2$	$5p^57d\ 3/2[7/2]^\circ_3$	05SAN/AND
11 941.82	1.43	8 373.9	1 700	u	$5p^55f\ 3/2[3/2]_2$	$5p^56g\ 3/2[5/2]^\circ_2$	05SAN/AND
12 005.448 0	0.0016	8 329.551 7	22 000		$5p^57p\ 3/2[5/2]_2$	$5p^58s\ 3/2[3/2]^\circ_2$	05SAN/AND
12 017.669 3	0.0015	8 321.081 1	1 300		$5p^56p\ 1/2[1/2]_1$	$5p^56d\ 3/2[1/2]^\circ_0$	05SAN/AND
12 077.380	0.006	8 279.942	2 100		$5p^58p\ 3/2[5/2]_3$	$5p^510s\ 3/2[3/2]^\circ_2$	05SAN/AND
12 169.766 7	0.0014	8 217.084 4	790		$5p^58p\ 3/2[3/2]_1$	$5p^510s\ 3/2[3/2]^\circ_1$	05SAN/AND
12 275.021	0.003	8 146.625 8	1 300		$5p^54f\ 3/2[5/2]_2$	$5p^57d\ 3/2[3/2]^\circ_2$	05SAN/AND
12 287.518 6	0.0012	8 138.339 7	5 600		$5p^57s\ 3/2[3/2]^\circ_1$	$5p^54f\ 3/2[5/2]_2$	05SAN/AND
12 391.287	0.005	8 070.187	350		$5p^54f\ 3/2[5/2]_2$	$5p^57d\ 3/2[1/2]^\circ_1$	05SAN/AND
12 423.124 1	0.0012	8 049.505 0	990		$5p^56p\ 1/2[3/2]_1$	$5p^57s\ 3/2[3/2]^\circ_1$	05SAN/AND
12 436.123 2	0.0019	8 041.091 1	600		$5p^58p\ 3/2[3/2]_2$	$5p^510s\ 3/2[3/2]^\circ_1$	05SAN/AND
12 516.242 9	0.0015	7 989.618 0	680		$5p^58p\ 3/2[3/2]_2$	$5p^510s\ 3/2[3/2]^\circ_2$	05SAN/AND
12 531.792	0.009	7 979.705	380		$5p^56f\ 3/2[7/2]_4$	$5p^59g\ 3/2[9/2]^\circ_5$	05SAN/AND
12 536.543 1	0.0016	7 976.680 6	1 200		$5p^55f\ 3/2[9/2]_5$	$5p^56g\ 3/2[9/2]^\circ_5$	05SAN/AND
12 594.082 3	0.0014	7 940.237 1	330		$5p^55f\ 3/2[5/2]_3$	$5p^56g\ 3/2[7/2]^\circ_3$	05SAN/AND
12 595.099	0.003	7 939.596 1	12 000		$5p^55f\ 3/2[5/2]_3$	$5p^56g\ 3/2[7/2]^\circ_4$	05SAN/AND
12 607.743 1	0.0017	7 931.633 7	110 000		$5p^57p\ 3/2[5/2]_3$	$5p^58s\ 3/2[3/2]^\circ_2$	05SAN/AND
12 633.413	0.020	7 915.517	480		$5p^56d\ 1/2[3/2]^\circ_1$	$5p^57f\ 3/2[5/2]_2$	05SAN/AND
12 650.211	0.004	7 905.006	23 000		$5p^55f\ 3/2[9/2]_5$	$5p^56g\ 3/2[11/2]^\circ_6$	05SAN/AND
12 658.714 0	0.0010	7 899.696 6	6 700		$5p^56s\ 1/2[1/2]^\circ_1$	$5p^56p\ 3/2[3/2]_2$	05SAN/AND
12 664.474	0.003	7 896.103 9	6 400		$5p^57p\ 1/2[3/2]_2$	$5p^58s\ 1/2[1/2]^\circ_1$	05SAN/AND
12 686.907 5	0.0018	7 882.141 5	1 700		$5p^57p\ 1/2[1/2]_1$	$5p^58s\ 1/2[1/2]^\circ_1$	05SAN/AND
12 703.966	0.003	7 871.557 5	1 500		$5p^55f\ 3/2[5/2]_3$	$5p^56g\ 3/2[5/2]^\circ_3$	05SAN/AND
12 739.002 2	0.0011	7 849.908 3	200 000		$5p^57s\ 3/2[3/2]^\circ_2$	$5p^57p\ 3/2[3/2]_2$	05SAN/AND
12 749.823 3	0.0019	7 843.245 9	40 000		$5p^57p\ 3/2[3/2]_1$	$5p^58s\ 3/2[3/2]^\circ_1$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
12 804.664 0	0.0020	7 809.654 4	3 100		$5p^57p\ 1/2[1/2]_1$	$5p^58s\ 1/2[1/2]^{\circ}_0$	05SAN/AND
12 846.153 6	0.0013	7 784.431 3	4 500		$5p^57s\ 1/2[1/2]^{\circ}_1$	$5p^54f\ 1/2[5/2]_2$	05SAN/AND
12 877.486 6	0.0015	7 765.490 5	4 800		$5p^57p\ 3/2[1/2]_0$	$5p^57d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
12 904.620	0.005	7 749.163	2 400	b	$5p^55f\ 3/2[9/2]_4$	$5p^56g\ 3/2[9/2]^{\circ}_5$	05SAN/AND
12 904.620	0.005	7 749.163	2 400	b	$5p^55f\ 3/2[9/2]_4$	$5p^56g\ 3/2[9/2]^{\circ}_4$	05SAN/AND
12 941.473	0.007	7 727.096	600		$5p^58d\ 3/2[7/2]^{\circ}_4$	$5p^59f\ 3/2[9/2]_5$	05SAN/AND
12 960.290	0.008	7 715.877	280		$5p^55g\ 3/2[9/2]^{\circ}_5$	$5p^57f\ 3/2[7/2]_4$	05SAN/AND
12 970.268	0.002	7 709.940 9	160		$5p^58p\ 3/2[1/2]_0$	$5p^510s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
13 012.680	0.002	7 684.811 8	2 000		$5p^54f\ 3/2[5/2]_3$	$5p^58s\ 3/2[3/2]^{\circ}_2$	05SAN/AND
13 016.717 0	0.0011	7 682.428 7	12 000		$5p^57s\ 1/2[1/2]^{\circ}_1$	$5p^57p\ 1/2[1/2]_0$	05SAN/AND
13 024.391	0.003	7 677.902 1	20 000		$5p^55f\ 3/2[9/2]_4$	$5p^56g\ 3/2[11/2]^{\circ}_5$	05SAN/AND
13 116.311 8	0.0017	7 624.094 5	280		$5p^56s\ 1/2[1/2]^{\circ}_0$	$5p^56p\ 3/2[3/2]_1$	05SAN/AND
13 155.280 4	0.0016	7 601.510 4	2 200		$5p^57s\ 3/2[3/2]^{\circ}_2$	$5p^57p\ 3/2[3/2]_1$	05SAN/AND
13 159.975	0.018	7 598.798	180		$5p^55g\ 3/2[9/2]^{\circ}_4$	$5p^57f\ 3/2[7/2]_3$	05SAN/AND
13 166.820	0.002	7 594.848 5	17 000		$5p^57p\ 3/2[3/2]_2$	$5p^58s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
13 248.759 1	0.0011	7 547.876 7	6 700		$5p^57s\ 3/2[3/2]^{\circ}_2$	$5p^54f\ 3/2[5/2]_3$	05SAN/AND
13 328.914	0.002	7 502.486 8	1 100		$5p^57p\ 1/2[1/2]_0$	$5p^58s\ 1/2[1/2]^{\circ}_1$	05SAN/AND
13 375.858	0.009	7 476.156	330		$5p^55g\ 3/2[11/2]^{\circ}_5$	$5p^57f\ 3/2[9/2]_4$	05SAN/AND
13 408.220 3	0.0011	7 458.111 3	23 000		$5p^57s\ 1/2[1/2]^{\circ}_0$	$5p^57p\ 1/2[1/2]_1$	05SAN/AND
13 410.494 6	0.0011	7 456.846 5	85 000		$5p^57s\ 3/2[3/2]^{\circ}_1$	$5p^57p\ 3/2[3/2]_2$	05SAN/AND
13 545.033	0.003	7 382.780 2	29 000		$5p^57p\ 3/2[3/2]_2$	$5p^58s\ 3/2[3/2]^{\circ}_2$	05SAN/AND
13 568.084	0.011	7 370.237	390		$5p^55g\ 3/2[11/2]^{\circ}_6$	$5p^57f\ 3/2[9/2]_5$	05SAN/AND
13 693.426	0.003	7 302.774 3	11 000		$5p^57s\ 1/2[1/2]^{\circ}_1$	$5p^57p\ 1/2[1/2]_1$	05SAN/AND
13 696.651 7	0.0013	7 301.054 5	420 000		$5p^57s\ 3/2[3/2]^{\circ}_2$	$5p^57p\ 3/2[5/2]_3$	05SAN/AND
13 719.661 2	0.0012	7 288.809 7	42 000		$5p^57s\ 1/2[1/2]^{\circ}_1$	$5p^57p\ 1/2[3/2]_2$	05SAN/AND
13 865.223	0.003	7 212.289 2	2 010		$5p^57d\ 3/2[7/2]^{\circ}_4$	$5p^56f\ 3/2[7/2]_4$	05SAN/AND
13 872.610 1	0.0012	7 208.448 8	140 000		$5p^57s\ 3/2[3/2]^{\circ}_1$	$5p^57p\ 3/2[3/2]_1$	05SAN/AND
14 031.503	0.003	7 126.820 0	2 750		$5p^57d\ 3/2[7/2]^{\circ}_3$	$5p^56f\ 3/2[7/2]_3$	05SAN/AND
14 038.117 9	0.0010	7 123.462 0	11 000		$5p^56s\ 1/2[1/2]^{\circ}_1$	$5p^56p\ 3/2[3/2]_1$	05SAN/AND
14 057.828	0.003	7 113.474 2	11 000		$5p^56d\ 1/2[5/2]^{\circ}_2$	$5p^56f\ 3/2[7/2]_3$	05SAN/AND
14 126.688	0.003	7 078.800 0	17 000		$5p^57d\ 3/2[3/2]^{\circ}_2$	$5p^56f\ 3/2[5/2]_3$	05SAN/AND
14 296.280	0.006	6 994.826	21 000		$5p^55f\ 3/2[7/2]_4$	$5p^56g\ 3/2[9/2]^{\circ}_5$	05SAN/AND
14 345.401	0.012	6 970.875	2 500		$5p^55f\ 3/2[7/2]_4$	$5p^56g\ 3/2[7/2]^{\circ}_4$	05SAN/AND
14 443.578	0.019	6 923.492	1 400		$5p^55f\ 3/2[7/2]_4$	$5p^56g\ 3/2[11/2]^{\circ}_5$	05SAN/AND
14 464.756	0.002	6 913.355 3	1 600		$5p^54f\ 3/2[5/2]_2$	$5p^58s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
14 469.274	0.003	6 911.196 9	1 500		$5p^57d\ 3/2[5/2]^{\circ}_2$	$5p^56f\ 3/2[5/2]_2$	05SAN/AND
14 486.170 2	0.0013	6 903.135 8	88 000		$5p^57s\ 3/2[3/2]^{\circ}_2$	$5p^57p\ 3/2[5/2]_2$	05SAN/AND
14 613.869 9	0.0018	6 842.814 4	6 700		$5p^57d\ 3/2[3/2]^{\circ}_1$	$5p^56f\ 3/2[5/2]_2$	05SAN/AND
14 642.634 8	0.0019	6 829.372 0	2 000		$5p^58p\ 3/2[5/2]_2$	$5p^56g\ 3/2[7/2]^{\circ}_3$	05SAN/AND
14 680.240 4	0.0013	6 811.877 5	12 000		$5p^57s\ 1/2[1/2]^{\circ}_0$	$5p^57p\ 1/2[3/2]_1$	05SAN/AND
14 747.206	0.003	6 780.945 6	15 000		$5p^57d\ 3/2[1/2]^{\circ}_1$	$5p^56f\ 3/2[3/2]_2$	05SAN/AND
14 800.574	0.003	6 756.494 7	24 000		$5p^57d\ 3/2[5/2]^{\circ}_3$	$5p^56f\ 3/2[7/2]_4$	05SAN/AND
14 910.982	0.003	6 706.466 5	35 000		$5p^57d\ 3/2[7/2]^{\circ}_3$	$5p^56f\ 3/2[9/2]_4$	05SAN/AND
14 915.336	0.004	6 704.508 7	6 000		$5p^57d\ 3/2[3/2]^{\circ}_2$	$5p^56f\ 3/2[3/2]_2$	05SAN/AND
14 971.334	0.003	6 679.431 4	2 000		$5p^57d\ 3/2[7/2]^{\circ}_4$	$5p^56f\ 3/2[9/2]_4$	05SAN/AND
15 022.819 7	0.0015	6 656.540 0	18 000		$5p^57s\ 1/2[1/2]^{\circ}_1$	$5p^57p\ 1/2[3/2]_1$	05SAN/AND
15 040.551	0.014	6 648.693	360		$5p^56f\ 3/2[7/2]_3$	$5p^58g\ 3/2[9/2]^{\circ}_4$	05SAN/AND
15 090.374	0.004	6 626.740 9	9 400		$5p^55f\ 3/2[5/2]_2$	$5p^56g\ 3/2[7/2]^{\circ}_3$	05SAN/AND
15 131.670	0.002	6 608.656 1	7 800		$5p^57p\ 3/2[1/2]_0$	$5p^58s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
15 248.400	0.005	6 558.065	5 100		$5p^55f\ 3/2[5/2]_2$	$5p^56g\ 3/2[5/2]^{\circ}_3$	05SAN/AND
15 249.220	0.005	6 557.712	7 700		$5p^57d\ 3/2[5/2]^{\circ}_2$	$5p^56f\ 3/2[7/2]_3$	05SAN/AND
15 297.981 3	0.0013	6 536.810 2	190 000		$5p^57s\ 3/2[3/2]^{\circ}_2$	$5p^57p\ 3/2[1/2]_1$	05SAN/AND
15 360.808 4	0.0016	6 510.074 0	160 000		$5p^57s\ 3/2[3/2]^{\circ}_1$	$5p^57p\ 3/2[5/2]_2$	05SAN/AND
15 449.688	0.002	6 472.622 7	62 000		$5p^57d\ 3/2[7/2]^{\circ}_4$	$5p^56f\ 3/2[9/2]_5$	05SAN/AND
15 675.740	0.019	6 379.284	170		$5p^55f\ 3/2[5/2]_3$	$5p^58d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
15 702.562	0.005	6 368.388	4 400		$5p^57d\ 3/2[5/2]^{\circ}_3$	$5p^56f\ 3/2[5/2]_3$	05SAN/AND
15 707.153	0.003	6 366.526 2	410		$5p^57p\ 3/2[3/2]_1$	$5p^57s\ 1/2[1/2]^{\circ}_1$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
15 722.589 4	0.0014	6 360.275 5	5 500		5p^{5}7s 3/2[3/2]$^\circ_1$	5p^{5}4f 3/2[3/2]$_2$	05SAN/AND
15 739.779 4	0.0015	6 353.329 2	94 000		5p^{5}5d 3/2[3/2]$^\circ_1$	5p^{5}6p 3/2[3/2]$_1$	05SAN/AND
15 783.055	0.004	6 335.909 1	1 500		5p^{5}5f 3/2[9/2]$_5$	5p^{5}8d 3/2[7/2]$^\circ_4$	05SAN/AND
15 797.409	0.011	6 330.152	7 800		5p^{5}7d 3/2[1/2]$^\circ_0$	5p^{5}6f 3/2[3/2]$_1$	05SAN/AND
15 871.253	0.004	6 300.699 7	7 300		5p^{5}7d 3/2[1/2]$^\circ_1$	5p^{5}6f 3/2[3/2]$_1$	05SAN/AND
15 877.478	0.002	6 298.229 5	1 200		5p^{5}8p 3/2[3/2]$_2$	5p^{5}6g 3/2[7/2]$^\circ_3$	05SAN/AND
15 910.235	0.017	6 285.262	420		5p^{5}6f 3/2[5/2]$_2$	5p^{5}8g 3/2[7/2]$^\circ_3$	05SAN/AND
15 918.221	0.003	6 282.109 0	1 200		5p^{5}7d 3/2[5/2]$^\circ_2$	5p^{5}6f 3/2[5/2]$_3$	05SAN/AND
15 992.158	0.002	6 253.064 8	260		5p^{5}6p 1/2[1/2]$_1$	5p^{5}7s 3/2[3/2]$^\circ_1$	05SAN/AND
16 003.81	0.03	6 248.513	260		5p^{5}6f 3/2[5/2]$_2$	5p^{5}8g 3/2[5/2]$^\circ_3$	05SAN/AND
16 008.661	0.003	6 246.618 5	120		5p^{5}7s 3/2[3/2]$^\circ_2$	5p^{5}4f 3/2[3/2]$_1$	05SAN/AND
16 052.521	0.003	6 229.551 3	710		5p^{5}8p 3/2[3/2]$_2$	5p^{5}6g 3/2[5/2]$^\circ_3$	05SAN/AND
16 055.015	0.002	6 228.583 5	500		5p^{5}6d 1/2[5/2]$^\circ_3$	5p^{5}6f 3/2[7/2]$_3$	05SAN/AND
16 066.157	0.002	6 224.263 9	750		5p^{5}7d 3/2[3/2]$^\circ_2$	5p^{5}6f 3/2[3/2]$_1$	05SAN/AND
16 067.777	0.006	6 223.636	2 900		5p^{5}7d 3/2[5/2]$^\circ_3$	5p^{5}6f 3/2[9/2]$_4$	05SAN/AND
16 114.200	0.003	6 205.706 6	750		5p^{5}8s 3/2[3/2]$^\circ_1$	5p^{5}7p 1/2[1/2]$_0$	05SAN/AND
16 228.451	0.003	6 162.017 7	1 300		5p^{5}5f 3/2[9/2]$_4$	5p^{5}8d 3/2[7/2]$^\circ_3$	05SAN/AND
16 266.12	0.04	6 147.746	210		5p^{5}8d 3/2[7/2]$^\circ_3$	5p^{5}8f 3/2[7/2]$_3$	05SAN/AND
16 276.707 8	0.0015	6 143.748 6	7 500		5p^{5}7s 3/2[3/2]$^\circ_1$	5p^{5}7p 3/2[1/2]$_1$	05SAN/AND
16 344.866	0.002	6 118.129 2	300		5p^{5}7p 3/2[3/2]$_2$	5p^{5}7s 1/2[1/2]$^\circ_1$	05SAN/AND
16 370.705	0.006	6 108.473	55		5p^{5}5f 3/2[9/2]$_4$	5p^{5}8d 3/2[7/2]$^\circ_4$	05SAN/AND
16 430.627 9	0.0014	6 086.194 7	110 000		5p^{5}6p 3/2[1/2]$_0$	5p^{5}5d 1/2[3/2]$^\circ_1$	05SAN/AND
16 460.382	0.003	6 075.193 1	1 000		5p^{5}8d 3/2[5/2]$^\circ_3$	5p^{5}8f 3/2[7/2]$_4$	05SAN/AND
16 483.322	0.006	6 066.738	61		5p^{5}8d 3/2[7/2]$^\circ_4$	5p^{5}8f 3/2[9/2]$_4$	05SAN/AND
16 554.721	0.004	6 040.573 0	930		5p^{5}8d 3/2[5/2]$^\circ_2$	5p^{5}8f 3/2[7/2]$_3$	05SAN/AND
16 561.441	0.003	6 038.121 8	410		5p^{5}8s 3/2[3/2]$^\circ_2$	5p^{5}7p 1/2[1/2]$_1$	05SAN/AND
16 619.173	0.003	6 017.146 4	1 900		5p^{5}8d 3/2[7/2]$^\circ_4$	5p^{5}8f 3/2[9/2]$_5$	05SAN/AND
16 620.996	0.003	6 016.486 6	400		5p^{5}8d 3/2[1/2]$^\circ_0$	5p^{5}8f 3/2[3/2]$_1$	05SAN/AND
16 630.118	0.003	6 013.186 4	1 500		5p^{5}8d 3/2[7/2]$^\circ_3$	5p^{5}8f 3/2[9/2]$_4$	05SAN/AND
16 646.035	0.003	6 007.436 4	1 500		5p^{5}6d 1/2[3/2]$^\circ_2$	5p^{5}6f 3/2[5/2]$_3$	05SAN/AND
16 683.067	0.003	5 994.101 7	390		5p^{5}7d 3/2[5/2]$^\circ_3$	5p^{5}6f 3/2[3/2]$_2$	05SAN/AND
16 798.312	0.003	5 952.979 1	1 100		5p^{5}6d 1/2[5/2]$^\circ_3$	5p^{5}6f 3/2[5/2]$_3$	05SAN/AND
16 831.609	0.018	5 941.203	500		5p^{5}8d 3/2[1/2]$^\circ_1$	5p^{5}8f 3/2[3/2]$_2$	05SAN/AND
16 916.959	0.004	5 911.228 0	510		5p^{5}5f 3/2[5/2]$_2$	5p^{5}8d 3/2[3/2]$^\circ_1$	05SAN/AND
16 926.705	0.003	5 907.824 4	480		5p^{5}7d 3/2[5/2]$^\circ_2$	5p^{5}6f 3/2[3/2]$_2$	05SAN/AND
17 007.807	0.004	5 879.652 6	510		5p^{5}8d 3/2[3/2]$^\circ_2$	5p^{5}8f 3/2[5/2]$_3$	05SAN/AND
17 017.518	0.005	5 876.297 4	2 100		5p^{5}6d 3/2[1/2]$^\circ_1$	5p^{5}7p 3/2[1/2]$_0$	05SAN/AND
17 064.839	0.004	5 860.002 6	2 100		5p^{5}6p 1/2[1/2]$_1$	5p^{5}7s 3/2[3/2]$^\circ_2$	05SAN/AND
17 083.630	0.003	5 853.556 9	180		5p^{5}7s 3/2[3/2]$^\circ_1$	5p^{5}4f 3/2[3/2]$_1$	05SAN/AND
17 164.281	0.003	5 826.052 3	560		5p^{5}8s 3/2[3/2]$^\circ_1$	5p^{5}7p 1/2[1/2]$_1$	05SAN/AND
17 188.370	0.003	5 817.887 2	350		5p^{5}6p 1/2[3/2]$_2$	5p^{5}7s 3/2[3/2]$^\circ_2$	05SAN/AND
17 205.520	0.003	5 812.088 3	790		5p^{5}8s 3/2[3/2]$^\circ_1$	5p^{5}7p 1/2[3/2]$_2$	05SAN/AND
17 216.943	0.003	5 808.231 9	2 100		5p^{5}6d 1/2[5/2]$^\circ_3$	5p^{5}6f 3/2[9/2]$_4$	05SAN/AND
17 232.38	0.03	5 803.029	350		5p^{5}8d 3/2[3/2]$^\circ_2$	5p^{5}8f 3/2[3/2]$_2$	05SAN/AND
17 365.006	0.004	5 758.708 2	2 200		5p^{5}8p 3/2[3/2]$_1$	5p^{5}8d 3/2[3/2]$^\circ_1$	05SAN/AND
17 466.093	0.003	5 725.379 0	1 300		5p^{5}5f 3/2[7/2]$_3$	5p^{5}8d 3/2[5/2]$^\circ_2$	05SAN/AND
17 566.840	0.004	5 692.543 4	240		5p^{5}8d 3/2[5/2]$^\circ_3$	5p^{5}8f 3/2[5/2]$_3$	05SAN/AND
17 752.050	0.003	5 633.152 2	1 800		5p^{5}6d 1/2[3/2]$^\circ_2$	5p^{5}6f 3/2[3/2]$_2$	05SAN/AND
17 799.279	0.003	5 618.205 1	420		5p^{5}5f 3/2[7/2]$_3$	5p^{5}8d 3/2[7/2]$^\circ_3$	05SAN/AND
17 813.867	0.007	5 613.604	280				05SAN/AND
17 864.535	0.004	5 597.682 9	1 900		5p^{5}5f 3/2[7/2]$_4$	5p^{5}8d 3/2[5/2]$^\circ_3$	05SAN/AND
17 925.338	0.003	5 578.695 3	280		5p^{5}6d 1/2[5/2]$^\circ_3$	5p^{5}6f 3/2[3/2]$_2$	05SAN/AND
17 932.418	0.003	5 576.492 9	350		5p^{5}8p 3/2[1/2]$_1$	5p^{5}8d 3/2[5/2]$^\circ_2$	05SAN/AND
17 940.861	0.014	5 573.868	510		5p^{5}8d 3/2[3/2]$^\circ_1$	5p^{5}8f 3/2[5/2]$_2$	05SAN/AND
17 948.166	0.003	5 571.600 0	2 500		5p^{5}6d 3/2[1/2]$^\circ_1$	5p^{5}4f 3/2[5/2]$_2$	05SAN/AND
18 006.443	0.016	5 553.568	78		5p^{5}10p 3/2[5/2 $_2$	5p^{5}13d 3/2[1/2]$^\circ_1$	05SAN/AND
18 099.918	0.004	5 524.886 8	3 500		5p^{5}5g 3/2[11/2]$^\circ_6$	5p^{5}6h 3/2[11/2]$_6$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
18 100.941	0.003	5 524.574 6	3 000		$5p^55g\ 3/2[11/2]^{\circ}_{5}$	$5p^56h\ 3/2[11/2]_{5}$	05SAN/AND
18 165.804	0.006	5 504.848 6	34 000		$5p^55g\ 3/2[5/2]^{\circ}_{2}$	$5p^56h\ 3/2[7/2]_{3}$	05SAN/AND
18 184.313	0.006	5 499.245 4	43 000		$5p^55g\ 3/2[5/2]^{\circ}_{3}$	$5p^56h\ 3/2[7/2]_{4}$	05SAN/AND
18 226.336	0.008	5 486.566	71 000		$5p^55g\ 3/2[11/2]^{\circ}_{6}$	$5p^56h\ 3/2[13/2]_{7}$	05SAN/AND
18 227.381	0.003	5 486.251 8	39 000		$5p^55g\ 3/2[11/2]^{\circ}_{5}$	$5p^56h\ 3/2[13/2]_{6}$	05SAN/AND
18 273.945	0.010	5 472.272	6 200		$5p^58p\ 3/2[1/2]_{1}$	$5p^58d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
18 329.989	0.004	5 455.540 5	1 200		$5p^58p\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
18 338.013	0.015	5 453.153	710		$5p^59p\ 3/2[5/2]_{2}$	$5p^510d\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
18 398.14	0.04	5 435.333	650		$5p^56g\ 3/2[5/2]^{\circ}_{2}$	$5p^58h\ 3/2[7/2]_{3}$	05SAN/AND
18 400.667	0.014	5 434.586	540		$5p^56g\ 3/2[5/2]^{\circ}_{3}$	$5p^58h\ 3/2[7/2]_{4}$	05SAN/AND
18 409.797	0.003	5 431.890 4	51 000		$5p^55g\ 3/2[7/2]^{\circ}_{4}$	$5p^56h\ 3/2[9/2]_{5}$	05SAN/AND
18 412.258	0.003	5 431.164 5	31 000		$5p^55g\ 3/2[7/2]^{\circ}_{3}$	$5p^56h\ 3/2[9/2]_{4}$	05SAN/AND
18 455.762	0.007	5 418.362	2 000		$5p^56g\ 3/2[11/2]^{\circ}_{6}$	$5p^58h\ 3/2[13/2]_{7}$	05SAN/AND
18 456.899	0.009	5 418.028	1 700		$5p^56g\ 3/2[11/2]^{\circ}_{5}$	$5p^58h\ 3/2[13/2]_{6}$	05SAN/AND
18 514.576	0.009	5 401.150	59 000		$5p^55g\ 3/2[9/2]^{\circ}_{4}$	$5p^56h\ 3/2[11/2]_{5}$	05SAN/AND
18 514.908	0.006	5 401.053 0	61 000		$5p^55g\ 3/2[9/2]^{\circ}_{5}$	$5p^56h\ 3/2[11/2]_{6}$	05SAN/AND
18 537.282	0.003	5 394.534 2	3 200		$5p^55g\ 3/2[7/2]^{\circ}_{4}$	$5p^56h\ 3/2[7/2]_{4}$	05SAN/AND
18 550.551	0.019	5 390.675	8 200	b	$5p^55g\ 3/2[9/2]^{\circ}_{4}$	$5p^56h\ 3/2[9/2]_{5}$	05SAN/AND
18 550.551	0.019	5 390.675	8 200	b	$5p^55g\ 3/2[9/2]^{\circ}_{4}$	$5p^56h\ 3/2[9/2]_{4}$	05SAN/AND
18 550.551	0.019	5 390.675	8 200	b	$5p^55g\ 3/2[9/2]^{\circ}_{5}$	$5p^56h\ 3/2[9/2]_{5}$	05SAN/AND
18 550.551	0.019	5 390.675	8 200	b	$5p^55g\ 3/2[9/2]^{\circ}_{5}$	$5p^56h\ 3/2[9/2]_{4}$	05SAN/AND
18 579.052	0.009	5 382.406	1 500		$5p^56g\ 3/2[7/2]^{\circ}_{4}$	$5p^58h\ 3/2[9/2]_{5}$	05SAN/AND
18 581.272	0.008	5 381.763	1 200		$5p^56g\ 3/2[7/2]^{\circ}_{3}$	$5p^58h\ 3/2[9/2]_{4}$	05SAN/AND
18 602.379	0.004	5 375.656 4	910		$5p^57s\ 1/2[1/2]^{\circ}_{1}$	$5p^58p\ 3/2[1/2]_{0}$	05SAN/AND
18 612.823	0.007	5 372.640	5 100		$5p^58p\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
18 618.089	0.014	5 371.121	73		$5p^59p\ 3/2[5/2]_{3}$	$5p^510d\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
18 622.659	0.011	5 369.802	1 400		$5p^56h\ 3/2[7/2]_{3}$	$5p^58i\ 3/2[9/2]^{\circ}_{4}$	05SAN/AND
18 623.000	0.011	5 369.704	1 400		$5p^56h\ 3/2[7/2]_{4}$	$5p^58i\ 3/2[9/2]^{\circ}_{5}$	05SAN/AND
18 646.457	0.009	5 362.949	1 100		$5p^56g\ 3/2[9/2]^{\circ}_{4}$	$5p^58h\ 3/2[11/2]_{5}$	05SAN/AND
18 646.795	0.017	5 362.852	1 900		$5p^56g\ 3/2[9/2]^{\circ}_{5}$	$5p^58h\ 3/2[11/2]_{6}$	05SAN/AND
18 647.318	0.008	5 362.702	3 700		$5p^56h\ 3/2[13/2]_{6}$	$5p^58i\ 3/2[15/2]^{\circ}_{7}$	05SAN/AND
18 647.318	0.008	5 362.702	3 700		$5p^56h\ 3/2[13/2]_{7}$	$5p^58i\ 3/2[15/2]^{\circ}_{8}$	05SAN/AND
18 649.980	0.004	5 361.936 0	1 200		$5p^59p\ 3/2[5/2]_{3}$	$5p^510d\ 3/2[7/2]^{\circ}_{4}$	05SAN/AND
18 659.529	0.005	5 359.192 0	1 800		$5p^57d\ 3/2[3/2]^{\circ}_{1}$	$5p^56f\ 3/2[3/2]_{1}$	05SAN/AND
18 677.25	3.49	5 354.1	170	u	$5p^55f\ 3/2[7/2]_{4}$	$5p^58d\ 3/2[7/2]^{\circ}_{4}$	05SAN/AND
18 718.656	0.007	5 342.263 9	1 900		$5p^56h\ 3/2[9/2]_{4}$	$5p^58i\ 3/2[11/2]^{\circ}_{5}$	05SAN/AND
18 718.656	0.007	5 342.263 9	1 900		$5p^56h\ 3/2[9/2]_{5}$	$5p^58i\ 3/2[11/2]^{\circ}_{6}$	05SAN/AND
18 747.295	0.004	5 334.102 8	10 000		$5p^58p\ 3/2[1/2]_{1}$	$5p^58d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND
18 878.982	0.004	5 296.895 8	720		$5p^59p\ 3/2[3/2]_{2}$	$5p^510d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
18 926.925	0.002	5 283.478 4	53 000		$5p^55d\ 1/2[3/2]^{\circ}_{1}$	$5p^56p\ 1/2[1/2]_{0}$	05SAN/AND
18 981.008	0.006	5 268.424 2	450		$5p^58p\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
18 991.668	0.003	5 265.466 9	15 000		$5p^58p\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[7/2]^{\circ}_{3}$	05SAN/AND
19 037.069	0.004	5 252.909 5	990		$5p^55f\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
19 041.952	0.005	5 251.562 6	5 300		$5p^58p\ 3/2[1/2]_{0}$	$5p^58d\ 3/2[3/2]^{\circ}_{1}$	05SAN/AND
19 140.416	0.005	5 224.547 0	3 600		$5p^58p\ 3/2[1/2]_{1}$	$5p^58d\ 3/2[1/2]^{\circ}_{0}$	05SAN/AND
19 144.387	0.003	5 223.463 2	3 900		$5p^56s\ 1/2[1/2]^{\circ}_{1}$	$5p^56p\ 3/2[5/2]_{2}$	05SAN/AND
19 176.477	0.004	5 214.722 3	4 700		$5p^58p\ 3/2[5/2]_{3}$	$5p^58d\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
19 245.129	0.004	5 196.120 1	400		$5p^59p\ 3/2[3/2]_{2}$	$5p^510d\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
19 305.697	0.003	5 179.818 0	1 200		$5p^58s\ 3/2[3/2]^{\circ}_{1}$	$5p^57p\ 1/2[3/2]_{1}$	05SAN/AND
19 342.321	0.004	5 170.010 4	260		$5p^55f\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
19 364.859	0.017	5 163.993	170		$5p^59p\ 3/2[1/2]_{1}$	$5p^511s\ 3/2[3/2]^{\circ}_{2}$	05SAN/AND
19 406.530	0.003	5 152.904 8	370		$5p^56d\ 1/2[3/2]^{\circ}_{2}$	$5p^56f\ 3/2[3/2]_{1}$	05SAN/AND
19 414.169	0.003	5 150.877 1	1 700		$5p^57d\ 3/2[1/2]^{\circ}_{1}$	$5p^54f\ 1/2[5/2]_{2}$	05SAN/AND
19 453.618	0.003	5 140.431 9	600		$5p^56d\ 3/2[1/2]^{\circ}_{0}$	$5p^57p\ 3/2[3/2]_{1}$	05SAN/AND
19 477.412	0.017	5 134.152	220		$5p^56f\ 3/2[3/2]_{2}$	$5p^57g\ 3/2[5/2]^{\circ}_{3}$	05SAN/AND
19 486.244	0.005	5 131.825 3	330		$5p^58p\ 3/2[5/2]_{3}$	$5p^58d\ 3/2[5/2]^{\circ}_{2}$	05SAN/AND
19 492.215	0.003	5 130.253 3	310		$5p^58p\ 3/2[5/2]_{2}$	$5p^58d\ 3/2[1/2]^{\circ}_{1}$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
19 509.621	0.004	5 125.676 2	920		$5p^56f\ 3/2[9/2]_5$	$5p^57g\ 3/2[11/2]^{\circ}_6$	05SAN/AND
19 533.14	0.02	5 119.506	270		$5p^56d\ 1/2[3/2]^{\circ}_1$	$5p^59p\ 3/2[1/2]_0$	05SAN/AND
19 677.242	0.004	5 082.012 9	460		$5p^56p\ 1/2[1/2]_0$	$5p^57s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
19 706.607	0.004	5 074.440 4	1 700		$5p^57d\ 3/2[3/2]^{\circ}_2$	$5p^54f\ 1/2[5/2]_2$	05SAN/AND
19 740.253	0.008	5 065.791	2 100		$5p^55f\ 3/2[5/2]_2$	$5p^58d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
19 751.780	0.004	5 062.834 7	5 800		$5p^55f\ 3/2[5/2]_2$	$5p^58d\ 3/2[7/2]^{\circ}_3$	05SAN/AND
19 806.396	0.004	5 048.874 0	1 000		$5p^57d\ 3/2[1/2]^{\circ}_1$	$5p^57p\ 1/2[1/2]_0$	05SAN/AND
19 823.543	0.003	5 044.506 9	220		$5p^57s\ 1/2[1/2]^{\circ}_1$	$5p^58p\ 3/2[3/2]_2$	05SAN/AND
19 890.179	0.004	5 027.606 7	850		$5p^58p\ 3/2[5/2]_3$	$5p^58d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
19 901.892	0.005	5 024.647 9	5 700		$5p^58p\ 3/2[5/2]_3$	$5p^58d\ 3/2[7/2]^{\circ}_3$	05SAN/AND
19 930.294	0.014	5 017.488	18 000		$5p^58p\ 3/2[3/2]_1$	$5p^58d\ 3/2[5/2]^{\circ}_2$	05SAN/AND
19 945.351	0.002	5 013.699 6	6 600		$5p^56d\ 3/2[7/2]^{\circ}_4$	$5p^54f\ 3/2[7/2]_4$	05SAN/AND
20 088.58	0.02	4 977.952	640		$5p^59p\ 3/2[5/2]_3$	$5p^511s\ 3/2[3/2]^{\circ}_2$	05SAN/AND
20 116.264	0.004	4 971.102 1	39 000		$5p^58p\ 3/2[5/2]_3$	$5p^58d\ 3/2[7/2]^{\circ}_4$	05SAN/AND
20 192.651	0.004	4 952.296 7	1 300		$5p^56d\ 3/2[3/2]^{\circ}_2$	$5p^54f\ 3/2[5/2]_2$	05SAN/AND
20 222.57	0.02	4 944.971	200		$5p^59p\ 3/2[3/2]_1$	$5p^511s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
20 293.770	0.004	4 927.620 8	1 600		$5p^55f\ 3/2[5/2]_2$	$5p^58d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
20 307.087	0.018	4 924.389	20 000		$5p^58p\ 3/2[3/2]_2$	$5p^58d\ 3/2[5/2]^{\circ}_3$	05SAN/AND
20 328.714	0.006	4 919.150 4	960		$5p^56f\ 3/2[9/2]_4$	$5p^57g\ 3/2[11/2]^{\circ}_5$	05SAN/AND
20 353.033	0.007	4 913.272 6	1 900		$5p^58p\ 3/2[3/2]_1$	$5p^58d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
20 377.222	0.004	4 907.440 2	2 500		$5p^56d\ 3/2[7/2]^{\circ}_3$	$5p^54f\ 3/2[5/2]_2$	05SAN/AND
20 427.088	0.003	4 895.460 4	220		$5p^56d\ 3/2[7/2]^{\circ}_4$	$5p^54f\ 3/2[7/2]_3$	05SAN/AND
20 449.452	0.002	4 890.106 5	22 000		$5p^56d\ 3/2[1/2]^{\circ}_1$	$5p^57p\ 3/2[3/2]_2$	05SAN/AND
20 540.163	0.004	4 868.510 6	1 100		$5p^57s\ 1/2[1/2]^{\circ}_1$	$5p^58p\ 3/2[3/2]_1$	05SAN/AND
20 588.700	0.005	4 857.033 3	370		$5p^56d\ 1/2[3/2]^{\circ}_1$	$5p^59p\ 3/2[3/2]_2$	05SAN/AND
20 631.901	0.003	4 846.863 1	490		$5p^57d\ 3/2[7/2]^{\circ}_3$	$5p^54f\ 1/2[5/2]_2$	05SAN/AND
20 688.886	0.003	4 833.512 9	540		$5p^56d\ 1/2[5/2]^{\circ}_2$	$5p^54f\ 1/2[5/2]_2$	05SAN/AND
20 815.762	0.006	4 804.051 9	850		$5p^56f\ 3/2[5/2]_3$	$5p^57g\ 3/2[7/2]^{\circ}_4$	05SAN/AND
20 941.962	0.003	4 775.101 8	290		$5p^58p\ 3/2[3/2]_1$	$5p^58d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
21 109.178	0.005	4 737.276 0	9 200		$5p^58p\ 3/2[3/2]_2$	$5p^58d\ 3/2[3/2]^{\circ}_2$	05SAN/AND
21 155.846	0.004	4 726.825 8	1 200		$5p^56d\ 3/2[7/2]^{\circ}_3$	$5p^54f\ 3/2[7/2]_4$	05SAN/AND
21 204.450	0.004	4 715.991 3	430		$5p^57s\ 1/2[1/2]^{\circ}_1$	$5p^55f\ 3/2[5/2]_2$	05SAN/AND
21 282.611	0.005	4 698.671 7	240		$5p^57d\ 3/2[1/2]^{\circ}_0$	$5p^57p\ 1/2[1/2]_1$	05SAN/AND
21 433.719	0.004	4 665.545 9	330		$5p^58p\ 3/2[3/2]_1$	$5p^58d\ 3/2[1/2]^{\circ}_0$	05SAN/AND
21 481.103	0.004	4 655.254 4	690		$5p^57d\ 3/2[1/2]^{\circ}_1$	$5p^57p\ 1/2[3/2]_2$	05SAN/AND
21 489.466	0.004	4 653.442 8	370		$5p^56d\ 3/2[3/2]^{\circ}_2$	$5p^54f\ 3/2[7/2]_3$	05SAN/AND
21 543.792	0.004	4 641.708 5	2 200		$5p^56d\ 3/2[1/2]^{\circ}_1$	$5p^57p\ 3/2[3/2]_1$	05SAN/AND
21 698.627	0.003	4 608.586 5	6 600		$5p^56d\ 3/2[7/2]^{\circ}_3$	$5p^54f\ 3/2[7/2]_3$	05SAN/AND
21 743.359	0.004	4 599.105 5	1 900		$5p^58p\ 3/2[3/2]_2$	$5p^58d\ 3/2[1/2]^{\circ}_1$	05SAN/AND
21 773.296	0.004	4 592.782 0	4 000		$5p^57d\ 3/2[3/2]^{\circ}_2$	$5p^57p\ 1/2[1/2]_1$	05SAN/AND
21 839.699	0.004	4 578.817 6	950		$5p^57d\ 3/2[3/2]^{\circ}_2$	$5p^57p\ 1/2[3/2]_2$	05SAN/AND
21 923.890	0.005	4 561.234 4	260		$5p^58p\ 3/2[1/2]_1$	$5p^59s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
22 009.454	0.005	4 543.502 1	1 400		$5p^56f\ 3/2[7/2]_3$	$5p^57g\ 3/2[9/2]^{\circ}_4$	05SAN/AND
22 156.446	0.004	4 513.359 3	360		$5p^57s\ 1/2[1/2]^{\circ}_1$	$5p^58p\ 3/2[5/2]_2$	05SAN/AND
22 351.073	0.007	4 474.058 1	7 900		$5p^58p\ 3/2[1/2]_1$	$5p^59s\ 3/2[3/2]^{\circ}_2$	05SAN/AND
22 397.186	0.005	4 464.846 7	230		$5p^57s\ 1/2[1/2]^{\circ}_0$	$5p^58p\ 3/2[1/2]_1$	05SAN/AND
22 410.540	0.004	4 462.186 0	770		$5p^55g\ 3/2[7/2]^{\circ}_3$	$5p^56f\ 3/2[5/2]_2$	05SAN/AND
22 455.107	0.004	4 453.329 9	7 800		$5p^55d\ 3/2[3/2]^{\circ}_1$	$5p^56p\ 3/2[5/2]_2$	05SAN/AND
22 514.864	0.005	4 441.510 4	6 000		$5p^56d\ 3/2[5/2]^{\circ}_2$	$5p^54f\ 3/2[5/2]_2$	05SAN/AND
22 567.839	0.005	4 431.084 4	2 200		$5p^56f\ 3/2[7/2]_4$	$5p^57g\ 3/2[9/2]^{\circ}_5$	05SAN/AND
22 651.842	0.004	4 414.652 0	4 900		$5p^56d\ 1/2[3/2]^{\circ}_1$	$5p^56f\ 3/2[5/2]_2$	05SAN/AND
22 949.552	0.011	4 357.384	6 600		$5p^58p\ 3/2[5/2]_2$	$5p^59s\ 3/2[3/2]^{\circ}_1$	05SAN/AND
22 978.708	0.005	4 351.854 7	440		$5p^56d\ 1/2[5/2]^{\circ}_2$	$5p^57p\ 1/2[1/2]_1$	05SAN/AND
22 981.953	0.004	4 351.240 4	1 700		$5p^57d\ 3/2[7/2]^{\circ}_3$	$5p^57p\ 1/2[3/2]_2$	05SAN/AND
23 052.678	0.004	4 337.890 8	2 200		$5p^56d\ 1/2[5/2]^{\circ}_2$	$5p^57p\ 1/2[3/2]_2$	05SAN/AND
23 204.501	0.004	4 309.508 7	470		$5p^57s\ 1/2[1/2]^{\circ}_1$	$5p^58p\ 3/2[1/2]_1$	05SAN/AND
23 255.515	0.006	4 300.055 3	1 400		$5p^56d\ 1/2[5/2]^{\circ}_2$	$5p^54f\ 1/2[7/2]_3$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
23 414.796	0.002	4 270.803 8	32 000		$5p^5$6d 3/2[3/2]$^{\circ}_{2}$	$5p^5$7p 3/2[3/2]$_{2}$	05SAN/AND
23 418.060	0.005	4 270.208 6	2 100		$5p^5$8p 3/2[5/2]$_{2}$	$5p^5$9s 3/2[3/2]$^{\circ}_{2}$	05SAN/AND
23 663.335	0.005	4 225.947 1	190		$5p^5$6d 3/2[7/2]$^{\circ}_{3}$	$5p^5$7p 3/2[3/2]$_{2}$	05SAN/AND
23 748.519	0.005	4 210.789 0	1 100		$5p^5$6d 3/2[7/2]$^{\circ}_{4}$	$5p^5$4f 3/2[5/2]$_{3}$	05SAN/AND
23 756.535	0.004	4 209.368 1	1 100		$5p^5$7d 3/2[3/2]$^{\circ}_{1}$	$5p^5$4f 1/2[5/2]$_{2}$	05SAN/AND
23 841.340	0.004	4 194.395 1	3 800		$5p^5$4f 1/2[5/2]$_{3}$	$5p^5$6g 3/2[7/2]$^{\circ}_{4}$	05SAN/AND
23 919.730	0.007	4 180.649 3	1 500		$5p^5$5g 3/2[9/2]$^{\circ}_{5}$	$5p^5$6f 3/2[7/2]$_{4}$	05SAN/AND
23 949.523	0.006	4 175.448 5	950		$5p^5$6f 3/2[5/2]$_{2}$	$5p^5$7g 3/2[7/2]$^{\circ}_{3}$	05SAN/AND
24 080.620	0.005	4 152.717 1	210		$5p^5$6s 1/2[1/2]$^{\circ}_{0}$	$5p^5$6p 3/2[1/2]$_{1}$	05SAN/AND
24 139.102	0.004	4 142.656 2	18 000		$5p^5$6d 3/2[5/2]$^{\circ}_{2}$	$5p^5$4f 3/2[7/2]$_{3}$	05SAN/AND
24 346.511	0.005	4 107.364 7	930		$5p^5$7d 3/2[3/2]$^{\circ}_{1}$	$5p^5$7p 1/2[1/2]$_{0}$	05SAN/AND
24 535.475	0.003	4 075.731 2	12 000		$5p^5$6d 3/2[1/2]$^{\circ}_{0}$	$5p^5$7p 3/2[1/2]$_{1}$	05SAN/AND
24 580.548	0.005	4 068.257 6	1 300		$5p^5$5g 3/2[9/2]$^{\circ}_{4}$	$5p^5$6f 3/2[7/2]$_{3}$	05SAN/AND
24 584.665	0.005	4 067.576 3	1 800		$5p^5$5f 3/2[5/2]$_{2}$	$5p^5$9s 3/2[3/2]$^{\circ}_{2}$	05SAN/AND
24 596.789	0.005	4 065.571 4	1 200		$5p^5$6d 3/2[5/2]$^{\circ}_{3}$	$5p^5$4f 3/2[5/2]$_{2}$	05SAN/AND
24 817.661	0.016	4 029.389	14 000		$5p^5$8p 3/2[5/2]$_{3}$	$5p^5$9s 3/2[3/2]$^{\circ}_{2}$	05SAN/AND
24 830.276	0.005	4 027.341 4	1 300		$5p^5$6d 3/2[7/2]$^{\circ}_{4}$	$5p^5$4f 3/2[9/2]$_{4}$	05SAN/AND
24 860.745	0.005	4 022.405 7	5 900		$5p^5$6d 3/2[3/2]$^{\circ}_{2}$	$5p^5$7p 3/2[3/2]$_{1}$	05SAN/AND
24 980.764	0.005	4 003.080 2	1 300		$5p^5$6d 1/2[3/2]$^{\circ}_{2}$	$5p^5$4f 1/2[5/2]$_{2}$	05SAN/AND
24 986.052	0.004	4 002.232 9	5 300		$5p^5$8p 3/2[3/2]$_{1}$	$5p^5$9s 3/2[3/2]$^{\circ}_{1}$	05SAN/AND
25 196.707	0.006	3 968.772 5	17 000		$5p^5$6d 3/2[3/2]$^{\circ}_{2}$	$5p^5$4f 3/2[5/2]$_{3}$	05SAN/AND
25 227.250	0.004	3 963.967 5	90 000		$5p^5$6d 3/2[7/2]$^{\circ}_{4}$	$5p^5$7p 3/2[5/2]$_{3}$	05SAN/AND
25 648.037	0.005	3 898.933 8	6 400		$5p^5$8s 3/2[3/2]$^{\circ}_{1}$	$5p^5$8p 3/2[1/2]$_{0}$	05SAN/AND
25 740.310	0.005	3 884.957 1	24 000		$5p^5$6d 3/2[5/2]$^{\circ}_{3}$	$5p^5$4f 3/2[7/2]$_{4}$	05SAN/AND
26 083.71	0.02	3 833.811	1 800		$5p^5$5g 3/2[7/2]$^{\circ}_{4}$	$5p^5$6f 3/2[5/2]$_{3}$	05SAN/AND
26 135.339	0.005	3 826.236 9	3 500		$5p^5$8p 3/2[3/2]$_{2}$	$5p^5$9s 3/2[3/2]$^{\circ}_{1}$	05SAN/AND
26 360.637	0.005	3 793.535 0	7 800		$5p^5$6d 3/2[1/2]$^{\circ}_{1}$	$5p^5$4f 3/2[3/2]$_{2}$	05SAN/AND
26 416.313	0.005	3 785.539 6	3 200		$5p^5$6d 3/2[1/2]$^{\circ}_{0}$	$5p^5$4f 3/2[3/2]$_{1}$	05SAN/AND
26 440.124	0.005	3 782.130 5	580		$5p^5$7d 3/2[5/2]$^{\circ}_{2}$	$5p^5$7p 1/2[3/2]$_{2}$	05SAN/AND
26 456.049	0.011	3 779.853 9	12 000		$5p^5$8s 3/2[3/2]$^{\circ}_{2}$	$5p^5$8p 3/2[3/2]$_{2}$	05SAN/AND
26 510.489	0.005	3 772.091 9	34 000		$5p^5$6d 3/2[7/2]$^{\circ}_{4}$	$5p^5$4f 3/2[9/2]$_{5}$	05SAN/AND
26 515.853	0.009	3 771.328 8	2 000		$5p^5$5g 3/2[11/2]$^{\circ}_{5}$	$5p^5$6f 3/2[9/2]$_{4}$	05SAN/AND
26 707.302	0.005	3 744.294 4	2 800		$5p^5$7d 3/2[5/2]$^{\circ}_{2}$	$5p^5$4f 1/2[7/2]$_{3}$	05SAN/AND
26 714.929	0.005	3 743.225 3	4 000		$5p^5$8d 3/2[5/2]$^{\circ}_{3}$	$5p^5$7f 3/2[7/2]$_{4}$	05SAN/AND
26 734.622	0.005	3 740.468 1	19 000		$5p^5$6d 3/2[7/2]$^{\circ}_{3}$	$5p^5$4f 3/2[9/2]$_{4}$	05SAN/AND
26 744.679	0.005	3 739.061 6	3 800		$5p^5$8p 3/2[3/2]$_{2}$	$5p^5$9s 3/2[3/2]$^{\circ}_{2}$	05SAN/AND
26 826.115	0.006	3 727.710 9	370		$5p^5$7d 3/2[3/2]$^{\circ}_{1}$	$5p^5$7p 1/2[1/2]$_{1}$	05SAN/AND
26 829.065	0.006	3 727.301 0	690		$5p^5$7d 3/2[5/2]$^{\circ}_{3}$	$5p^5$4f 1/2[5/2]$_{3}$	05SAN/AND
26 926.994	0.006	3 713.745 4	350		$5p^5$7d 3/2[3/2]$^{\circ}_{1}$	$5p^5$7p 1/2[3/2]$_{2}$	05SAN/AND
26 961.913	0.008	3 708.935 6	1 700		$5p^5$8d 3/2[5/2]$^{\circ}_{2}$	$5p^5$7f 3/2[7/2]$_{3}$	05SAN/AND
26 986.037	0.005	3 705.620 1	2 200		$5p^5$6d 1/2[5/2]$^{\circ}_{2}$	$5p^5$7p 1/2[3/2]$_{1}$	05SAN/AND
27 195.397	0.005	3 677.092 9	2 300		$5p^5$6d 3/2[7/2]$^{\circ}_{3}$	$5p^5$7p 3/2[5/2]$_{3}$	05SAN/AND
27 647.583	0.005	3 616.952 7	810		$5p^5$6d 1/2[5/2]$^{\circ}_{3}$	$5p^5$4f 1/2[7/2]$_{4}$	05SAN/AND
27 956.326	0.005	3 577.008 0	790		$5p^5$6d 3/2[1/2]$^{\circ}_{1}$	$5p^5$7p 3/2[1/2]$_{1}$	05SAN/AND
28 010.61	0.03	3 570.075	250		$5p^5$8d 3/2[7/2]$^{\circ}_{3}$	$5p^5$7f 3/2[9/2]$_{4}$	05SAN/AND
28 028.604	0.006	3 567.783 8	270		$5p^5$8s 3/2[3/2]$^{\circ}_{1}$	$5p^5$8p 3/2[3/2]$_{2}$	05SAN/AND
28 051.846	0.005	3 564.827 8	120		$5p^5$5g 3/2[11/2]$^{\circ}_{6}$	$5p^5$6f 3/2[9/2]$_{5}$	05SAN/AND
28 397.620	0.006	3 521.421 9	210		$5p^5$6d 1/2[3/2]$^{\circ}_{2}$	$5p^5$7p 1/2[1/2]$_{1}$	05SAN/AND
28 430.174	0.019	3 517.390	200		$5p^5$8d 3/2[7/2]$^{\circ}_{4}$	$5p^5$7f 3/2[9/2]$_{5}$	05SAN/AND
28 476.893	0.005	3 511.619 0	570		$5p^5$6d 3/2[5/2]$^{\circ}_{2}$	$5p^5$7p 3/2[3/2]$_{1}$	05SAN/AND
28 657.196	0.006	3 489.524 9	890		$5p^5$8s 3/2[3/2]$^{\circ}_{2}$	$5p^5$8p 3/2[5/2]$_{3}$	05SAN/AND
28 960.316	0.005	3 453.001 0	190		$5p^5$6d 1/2[5/2]$^{\circ}_{3}$	$5p^5$7p 1/2[3/2]$_{2}$	05SAN/AND
29 482.978	0.006	3 391.787 6	160		$5p^5$8s 3/2[3/2]$^{\circ}_{1}$	$5p^5$8p 3/2[3/2]$_{1}$	05SAN/AND
29 550.142	0.005	3 384.078 5	680		$5p^5$6d 3/2[5/2]$^{\circ}_{3}$	$5p^5$7p 3/2[3/2]$_{2}$	05SAN/AND
30 495.479	0.006	3 279.174 6	890		$5p^5$6d 3/2[7/2]$^{\circ}_{3}$	$5p^5$7p 3/2[5/2]$_{2}$	05SAN/AND
30 620.48	0.02	3 265.789	130		$5p^5$6h 3/2[7/2]$_{3}$	$5p^5$7i 3/2[9/2]$^{\circ}_{4}$	05SAN/AND
30 621.41	0.02	3 265.689	150		$5p^5$6h 3/2[7/2]$_{4}$	$5p^5$7i 3/2[9/2]$^{\circ}_{5}$	05SAN/AND

TABLE 3. Observed spectral lines of Cs II—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
30 677.47	0.02	3 259.721	600		$5p^56h\ 3/2[13/2]_6$	$5p^57i\ 3/2[15/2]^{\circ}_7$	05SAN/AND
30 677.47	0.02	3 259.721	600		$5p^56h\ 3/2[13/2]_7$	$5p^57i\ 3/2[15/2]^{\circ}_8$	05SAN/AND
30 835.67	0.03	3 242.997	400		$5p^56h\ 3/2[9/2]_4$	$5p^57i\ 3/2[11/2]^{\circ}_5$	05SAN/AND
30 835.67	0.03	3 242.997	400		$5p^56h\ 3/2[9/2]_5$	$5p^57i\ 3/2[11/2]^{\circ}_6$	05SAN/AND
30 902.98	0.02	3 235.934	480		$5p^56h\ 3/2[11/2]_5$	$5p^57i\ 3/2[13/2]^{\circ}_6$	05SAN/AND
30 902.98	0.02	3 235.934	480		$5p^56h\ 3/2[11/2]_6$	$5p^57i\ 3/2[13/2]^{\circ}_7$	05SAN/AND
31 503.677	0.009	3 174.232 6	100		$5p^56d\ 3/2[3/2]^{\circ}_2$	$5p^54f\ 3/2[3/2]_2$	05SAN/AND
31 747.446	0.006	3 149.859 7	84		$5p^57d\ 3/2[5/2]^{\circ}_2$	$5p^57p\ 1/2[3/2]_1$	05SAN/AND
32 842.280	0.007	3 044.855 6	300		$5p^58s\ 3/2[3/2]^{\circ}_2$	$5p^58p\ 3/2[1/2]_1$	05SAN/AND
32 931.167	0.008	3 036.637 0	200		$5p^58s\ 3/2[3/2]^{\circ}_1$	$5p^58p\ 3/2[5/2]_2$	05SAN/AND
33 809.990	0.009	2 957.705 7	150		$5p^56d\ 3/2[3/2]^{\circ}_2$	$5p^57p\ 3/2[1/2]_1$	05SAN/AND
35 270.574	0.009	2 835.224 6	190		$5p^56d\ 3/2[5/2]^{\circ}_3$	$5p^57p\ 3/2[5/2]_3$	05SAN/AND
35 546.150	0.008	2 813.244 2	170		$5p^56d\ 3/2[5/2]^{\circ}_2$	$5p^57p\ 3/2[5/2]_2$	05SAN/AND

TABLE 4. Energy levels of Cs II

Configuration	Term	J	Energy (cm⁻¹)	Uncertainty (cm⁻¹)	Landé g value	jK Purity	HFS Constant A (10⁻³ cm⁻¹)	Reference
$5p^6$	^1S	0	0.0	0.4				86SAN/AND
$5p^56s$	3/2[3/2]°	2	107 401.560 2	0.0016	1.49	80.5	54.98(14)	86SAN/AND
	3/2[3/2]°	1	110 954.360 7	0.0013	1.24	62.8	9.77(8)	86SAN/AND
	1/2[1/2]°	0	122 374.815 6	0.0011		97.3		86SAN/AND
	1/2[1/2]°	1	122 875.448 7	0.0009	1.12	84.1	167.57(2)	86SAN/AND
$5p^55d$	3/2[1/2]°	0	107 572.061 0	0.0017		97.3		86SAN/AND
	3/2[1/2]°	1	107 914.158 7	0.0014	1.37	42.4	0.67(15)	86SAN/AND
	3/2[7/2]°	4	112 245.542 4	0.0022		100.0	12.5(6)	86SAN/AND
	3/2[3/2]°	2	112 804.301 0	0.0012		74.8	4.85(5)	86SAN/AND
	3/2[7/2]°	3	113 725.764 1	0.0014		78.6	20.36(10)	86SAN/AND
	3/2[5/2]°	2	115 675.532 8	0.0011		95.0	22.35(3)	86SAN/AND
	3/2[5/2]°	3	118 274.579 6	0.0011		81.0	9.76(7)	86SAN/AND
	3/2[3/2]°	1	123 645.581 3	0.0009	0.70	46.8	11.22(3)	86SAN/AND
	1/2[5/2]°	2	126 697.907 6	0.0013		91.3	60.72(9)	86SAN/AND
	1/2[3/2]°	2	128 320.105 1	0.0013		87.0	−33.44(9)	86SAN/AND
	1/2[5/2]°	3	129 420.373 9	0.0016		96.3	37.89(12)	86SAN/AND
	1/2[3/2]°	1	139 248.887 9	0.0009		66.8	−43.09(5)	86SAN/AND
$5p^56p$	3/2[1/2]	1	126 527.532 4	0.0010	1.87	92.9	28.64(7)	86SAN/AND
	3/2[5/2]	2	128 098.911 7	0.0009	1.10	88.9	32.35(4)	86SAN/AND
	3/2[5/2]	3	129 116.707 0	0.0010	1.33	100.0	19.64(11)	86SAN/AND
	3/2[3/2]	1	129 998.910 6	0.0009	1.02	94.4	26.22(5)	86SAN/AND
	3/2[3/2]	2	130 775.145 1	0.0009	1.34	88.9	19.72(6)	86SAN/AND
	3/2[1/2]	0	133 162.693 2	0.0010		97.9		86SAN/AND
	1/2[3/2]	1	141 564.873 0	0.0009	0.68	91.7	135.76(5)	86SAN/AND
	1/2[1/2]	1	143 361.314 1	0.0009	1.44	90.2	−50.53(6)	86SAN/AND
	1/2[3/2]	2	143 403.430 4	0.0010	1.12	99.7	64.35(6)	86SAN/AND
	1/2[1/2]	0	144 532.366 2	0.0010		97.9		86SAN/AND
$5p^57s$	3/2[3/2]°	2	149 221.316 3	0.0008	1.50	97.3	36.97(4)	86SAN/AND
	3/2[3/2]°	1	149 614.378 1	0.0008	1.18	97.5	31.15(2)	86SAN/AND
	1/2[1/2]°	0	163 034.013 7	0.0009		99.5		86SAN/AND
	1/2[1/2]°	1	163 189.351 1	0.0008	1.38	99.5	145.41(2)	86SAN/AND
$5p^56d$	3/2[1/2]°	0	151 682.395 3	0.0009		99.5		86SAN/AND
	3/2[1/2]°	1	152 181.118 4	0.0008	1.24	62.5	10.15(4)	86SAN/AND
	3/2[7/2]°	4	152 558.403 3	0.0009	1.27	100.0	13.11(6)	86SAN/AND
	3/2[3/2]°	2	152 800.420 9	0.0008	1.33	95.5	5.19(3)	86SAN/AND
	3/2[7/2]°	3	152 845.277 5	0.0008	1.07	83.5	18.00(4)	86SAN/AND
	3/2[5/2]°	2	153 311.207 4	0.0009	0.97	98.2	15.31(14)	86SAN/AND

TABLE 4. Energy levels of Cs II—Continued

Configuration	Term	J	Energy (cm⁻¹)	Uncertainty (cm⁻¹)	Landé g value	jK Purity	HFS Constant A (10^{-3} cm⁻¹)	Reference
	3/2[5/2]°	3	153 687.145 7	0.0009	1.20	83.6	10.20(10)	86SAN/AND
	3/2[3/2]°	1	156 408.436 7	0.0010	0.89	63.6	−19.60(9)	86SAN/AND
	1/2[5/2]°	2	166 140.271 2	0.0008		97.6	41.13(4)	86SAN/AND
	1/2[3/2]°	2	166 970.703 2	0.0008	1.30	97.2	−24.62(3)	86SAN/AND
	1/2[5/2]°	3	167 025.160 0	0.0009	1.10	99.9	36.61(17)	86SAN/AND
	1/2[3/2]°	1	169 192.580 5	0.0011		97.9	−43.58(14)	86SAN/AND
$5p^54f$	3/2[3/2]	1	155 467.934 6	0.0009		100.0	−25.92(3)	86SAN/AND
	3/2[3/2]	2	155 974.653 3	0.0008		78.4	−7.36(3)	86SAN/AND
	3/2[9/2]	5	156 330.494 3	0.0010		100.0	10.28(3)	86SAN/AND
	3/2[9/2]	4	156 585.745 0	0.0010		97.5	13.11(7)	86SAN/AND
	3/2[5/2]	3	156 769.192 8	0.0009		99.2	0.17(5)	86SAN/AND
	3/2[7/2]	3	157 453.863 4	0.0009		99.7	9.95(5)	86SAN/AND
	3/2[7/2]	4	157 572.102 5	0.0009		97.3	7.04(7)	86SAN/AND
	3/2[5/2]	2	157 752.717 6	0.0008		78.7	−5.76(6)	86SAN/AND
	1/2[5/2]	3	170 337.053 7	0.0013		98.1	−15.76(17)	86SAN/AND
	1/2[7/2]	3	170 440.324 6	0.0011		98.6	31.51(10)	86SAN/AND
	1/2[7/2]	4	170 642.113 7	0.0012		99.8	29.37(14)	86SAN/AND
	1/2[5/2]	2	170 973.783 3	0.0009		99.6	−23.68(3)	86SAN/AND
$5p^57p$	3/2[1/2]	1	155 758.126 7	0.0008		92.3	32.82(3)	86SAN/AND
	3/2[5/2]	2	156 124.452 1	0.0008		90.8	27.66(5)	86SAN/AND
	3/2[5/2]	3	156 522.370 3	0.0008		100.0	18.06(7)	86SAN/AND
	3/2[3/2]	1	156 822.826 9	0.0008		92.5	24.93(3)	86SAN/AND
	3/2[3/2]	2	157 071.224 5	0.0008		90.8	17.66(4)	86SAN/AND
	3/2[1/2]	0	158 057.416 4	0.0009		99.7		86SAN/AND
	1/2[3/2]	1	169 845.891 1	0.0008		90.0	127.77(1)	86SAN/AND
	1/2[3/2]	2	170 478.161 0	0.0008		100.0	52.81(5)	86SAN/AND
	1/2[1/2]	1	170 492.125 4	0.0008		89.8	−54.76(2)	86SAN/AND
	1/2[1/2]	0	170 871.779 8	0.0009		99.7		86SAN/AND
$5p^58s$	3/2[3/2]°	2	164 454.003 9	0.0009		100.0	30.22(5)	86SAN/AND
	3/2[3/2]°	1	164 666.073 0	0.0007		100.0	39.13(3)	86SAN/AND
	1/2[1/2]°	0	178 301.779 5	0.0015		100.0		86SAN/AND
	1/2[1/2]°	1	178 374.266 2	0.0012		100.0	133.95(4)	86SAN/AND
$5p^55f$	3/2[3/2]	1	165 791.504 0	0.0012		100.0	−25.61(15)	86SAN/AND
	3/2[3/2]	2	166 088.646 4	0.0010		72.9	−6.92(5)	86SAN/AND
	3/2[9/2]	5	166 578.720 6	0.0013		100.0	10.24(16)	86SAN/AND
	3/2[5/2]	3	166 591.850 1	0.0010		99.5	−1.18(2)	86SAN/AND
	3/2[9/2]	4	166 806.161 2	0.0011		94.5	13.24(9)	86SAN/AND
	3/2[7/2]	3	167 349.974 1	0.0011		99.9	10.71(21)	86SAN/AND
	3/2[7/2]	4	167 560.568 3	0.0012		94.4	7.44(2)	86SAN/AND
	3/2[5/2]	2	167 905.341 8	0.0008		73.2	1.93(9)	86SAN/AND
	1/2[5/2]	3	180 268.681 9	0.0019		99.4	−9.71(18)	86SAN/AND
	1/2[7/2]	3	180 435.660 2	0.0018		99.8	28.7(4)	86SAN/AND
	1/2[7/2]	4	180 562.513	0.003		99.9	17.98(25)	86SAN/AND
	1/2[5/2]	2	180 797.145	0.017		99.6		86SAN/AND
$5p^57d$	3/2[1/2]°	0	165 793.456 2	0.0013		100.0		86SAN/AND
	3/2[1/2]°	1	165 822.906 6	0.0009		63.2	−3.04(4)	86SAN/AND
	3/2[3/2]°	2	165 899.343 1	0.0009		95.6	−6.58(4)	86SAN/AND
	3/2[7/2]°	3	166 126.920 8	0.0009		94.8	20.98(6)	86SAN/AND
	3/2[7/2]°	4	166 153.958 7	0.0011		100.0	13.10(6)	86SAN/AND
	3/2[5/2]°	3	166 609.752 8	0.0009		94.8	11.14(7)	86SAN/AND
	3/2[5/2]°	2	166 696.030 6	0.0009		95.6	33.80(5)	86SAN/AND
	3/2[3/2]°	1	166 764.414 9	0.0008		63.2	−18.26(5)	86SAN/AND
	1/2[5/2]°	2	179 998.188 2	0.0014		96.4	53.85(25)	86SAN/AND
	1/2[3/2]°	2	180 091.442	0.003		96.4	−37.34(10)	86SAN/AND
	1/2[5/2]°	3	180 211.920 5	0.0014		100.0	39.65(10)	86SAN/AND
	1/2[3/2]°	1	180 611.5	1.6				86MCI/SUG

TABLE 4. Energy levels of Cs II—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Landé g value	jK Purity	HFS Constant A (10^{-3} cm^{-1})	Reference
$5p^58p$	3/2[1/2]	1	167 498.859 5	0.0009		84.8	32.82(1)	86SAN/AND
	3/2[5/2]	2	167 702.710 1	0.0008		89.2	20.38(12)	86SAN/AND
	3/2[5/2]	3	167 943.527 5	0.0009		100.0	17.78(9)	86SAN/AND
	3/2[3/2]	1	168 057.861 0	0.0008		84.8	26.45(3)	86SAN/AND
	3/2[3/2]	2	168 233.856 5	0.0008		89.2	15.45(10)	86SAN/AND
	3/2[1/2]	0	168 565.006 6	—		100.0		86SAN/AND
	1/2[3/2]	1	181 346.322	0.012		89.3		86SAN/AND
	1/2[1/2]	1	181 912.829	0.009		89.2		86SAN/AND
$5p^55g$	3/2[5/2]°	2	169 033.902 1	0.0011			−17.00(10)	86SAN/AND
	3/2[5/2]°	3	169 039.623 5	0.0011			−11.82(10)	86SAN/AND
	3/2[11/2]°	6	169 061.755 6	0.0013			8.7(12)	86SAN/AND
	3/2[11/2]°	5	169 062.063 0	0.0012			10.28(12)	86SAN/AND
	3/2[7/2]°	4	169 144.331 7	0.0011			−0.56(8)	86SAN/AND
	3/2[7/2]°	3	169 145.047 4	0.0009			−0.77(3)	86SAN/AND
	3/2[9/2]°	4	169 185.486 7	0.0013			6.47(15)	86SAN/AND
	3/2[9/2]°	5	169 185.596 8	0.0012			5.35(4)	86SAN/AND
	1/2[9/2]°	4	182 950.039	0.003				86SAN/AND
	1/2[9/2]°	5	182 950.259	0.003				86SAN/AND
	1/2[7/2]°	4	182 954.407	0.004				86SAN/AND
	1/2[7/2]°	3	182 956.200	0.005				86SAN/AND
$5p^59s$	3/2[3/2]°	2	171 972.917 5	0.0009		100.0	28.50(6)	86SAN/AND
	3/2[3/2]°	1	172 060.093 1	0.0009		100.0	40.10(3)	86SAN/AND
	1/2[1/2]°	1	185 845.6	1.7				86MCI/SUG
$5p^56f$	3/2[3/2]	1	172 123.607 1	0.0010		100.0	−25.78(3)	86SAN/AND
	3/2[3/2]	2	172 603.853 9	0.0010		74.2	−10.42(4)	86SAN/AND
	3/2[9/2]	5	172 626.581 8	0.0012		100.0	10.29(5)	86SAN/AND
	3/2[9/2]	4	172 833.388 8	0.0011		95.6	13.42(10)	86SAN/AND
	3/2[5/2]	3	172 978.140 1	0.0010		99.8	−2.61(13)	86SAN/AND
	3/2[7/2]	3	173 253.742 5	0.0011		99.9	10.63(12)	86SAN/AND
	3/2[7/2]	4	173 366.245 9	0.0012		95.6	7.43(3)	86SAN/AND
	3/2[5/2]	2	173 607.230 5	0.0010		74.3	−3.37(16)	86SAN/AND
$5p^58d$	3/2[1/2]°	0	172 723.406 9	0.0012		100.0		86SAN/AND
	3/2[1/2]°	1	172 832.962 8	0.0009		59.0	11.03(13)	86SAN/AND
	3/2[7/2]°	4	172 914.629 7	0.0011		100.0	12.91(7)	86SAN/AND
	3/2[7/2]°	3	172 968.177 4	0.0009		87.6	17.54(5)	86SAN/AND
	3/2[3/2]°	2	172 971.132 1	0.0011		97.4	6.29(23)	86SAN/AND
	3/2[5/2]°	2	173 075.350 6	0.0010		97.4	14.02(10)	86SAN/AND
	3/2[5/2]°	3	173 158.247 8	0.0010		87.6	10.26(11)	86SAN/AND
	3/2[3/2]°	1	173 816.569 6	0.0010		59.0	−20.72(3)	86SAN/AND
	1/2[3/2]°	1	187 171	7				86MCI/SUG
$5p^59p$	3/2[1/2]	1	173 706.787	0.008				86SAN/AND
	3/2[5/2]	2	173 810.796	0.006				86SAN/AND
	3/2[5/2]	3	173 892.831	0.004			17.6(3)	86SAN/AND
	3/2[3/2]	1	173 966.585	0.013				86SAN/AND
	3/2[3/2]	2	174 049.614 8	0.0017			17.2(3)	86SAN/AND
	3/2[1/2]	0	174 312.089	0.007				86SAN/AND
$5p^56g$	3/2[5/2]°	2	174 462.568 1	0.0015			−17.35(14)	86SAN/AND
	3/2[5/2]°	3	174 463.407 4	0.0011			−12.16(18)	86SAN/AND
	3/2[11/2]°	6	174 483.725 2	0.0019			8.7(3)	86SAN/AND
	3/2[11/2]°	5	174 484.061 8	0.0017			10.18(2)	86SAN/AND
	3/2[7/2]°	4	174 531.448 3	0.0015			−0.17(2)	86SAN/AND
	3/2[7/2]°	3	174 532.083 7	0.0009			−0.76(5)	86SAN/AND
	3/2[9/2]°	4	174 555.291 1	0.0025			7.4(15)	86SAN/AND
	3/2[9/2]°	5	174 555.399 5	0.0016			5.51(10)	86SAN/AND
$5p^56h$	3/2[7/2]	3	174 538.750 6	0.0025			−13.05(6)	86SAN/AND
	3/2[7/2]	4	174 538.866 3	0.0015			−10.29(8)	86SAN/AND

TABLE 4. Energy levels of Cs II—Continued

Configuration	Term	J	Energy (cm⁻¹)	Uncertainty (cm⁻¹)	Landé g value	jK Purity	HFS Constant A (10⁻³ cm⁻¹)	Reference
	3/2[13/2]	6	174 548.314 7	0.0019			8.64(21)	86SAN/AND
	3/2[13/2]	7	174 548.322	0.004			7.6(3)	86SAN/AND
	3/2[9/2]	4	174 576.211 9	0.0013			0.09(8)	86SAN/AND
	3/2[9/2]	5	174 576.222 1	0.0015			0.08(2)	86SAN/AND
	3/2[11/2]	5	174 586.637 3	0.0017			4.81(24)	86SAN/AND
	3/2[11/2]	6	174 586.644 4	0.0017			4.27(4)	86SAN/AND
$5p^57f$	3/2[3/2]	1	176 127.432 8	0.0022		100.0	−25.4(8)	86SAN/AND
	3/2[3/2]	2	176 260.659 8	0.0014		68.8	−6.4(4)	86SAN/AND
	3/2[9/2]	5	176 432.007 9	0.0019		100.0	10.8(5)	86SAN/AND
	3/2[5/2]	3	176 487.509	0.004		99.9	−0.38(12)	86SAN/AND
	3/2[9/2]	4	176 538.235 6	0.0017		89.7	13.17(12)	86SAN/AND
	3/2[7/2]	3	176 784.284 6	0.0017		100.0	10.0(5)	86SAN/AND
	3/2[7/2]	4	176 901.471 8	0.0013		89.7	7.28(12)	86SAN/AND
	3/2[5/2]	2	177 108.079	0.005		68.9		86SAN/AND
$5p^510s$	3/2[3/2]°	2	176 223.473 9	0.0014		100.0	27.6(4)	86SAN/AND
	3/2[3/2]°	1	176 274.946 3	0.0010		100.0	41.3(3)	86SAN/AND
	1/2[1/2]°	1	190 083.0	1.8				86MCI/SUG
$5p^59d$	3/2[1/2]°	0	176 690.347 2	0.0025		100.0		86SAN/AND
	3/2[1/2]°	1	176 742.731 9	0.0014		60.3	9.46(9)	86SAN/AND
	3/2[7/2]°	4	176 804.547 6	0.0021		100.0	13.03(4)	86SAN/AND
	3/2[3/2]°	2	176 824.905 2	0.0011		97.9	6.16(25)	86SAN/AND
	3/2[7/2]°	3	176 830.377 2	0.0013		86.8	17.33(16)	86SAN/AND
	3/2[5/2]°	2	176 895.244 8	0.0014		97.9	13.92(17)	86SAN/AND
	3/2[5/2]°	3	176 948.265 1	0.0015		86.8	10.05(21)	86SAN/AND
	3/2[3/2]°	1	177 255.788 4	0.0010		60.3	−18.63(16)	86SAN/AND
	1/2[3/2]°	1	190 909	7				86MCI/SUG
$5p^510p$	3/2[5/2]	2	177 338.587	0.007				86SAN/AND
	3/2[3/2]	2	177 494.098	0.014				86SAN/AND
$5p^57g$	3/2[5/2]°	2	177 737.737	0.007				86SAN/AND
	3/2[5/2]°	3	177 737.996	0.004				86SAN/AND
	3/2[11/2]°	6	177 752.255 2	0.0017			9.42(16)	86SAN/AND
	3/2[11/2]°	5	177 752.531 9	0.0017			10.31(5)	86SAN/AND
	3/2[7/2]°	4	177 782.190 8	0.0021			−0.67(20)	86SAN/AND
	3/2[7/2]°	3	177 782.676 1	0.0016			−0.4(3)	86SAN/AND
	3/2[9/2]°	4	177 797.240 3	0.0016			6.55(16)	86SAN/AND
	3/2[9/2]°	5	177 797.327 4	0.0016			6.6(6)	86SAN/AND
$5p^57h$	3/2[7/2]	3	177 789.046 6	0.0017			−13.05(11)	86SAN/AND
	3/2[7/2]	4	177 789.118 9	0.0020			−10.14(16)	86SAN/AND
	3/2[13/2]	7	177 795.149 6	0.0021			7.9(4)	86SAN/AND
	3/2[13/2]	6	177 795.152	0.003			9.47(12)	86SAN/AND
	3/2[9/2]	4	177 812.720	0.003			0.14(22)	86SAN/AND
	3/2[9/2]	5	177 812.721	0.006			0.16(20)	86SAN/AND
	3/2[11/2]	5	177 819.274	0.005				86SAN/AND
	3/2[11/2]	6	177 819.283	0.005				86SAN/AND
$5p^57i$	3/2[9/2]°	4	177 804.539	0.004				86SAN/AND
	3/2[9/2]°	5	177 804.555	0.004				86SAN/AND
	3/2[15/2]°	7,8	177 808.040	0.005				86SAN/AND
	3/2[11/2]°	5,6	177 819.214	0.004				86SAN/AND
	3/2[13/2]°	6,7	177 822.575	0.004				86SAN/AND
$5p^58f$	3/2[3/2]	1	178 739.893 2	0.0018		100.0	−25.78(19)	86SAN/AND
	3/2[3/2]	2	178 774.162	0.005		61.0		86SAN/AND
	3/2[5/2]	3	178 850.788 3	0.0015		100.0	−1.21(20)	86SAN/AND
	3/2[9/2]	5	178 931.774 1	0.0019		100.0	10.42(20)	86SAN/AND
	3/2[9/2]	4	178 981.363 3	0.0016		61.8	13.29(22)	86SAN/AND
	3/2[7/2]	3	179 115.921 5	0.0021		100.0	11.0(9)	86SAN/AND

TABLE 4. Energy levels of Cs II—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Landé g value	jK Purity	HFS Constant A (10^{-3} cm^{-1})	Reference
	3/2[7/2]	4	179 233.439 8	0.0017		61.8	8.70(22)	86SAN/AND
	3/2[5/2]	2	179 390.434	0.005		61.0		86SAN/AND
$5p^5 11s$	3/2[3/2]°	2	178 870.780	0.006		100.0		86SAN/AND
	3/2[3/2]°	1	178 911.554	0.012		100.0		86SAN/AND
	1/2[1/2]°	1	192 729.5	1.9				86MCI/SUG
$5p^5 10d$	3/2[1/2]°	0	179 182.468	0.012		100.0		86SAN/AND
	3/2[1/2]°	1	179 201.55	0.06		59.3		86SAN/AND
	3/2[3/2]°	2	179 245.734 9	0.0021		88.3	5.5(3)	86SAN/AND
	3/2[7/2]°	4	179 254.768	0.004		100.0	13.02(25)	86SAN/AND
	3/2[7/2]°	3	179 263.951	0.005		73.4		86SAN/AND
	3/2[5/2]°	2	179 304.391	0.009		88.3		86SAN/AND
	3/2[5/2]°	3	179 346.510 6	0.0022		73.4	10.6(4)	86SAN/AND
	3/2[3/2]°	1	179 465.520	0.010		59.3		86SAN/AND
	1/2[3/2]°	1	193 257	7				86MCI/SUG
$5p^5 8g$	3/2[5/2]°	2	179 849.362	0.010				86SAN/AND
	3/2[5/2]°	3	179 855.722	0.006				86SAN/AND
	3/2[11/2]°	6	179 872.346	0.003			11.0(4)	86SAN/AND
	3/2[11/2]°	5	179 872.565	0.006			13.1(9)	86SAN/AND
	3/2[7/2]°	4	179 892.261	0.009				86SAN/AND
	3/2[7/2]°	3	179 892.492	0.007				86SAN/AND
	3/2[9/2]°	4	179 902.411	0.006				86SAN/AND
	3/2[9/2]°	5	179 902.454	0.008				86SAN/AND
$5p^5 8h$	3/2[7/2]	3	179 897.901	0.016				86SAN/AND
	3/2[7/2]	4	179 897.993	0.006				86SAN/AND
	3/2[13/2]	7	179 902.087	0.003				86SAN/AND
	3/2[13/2]	6	179 902.090	0.004				86SAN/AND
	3/2[9/2]	4	179 913.847	0.003				86SAN/AND
	3/2[9/2]	5	179 913.854	0.004				86SAN/AND
	3/2[11/2]	5	179 918.240	0.004				86SAN/AND
	3/2[11/2]	6	179 918.251	0.007				86SAN/AND
$5p^5 8i$	3/2[9/2]°	4	179 908.553	0.005				86SAN/AND
	3/2[9/2]°	5	179 908.570	0.005				86SAN/AND
	3/2[15/2]°	7	179 911.020	0.005				86SAN/AND
	3/2[11/2]°	5	179 918.481	0.003				86SAN/AND
$5p^5 9f$	3/2[3/2]	2	180 457.262	0.008				86SAN/AND
	3/2[9/2]	5	180 641.725	0.005				86SAN/AND
	3/2[7/2]	3	180 944.40	0.04				86SAN/AND
	3/2[5/2]	3	181 030.767	0.008				86SAN/AND
	3/2[7/2]	4	181 035.005	0.005				86SAN/AND
$5p^5 12s$	3/2[3/2]°	2	180 638.664	0.014		100.0		86SAN/AND
	3/2[3/2]°	1	180 659.11	0.03		100.0		86SAN/AND
	1/2[1/2]°	1	194 490.0	1.9				86MCI/SUG
$5p^5 11d$	3/2[1/2]°	0	180 849.74	0.03		100.0		86SAN/AND
	3/2[1/2]°	1	180 898.63	0.05		50.2		86SAN/AND
	3/2[7/2]°	4	180 899.507	0.005		100.0		86SAN/AND
	3/2[7/2]°	3	180 918.280	0.008		55.6		86SAN/AND
	3/2[5/2]°	2	180 928.695	0.024		64.5		86SAN/AND
	3/2[5/2]°	3	180 963.258	0.016		55.6		86SAN/AND
	3/2[3/2]°	1	181 290.0	1.6				86MCI/SUG
	1/2[3/2]°	1	194 869	8				86MCI/SUG
$5p^5 9g$	3/2[5/2]°	2	181 319.566	0.007				86SAN/AND
	3/2[5/2]°	3	181 320.636	0.010				86SAN/AND
	3/2[11/2]°	6	181 324.881	0.011				86SAN/AND
	3/2[11/2]°	5	181 325.07	0.04				86SAN/AND

TABLE 4. Energy levels of Cs II—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Landé g value	jK Purity	HFS Constant A (10^{-3} cm^{-1})	Reference
	3/2[7/2]°	4	181 338.593	0.019				86SAN/AND
	3/2[7/2]°	3	181 339.030	0.009				86SAN/AND
	3/2[9/2]°	4	181 345.855	0.010				86SAN/AND
	3/2[9/2]°	5	181 345.935	0.007				86SAN/AND
$5p^5 10f$	3/2[9/2]	5	181 855.418	0.005				86SAN/AND
	3/2[5/2]	3	181 963.506	0.007				86SAN/AND
	3/2[7/2]	3	182 000.374	0.011				86SAN/AND
	3/2[7/2]	4	182 025.099	0.009				86SAN/AND
$5p^5 13s$	3/2[3/2]°	2	181 868.025	0.011				86SAN/AND
	3/2[3/2]°	1	181 883.937	0.025				86SAN/AND
	1/2[1/2]°	1	195 719.9	1.9				86MCI/SUG
$5p^5 12d$	3/2[1/2]°	1	182 044.635	0.013				86SAN/AND
	3/2[7/2]°	4	182 057.549	0.013				86SAN/AND
	3/2[7/2]°	3	182 067.386	0.012				86SAN/AND
	3/2[3/2]°	2	182 070.263	0.015				86SAN/AND
	3/2[5/2]°	2	182 087.50	0.04				86SAN/AND
	3/2[5/2]°	3	182 102.865	0.004				86SAN/AND
	3/2[3/2]°	1	182 248.4	1.7				86MCI/SUG
	1/2[3/2]°	1	195 992	8				86MCI/SUG
$5p^5 10g$	3/2[5/2]°	2	182 358.865	0.016				86SAN/AND
	3/2[5/2]°	3	182 359.299	0.014				86SAN/AND
	3/2[11/2]°	6	182 363.118	0.020				86SAN/AND
	3/2[11/2]°	5	182 363.25	0.03				86SAN/AND
	3/2[7/2]°	4	182 372.706	0.015				86SAN/AND
	3/2[7/2]°	3	182 373.00	0.04				86SAN/AND
	3/2[9/2]°	4	182 378.046	0.011				86SAN/AND
	3/2[9/2]°	5	182 378.16	0.06				86SAN/AND
$5p^5 14s$	3/2[3/2]°	2	182 762.784	0.016				86SAN/AND
	3/2[3/2]°	1	182 770.9	1.7				86MCI/SUG
$5p^5 13d$	3/2[1/2]°	1	182 892.156	0.010				86SAN/AND
	3/2[7/2]°	4	182 903.716	0.012				86SAN/AND
	3/2[7/2]°	3	182 909.774	0.024				86SAN/AND
	3/2[5/2]°	3	182 936.556	0.020				86SAN/AND
	3/2[3/2]°	1	182 952.187	0.007				86SAN/AND
	1/2[3/2]°	1	196 817	8				86MCI/SUG
$5p^5 11g$	3/2[5/2]°	2	183 127.50	0.03				86SAN/AND
	3/2[5/2]°	3	183 127.87	0.03				86SAN/AND
	3/2[11/2]°	6	183 130.837	0.018				86SAN/AND
	3/2[11/2]°	5	183 131.01	0.04				86SAN/AND
	3/2[9/2]°	4	183 142.893	0.024				86SAN/AND
$5p^5 15s$	3/2[3/2]°	1	183 438.0	1.7				86MCI/SUG
	1/2[1/2]°	1	197 282.8	1.9				86MCI/SUG
$5p^5 14d$	3/2[7/2]°	4	183 541.197	0.017				86SAN/AND
	3/2[5/2]°	3	183 566.638	0.018				86SAN/AND
	3/2[3/2]°	1	183 630.5	1.7				86MCI/SUG
	1/2[3/2]°	1	197 410	8				86MCI/SUG
$5p^5 16s$	3/2[3/2]°	1	183 951.3	1.7				86MCI/SUG
$5p^5 15d$	3/2[1/2]°	1	184 028.5	1.7				86MCI/SUG
	3/2[7/2]°	4	184 033.15	0.07				86SAN/AND
	3/2[3/2]°	1	184 099.0	1.7				86MCI/SUG
$5p^5 17s$	3/2[3/2]°	1	184 353.5	1.7				86MCI/SUG

TABLE 4. Energy levels of Cs II—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Landé g value	jK Purity	HFS Constant A (10^{-3} cm^{-1})	Reference
$5p^5 16d$	3/2[1/2]°	1	184 420.9	1.7				86MCI/SUG
	3/2[3/2]°	1	184 470.9	1.7				86MCI/SUG
$5p^5 18s$	3/2[3/2]°	1	184 678.3	1.7				86MCI/SUG
$5p^5 17d$	3/2[3/2]°	1	184 771.5	1.7				86MCI/SUG
$5p^5 18d$	3/2[3/2]°	1	185 018.2	1.7				86MCI/SUG
$5p^5 19d$	3/2[3/2]°	1	185 221.0	1.7				86MCI/SUG
Cs III ($5p^5\ ^2P^\circ_{3/2}$)		*Limit*	186 777.4	0.5				86SAN/AND

References for Cs II

24SOM L. A. Sommer, Ann. Phys. **75**, 163 (1924).
32LAP/MIL O. Laport, G. R. Miller, and R. A. Sawyer, Phys. Rev. **39**, 458 (1932).
32OLT/SAW J. Olthoff and R. A. Sawyer, Phys. Rev. **42**, 766 (1932).
42BOY/SAW R. A. Boyd and R. A. Sawyer, Phys. Rev. **61**, 601 (1942).
42WHE/SAW M. A. Wheatley and R. A. Sawyer, Phys. Rev. **61**, 591 (1942).
66ZEL/SEM G. Ya. Zelinka and R. I. Semenov, Opt. Spectrosc. **21**, 427 (1966).
75REA/EPS J. Reader and G. L. Epstein, J. Opt. Soc. Am. **65**, 638 (1975).
76REA J. Reader, Phys. Rev. A **13**, 507 (1976).
79ALV/ARN E. Alvarez, A. Arnesen, A. Bengston, R. Hallin, C. Mayige, C. Nordling, T. Noreland, and Ö. Staaf, Opt. Lett. **4**, 268 (1979).
80ALV/ARN E. Alvarez, A. Arnesen, A. Bengston, J. Campos, R. Hallin, C. Nordling, T. Noreland, and Ö. Staaf, Phys. Rev. A **21**, 710 (1980).
86MCI/SUG T. J. McIlrath, J. Sugar, V. Kaufman, D. Cooper, and W. T. Hill III, J. Opt. Soc. Am. B **3**, 398 (1986).
86SAN/AND C. J. Sansonetti and K. L. Andrew, J. Opt. Soc. Am. B **3**, 386 (1986).
88SAN/AND C. J. Sansonetti, K. L. Andrew, and J.-F. Wyart, J. Opt. Soc. Am. B **5**, 2076 (1988).
96TER/PAP S. A. Ter-Avetisyan, V. O. Papanyan, and A. G. Maloyan, Opt. Spectrosc. **81**, 515 (1996).
97CUM/OSU A. Cummings and G. O'Sullivan, J. Phys. B **30**, 5599 (1997).
05SAN/AND C. J. Sansonetti and K. L. Andrew, Phys. Scr. **71**, 362 (2005).

6.3. Cs III

I isoelectronic sequence
Ground state:

$$1s^22s^22p^63s^23p^63d^{10}4s^24p^64d^{10}5s^25p^5\ ^2P^\circ_{3/2}$$

Ionization energy: $267\,736 \pm 30$ cm^{-1}; 33.195 ± 0.004 eV

The first analysis of Cs III was reported in 1934 by Fitzgerald and Sawyer [34FIT/SAW], who used known energy levels of Cs II to predict the $5s^25p^5\ ^2P$ interval. They classified nine pairs of lines in the 500–900 Å region as transitions from excited levels to the two levels of the ground configuration. In 1976 Epstein and Reader [76EPS/REA] published new and much more accurate measurements of 48 resonance lines and a totally revised analysis based on a corrected $5s^25p^5\ ^2P$ interval. All levels of the $5s5p^6$, $5s^25p^45d$, and $5s^25p^46s$ configurations with allowed transitions to $5s^25p^5\ ^2P^\circ_{3/2}$ or $^2P^\circ_{1/2}$ were located. While studying the Cs II spectrum, Sansonetti [81SAN] also observed and classified many lines of Cs III. Subsequently Sansonetti *et al.* [09SAN/AND] revised and extended the experimentally determined energy levels of Cs III based on new observations of the spectrum in the region 400–9000 Å. Most levels of the configurations $5s^25p^5$, $5s5p^6$, and $5s^25p^45d$, $6s$, $6d$, $7s$, $5g$, $6p$, and $4f$ and some of $5s^25p^47d$, $8s$, $7p$, and $5f$ were found. The ground state splitting was determined to be $13\,847.360\,9 \pm 0.0010$ cm^{-1} and over 1000 lines were classified as transitions among 75 odd and 98 even parity levels. Although not compiled here, it should be noted that several transitions involving promotion of $4d$ electrons have been observed by Cummings and O'Sullivan [01CUM/OSU] through the use of XUV photoabsorption. Oscillator strengths for these transitions were also calculated and reported in [01CUM/OSU].

Hyperfine constants for three levels have been reported by Sansonetti *et al.* [09SAN/AND]. For the $5s^25p^5\ ^2P^\circ_{3/2}$ ground state they obtained $A = 0.0347 \pm 0.0002$ cm^{-1} and $B = 0.0$ cm^{-1}. For the $5s^25p^5\ ^2P^\circ_{1/2}$ and $5s5p^6\ ^2S_{1/2}$ levels A was determined to be 0.2507 ± 0.0004 and 0.665 ± 0.015 cm^{-1}, respectively.

The wavelengths, intensities, and energy levels reported in Tables 5 and 6 are from [09SAN/AND], as is the ionization energy. As can be observed in Table 6, there is quite a bit of configuration mixing in Cs III. To avoid duplicates, the names assigned to a few of the levels do not correspond to the largest component. The uncertainty of the connection between the ground configuration and the excited levels is 0.054 cm^{-1} and the uncertainties listed in Table 6 reflect the consistency of transitions between excited states. The transition probability for the $5s^25p^5\ ^2P^\circ_{1/2}-^2P^\circ_{3/2}$ forbidden transition at 7219 Å has been calculated by Biémont *et al.* [95BIE/HAN] using the semirelativistic Hartree-Fock code of Cowan [81COW]. The other transition probabilities are determined by Sansonetti *et al.* [09SAN/AND] also using the semirelativistic Hartree-Fock code.

TABLE 5. Observed spectral lines of Cs III

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
Vacuum									
440.895	0.005	226 811.2	65		2.38E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^47d\ (^3P_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
440.918	0.005	226 799.7	88		4.98E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^47d\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
444.131	0.002	225 158.9	41		6.63E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^48s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
444.343	0.002	225 051.6	30		3.80E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^47d\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
450.298	0.002	222 075.1	31		3.90E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
452.705	0.002	220 894.5	88		1.22E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^1D_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
453.566	0.002	220 475.2	88		7.55E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^1D_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
455.645	0.002	219 468.9	30		3.13E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^47s\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
456.245	0.002	219 180.3	100		1.75E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^47s\ (^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
467.247	0.002	214 019.3	30		2.75E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^3P_1)[2]_{3/2}$	09SAN/AND	09SAN/AND
469.079	0.002	213 183.5	170		3.88E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^3P_1)[3]_{5/2}$	09SAN/AND	09SAN/AND
469.557	0.002	212 966.7	30		1.08E+9	$5p^5\ ^2P^\circ_{1/2}$	$5p^47d\ (^3P_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
470.323	0.002	212 620.0	32		1.52E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^3P_1)[2]_{5/2}$	09SAN/AND	09SAN/AND
471.465	0.002	212 104.8	33		8.75E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^47s\ (^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND
471.921	0.002	211 899.9	76		1.12E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
473.239	0.002	211 309.9	30	p	1.25E+8	$5p^5\ ^2P^\circ_{1/2}$	$5p^48s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
473.248	0.002	211 305.5	30	p	5.48E+7	$5p^5\ ^2P^\circ_{3/2}$	$5p^47s\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
474.615	0.002	210 697.1	31		4.25E+8	$5p^5\ ^2P^\circ_{1/2}$	$5p^46d\ (^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND
478.230	0.002	209 104.5	55		5.87E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^3P_0)[2]_{5/2}$	09SAN/AND	09SAN/AND
479.388	0.002	208 599.2	32		2.85E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^3P_0)[2]_{3/2}$	09SAN/AND	09SAN/AND
479.726	0.002	208 452.3	33		3.40E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^47s\ (^3P_0)[0]_{1/2}$	09SAN/AND	09SAN/AND
479.951	0.002	208 354.6	88		7.75E+9	$5p^5\ ^2P^\circ_{1/2}$	$5p^46d\ (^1D_2)[1]_{1/2}$	09SAN/AND	09SAN/AND
480.242	0.002	208 228.1	140		5.08E+9	$5p^5\ ^2P^\circ_{1/2}$	$5p^46d\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
483.964	0.002	206 626.9	30		3.18E+8	$5p^5\ ^2P^\circ_{1/2}$	$5p^46d\ (^1D_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
486.330	0.002	205 621.8	44		9.40E+8	$5p^5\ ^2P^\circ_{1/2}$	$5p^47s\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
494.035	0.002	202 414.8	490		6.02E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
494.784	0.002	202 108.2	310		5.00E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
497.548	0.002	200 985.7	170		4.22E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^3P_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
499.572	0.002	200 171.2	140		2.73E+9	$5p^5\ ^2P^\circ_{1/2}$	$5p^46d\ (^3P_1)[2]_{3/2}$	09SAN/AND	09SAN/AND
501.757	0.002	199 299.7	230		1.58E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^47s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
503.839	0.002	198 476.0	31		3.97E+7	$5p^5\ ^2P^\circ_{3/2}$	$5p^47s\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
504.172	0.005	198 344.9	30		9.93E+7	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
504.398	0.002	198 256.2	41		1.16E+9	$5p^5\ ^2P^\circ_{1/2}$	$5p^47s\ (^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND
504.914	0.002	198 053.7	29		8.65E+7	$5p^5\ ^2P^\circ_{1/2}$	$5p^46d\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
506.443	0.002	197 455.7	30		3.40E+8	$5p^5\ ^2P^\circ_{1/2}$	$5p^47s\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
508.006	0.002	196 848.1	30		4.58E+8	$5p^5\ ^2P^\circ_{1/2}$	$5p^46d\ (^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
531.179 7	0.0015	188 260.2	31		4.85E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^46d\ (^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
539.219 3	0.0015	185 453.3	30		1.60E+8	$5p^5\ ^2P^\circ_{1/2}$	$5p^47s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
556.912 5	0.0016	179 561.4	170		1.42E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^46s\ (^1S_0)[0]_{1/2}$	09SAN/AND	09SAN/AND
560.654	0.002	178 363.0	30		9.23E+7	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^1S_0)[2]_{3/2}$	09SAN/AND	09SAN/AND
584.147	0.002	171 189.8	670		9.13E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^1S_0)[2]_{5/2}$	09SAN/AND	09SAN/AND
584.399 6	0.0019	171 115.8	190		1.03E+10	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^1D_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
603.009	0.003	165 835.0	1 500		3.49E+10	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^1D_2)[1]_{1/2}$	09SAN/AND	09SAN/AND
607.850	0.003	164 514.4	670	p	2.80E+10	$5p^5\ ^2P^\circ_{1/2}$	$5p^45d\ (^1S_0)[2]_{3/2}$	09SAN/AND	09SAN/AND
607.942	0.002	164 489.3	490	p	1.58E+10	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
614.013	0.003	162 863.0	15 000	w	3.45E+10	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
621.151	0.002	160 991.5	3 200	w	1.43E+10	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^1D_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
635.863	0.003	157 266.5	310	w	3.50E+10	$5p^5\ ^2P^\circ_{1/2}$	$5p^45d\ (^1D_2)[0]_{1/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
637.673	0.002	156 820.1	230		6.20E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^46s\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
638.170	0.003	156 698.1	1 500	w	2.92E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^46s\ (^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
657.945	0.002	151 988.4	41		1.80E+9	$5p^5\ ^2P^\circ_{1/2}$	$5p^45d\ (^1D_2)[1]_{1/2}$	09SAN/AND	09SAN/AND
663.824 1	0.0016	150 642.3	310		4.08E+9	$5p^5\ ^2P^\circ_{1/2}$	$5p^45d\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
664.597 1	0.0019	150 467.1	310		2.69E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^46s\ (^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND
666.250	0.003	150 093.7	1 500	w	1.18E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^1D_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
673.057	0.002	148 575.8	670		7.88E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^46s\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
679.604	0.002	147 144.5	490		4.85E+9	$5p^5\ ^2P^\circ_{1/2}$	$5p^45d\ (^1D_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
687.555 0	0.0016	145 442.9	490		5.70E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^46s\ (^3P_0)[0]_{1/2}$	09SAN/AND	09SAN/AND
691.602 2	0.0014	144 591.8	670		3.43E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^3P_0)[2]_{5/2}$	09SAN/AND	09SAN/AND
699.433 1	0.0019	142 972.9	360		1.67E+9	$5p^5\ ^2P^\circ_{1/2}$	$5p^46s\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
703.888 1	0.0015	142 068.0	260		8.08E+7	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^3P_1)[2]_{5/2}$	09SAN/AND	09SAN/AND
710.255 0	0.0013	140 794.5	1 000		1.55E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^3P_1)[2]_{3/2}$	09SAN/AND	09SAN/AND
721.797 5	0.0013	138 543.0	48 000	w	3.95E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^46s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
722.207 8	0.0013	138 464.3	48 000	w	6.83E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
731.563 5	0.0013	136 693.5	2 000	w	8.23E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
731.959 9	0.0013	136 619.5	550	p	1.93E+9	$5p^5\ ^2P^\circ_{1/2}$	$5p^46s\ (^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND
736.661 3	0.0013	135 747.6	1 000		1.13E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^3P_0)[2]_{3/2}$	09SAN/AND	09SAN/AND
740.297 7	0.0013	135 080.8	13 000	w	6.03E+8	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^3P_1)[3]_{5/2}$	09SAN/AND	09SAN/AND
742.233 4	0.0013	134 728.5	330		5.13E+7	$5p^5\ ^2P^\circ_{1/2}$	$5p^46s\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
750.380 6	0.0013	133 265.7	2 000	w	1.63E+7	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND
755.178 6	0.0013	132 419.0	1 000	w	1.07E+9	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^3P_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
758.825 4	0.0013	131 782.6	800		2.07E+7	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
759.901 5	0.0013	131 596.0	87		7.30E+6	$5p^5\ ^2P^\circ_{1/2}$	$5p^46s\ (^3P_0)[0]_{1/2}$	09SAN/AND	09SAN/AND
787.728	0.005	126 947.4	30		3.78E+7	$5p^5\ ^2P^\circ_{1/2}$	$5p^45d\ (^3P_1)[2]_{3/2}$	76REA/EPS	09SAN/AND
801.950 9	0.0013	124 695.91	550		7.48E+7	$5p^5\ ^2P^\circ_{1/2}$	$5p^46s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
814.026 0	0.0013	122 846.20	550		2.90E+7	$5p^5\ ^2P^\circ_{1/2}$	$5p^45d\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
817.352 0	0.0013	122 346.31	83		1.27E+6	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^3P_2)[1]_{1/2}$	09SAN/AND	09SAN/AND
820.341 9	0.0013	121 900.40	710		4.15E+7	$5p^5\ ^2P^\circ_{1/2}$	$5p^45d\ (^3P_0)[2]_{3/2}$	09SAN/AND	09SAN/AND
825.997 6	0.0013	121 065.72	250		1.75E+3	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
830.393 0	0.0013	120 424.90	2 000	w	1.55E+7	$5p^5\ ^2P^\circ_{3/2}$	$5p^45d\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
837.391 1	0.0013	119 418.51	220		4.21E+7	$5p^5\ ^2P^\circ_{1/2}$	$5p^45d\ (^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND
843.370 9	0.0013	118 571.80	84		7.35E+6	$5p^5\ ^2P^\circ_{1/2}$	$5p^45d\ (^3P_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
847.922 5	0.0013	117 935.30	200		1.35E+7	$5p^5\ ^2P^\circ_{1/2}$	$5p^45d\ (^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
920.355	0.003	108 653.7	2 000	d	6.10E+7	$5p^5\ ^2P^\circ_{3/2}$	$5s5p^6\ ^2S_{1/2}$	09SAN/AND	09SAN/AND
921.664	0.003	108 499.4	250		1.35E+7	$5p^5\ ^2P^\circ_{1/2}$	$5p^45d\ (^3P_2)[1]_{1/2}$	09SAN/AND	09SAN/AND
932.673	0.003	107 218.7	82		1.94E+5	$5p^5\ ^2P^\circ_{1/2}$	$5p^45d\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
1 054.783	0.003	94 806.3	13 000	d	7.60E+7	$5p^5\ ^2P^\circ_{1/2}$	$5s5p^6\ ^2S_{1/2}$	09SAN/AND	09SAN/AND
1 100.290	0.003	90 885.2	83		8.00E+6	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^45f\ (^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 106.442	0.003	90 379.8	250		8.25E+7	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^45f\ (^3P_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
1 108.103	0.003	90 244.3	130		3.70E+7	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^45f\ (^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 110.794	0.003	90 025.7	290	p	9.44E+7	$5p^45d\ (^3P_2)[3]_{7/2}$	$5p^45f\ (^3P_2)[4]^\circ_{9/2}$	09SAN/AND	09SAN/AND
1 110.830	0.003	90 022.8	150	p	2.34E+7	$5p^45d\ (^3P_2)[3]_{7/2}$	$5p^45f\ (^3P_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
1 122.949	0.003	89 051.2	89		4.81E+7	$5p^45d\ (^3P_2)[3]_{7/2}$	$5p^47p\ (^3P_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
1 124.056	0.003	88 963.6	110		4.08E+7	$5p^45d\ (^3P_2)[1]_{1/2}$	$5p^45f\ (^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 132.076	0.003	88 333.3	82		7.13E+7	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^47p\ (^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 167.970	0.003	85 618.67	330		1.02E+8	$5p^45d\ (^3P_2)[4]_{9/2}$	$5p^45f\ (^3P_2)[5]^\circ_{11/2}$	09SAN/AND	09SAN/AND
1 178.110	0.003	84 881.73	150		2.35E+7	$5p^45d\ (^3P_2)[4]_{9/2}$	$5p^45f\ (^3P_2)[4]^\circ_{9/2}$	09SAN/AND	09SAN/AND
1 181.346	0.003	84 649.19	220	d	3.43E+8	$5s5p^6\ ^2S_{1/2}$	$5p^44f\ (^1D_2)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
1 187.243	0.003	84 228.74	370	d	2.78E+8	$5s5p^6\ ^2S_{1/2}$	$5p^44f\ (^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 191.795	0.003	83 907.05	97		1.21E+8	$5p^45d\ (^3P_2)[4]_{9/2}$	$5p^47p\ (^3P_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
1 201.095	0.003	83 257.34	330		9.90E+7	$5p^45d\ (^3P_2)[4]_{7/2}$	$5p^45f\ (^3P_2)[5]^\circ_{9/2}$	09SAN/AND	09SAN/AND
1 219.625	0.003	81 992.41	1 000		2.84E+7	$5p^45d\ (^3P_1)[2]_{5/2}$	$5p^45f\ (^3P_1)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
1 231.790	0.005	81 182.7	85		7.32E+7	$5p^45d\ (^3P_2)[4]_{7/2}$	$5p^47p\ (^3P_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 233.032	0.005	81 100.9	97		2.11E+7	$5p^45d\ (^3P_2)[1]_{3/2}$	$5p^45f\ (^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 579.866	0.013	63 296.5	1 200		1.34E+6	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^1D_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
1 610.820	0.008	62 080.2	1 200		7.38E+6	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^44f\ (^3P_1)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
1 627.614 2	0.0012	61 439.62	2 400		1.60E+7	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^44f\ (^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 630.933	0.013	61 314.6	600		7.68E+5	$5p^45d\ (^3P_1)[1]_{3/2}$	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 631.424	0.010	61 296.1	1 200		1.82E+7	$5p^45d\ (^3P_1)[2]_{3/2}$	$5p^44f\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 642.492 6	0.0016	60 883.07	3 000		2.07E+8	$5p^45d\ (^3P_2)[0]_{1/2}$	$5p^44f\ (^1D_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
1 653.463 5	0.0019	60 479.11	3 000		4.43E+6	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 654.562 2	0.0013	60 438.95	1 800		8.79E+6	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^44f\ (^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 658.013 2	0.0015	60 313.15	2 400		9.11E+6	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^44f\ (^3P_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 660.501 5	0.0018	60 222.77	1 200		1.02E+7	$5p^45d\ (^3P_1)[3]_{7/2}$	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 667.899 5	0.0015	59 955.65	5 400		1.83E+7	$5p^45d\ (^3P_2)[3]_{7/2}$	$5p^44f\ (^3P_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 673.990 9	0.0013	59 737.48	11 000	d	2.25E+6	$5s5p^6\ ^2S_{1/2}$	$5p^46p\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 677.408 2	0.0018	59 615.78	2 400		1.41E+7	$5p^45d\ (^3P_1)[1]_{1/2}$	$5p^44f\ (^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 681.674 8	0.0014	59 464.53	2 400		9.33E+6	$5p^46s\ (^3P_2)[2]_{3/2}$	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 682.782 7	0.0015	59 425.38	10 000		1.25E+7	$5p^45d\ (^3P_2)[4]_{9/2}$	$5p^44f\ (^3P_1)[4]^{\circ}_{9/2}$	09SAN/AND	09SAN/AND
1 689.143	0.002	59 201.61	11		4.78E+7	$5p^44f\ (^3P_2)[3]^{\circ}_{7/2}$	$5p^45g\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
1 693.260	0.002	59 057.68	30		8.45E+7	$5p^44f\ (^3P_2)[3]^{\circ}_{7/2}$	$5p^45g\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
1 693.582 5	0.0017	59 046.43	1 800		3.71E+8	$5p^44f\ (^3P_2)[3]^{\circ}_{7/2}$	$5p^45g\ (^3P_2)[5]_{9/2}$	09SAN/AND	09SAN/AND
1 701.294	0.002	58 778.80	17		1.82E+5	$5p^45d\ (^1D_2)[3]_{7/2}$	$5p^45f\ (^3P_2)[5]^{\circ}_{9/2}$	09SAN/AND	09SAN/AND
1 702.608	0.002	58 733.44	34		3.04E+7	$5p^44f\ (^3P_2)[3]^{\circ}_{5/2}$	$5p^45g\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
1 703.125	0.002	58 715.58	39		1.23E+8	$5p^44f\ (^3P_2)[3]^{\circ}_{5/2}$	$5p^45g\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
1 703.320	0.002	58 708.89	47		7.42E+7	$5p^44f\ (^3P_2)[4]^{\circ}_{9/2}$	$5p^45g\ (^3P_2)[5]_{9/2}$	09SAN/AND	09SAN/AND
1 703.473 3	0.0017	58 703.59	2 400		4.42E+8	$5p^44f\ (^3P_2)[4]^{\circ}_{9/2}$	$5p^45g\ (^3P_2)[5]_{11/2}$	09SAN/AND	09SAN/AND
1 705.248 5	0.0017	58 642.48	7 200		4.37E+7	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^44f\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 706.794 5	0.0017	58 589.36	1 200		3.13E+8	$5p^44f\ (^3P_2)[3]^{\circ}_{5/2}$	$5p^45g\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
1 711.680	0.002	58 422.14	17		2.58E+7	$5p^46p\ (^3P_2)[1]^{\circ}_{3/2}$	$5p^47d\ (^3P_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
1 712.016	0.002	58 410.67	34		1.06E+8	$5p^46p\ (^3P_2)[1]^{\circ}_{3/2}$	$5p^47d\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
1 712.273	0.002	58 401.91	39		1.50E+6	$5p^45d\ (^3P_2)[4]_{9/2}$	$5p^44f\ (^3P_0)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 714.103 3	0.0016	58 339.54	4 200		4.05E+7	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^44f\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 715.708 5	0.0016	58 284.96	3 000		1.12E+7	$5p^45d\ (^3P_2)[3]_{7/2}$	$5p^44f\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 722.312 3	0.0015	58 061.48	1 800		5.60E+6	$5p^45d\ (^3P_2)[4]_{7/2}$	$5p^46p\ (^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 723.117	0.002	58 034.36	43		3.73E+8	$5p^44f\ (^3P_1)[2]^{\circ}_{3/2}$	$5p^45g\ (^3P_1)[3]_{5/2}$	09SAN/AND	09SAN/AND
1 724.081 4	0.0015	58 001.90	2 400		1.42E+7	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^44f\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 726.955	0.002	57 905.38	26		4.08E+6	$5p^45d\ (^1D_2)[4]_{7/2}$	$5p^44f\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 728.647 3	0.0016	57 848.70	3 000		1.01E+8	$5p^45d\ (^3P_0)[2]_{5/2}$	$5p^44f\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 730.267	0.002	57 794.55	34		1.51E+5	$5p^45d\ (^3P_2)[4]_{9/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 732.057 3	0.0017	57 734.81	3 000		4.13E+7	$5p^45d\ (^3P_1)[3]_{7/2}$	$5p^44f\ (^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 733.132 9	0.0019	57 698.98	3 600		4.58E+7	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^44f\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 736.853	0.002	57 575.40	22		1.36E+4	$5p^44f\ (^3P_2)[2]^{\circ}_{3/2}$	$5p^47d\ (^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
1 736.920	0.002	57 573.18	140		6.40E+6	$5p^45d\ (^3P_2)[1]_{3/2}$	$5p^44f\ (^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 739.161 8	0.0014	57 498.96	600		2.10E+7	$5p^45d\ (^3P_0)[2]_{5/2}$	$5p^44f\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 739.230	0.002	57 496.71	1 200		2.60E+6	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 740.857 0	0.0015	57 442.97	3 600		3.94E+7	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
1 741.617 3	0.0018	57 417.89	660		3.12E+8	$5p^44f\ (^3P_2)[2]^{\circ}_{3/2}$	$5p^45g\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
1 744.516	0.002	57 322.49	77		5.28E+7	$5p^45d\ (^1D_2)[1]_{3/2}$	$5p^44f\ (^1S_0)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 747.843 2	0.0017	57 213.37	2 400		1.05E+7	$5p^45d\ (^3P_1)[2]_{3/2}$	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 750.277	0.003	57 133.81	200		3.03E+6	$5p^45d\ (^3P_0)[2]_{3/2}$	$5p^44f\ (^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 752.676	0.003	57 055.60	9		6.08E+3	$5p^45d\ (^3P_2)[3]_{5/2}$	$5p^44f\ (^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 758.823 8	0.0014	56 856.18	1 800		1.24E+7	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 759.054	0.003	56 848.74	43		4.54E+7	$5p^46p\ (^1D_2)[3]^{\circ}_{7/2}$	$5p^45g\ (^3P_1)[5]_{9/2}$	09SAN/AND	09SAN/AND
1 759.954 1	0.0020	56 819.66	590		1.25E+6	$5p^45d\ (^3P_2)[4]_{7/2}$	$5p^44f\ (^3P_1)[4]^{\circ}_{9/2}$	09SAN/AND	09SAN/AND
1 761.546 2	0.0020	56 768.31	39		4.83E+7	$5p^46p\ (^3P_2)[1]^{\circ}_{3/2}$	$5p^48s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
1 765.303	0.003	56 647.51	52		1.21E+6	$5p^46s\ (^3P_0)[0]_{1/2}$	$5p^44f\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 766.513 5	0.0017	56 608.68	580		6.15E+7	$5p^45d\ (^3P_1)[1]_{3/2}$	$5p^44f\ (^1D_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
1 768.392	0.003	56 548.54	220		3.17E+6	$5p^45d\ (^3P_2)[1]_{3/2}$	$5p^46p\ (^1D_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
1 772.472 6	0.0016	56 418.36	5 400		5.60E+7	$5p^45d\ (^3P_2)[1]_{1/2}$	$5p^44f\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 772.721	0.003	56 410.46	13		3.47E+6	$5p^44f\ (^3P_2)[3]^{\circ}_{7/2}$	$5p^47d\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
1 774.733	0.003	56 346.51	11		7.32E+6	$5p^46p\ (^3P_2)[1]^{\circ}_{3/2}$	$5p^48s\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
1 778.045	0.003	56 241.54	1		7.32E+7	$5p^44f\ (^3P_0)[3]^{\circ}_{7/2}$	$5p^45g\ (^3P_1)[5]_{9/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
1 779.736 6	0.0019	56 188.09	3 000		7.85E+7	$5p^45d\ (^3P_1)[1]_{3/2}$	$5p^44f\ (^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 780.552 0	0.0016	56 162.36	3 000		2.55E+7	$5p^45d\ (^3P_2)[1]_{1/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
1 782.650 6	0.0017	56 096.24	3 000		3.13E+7	$5p^46s\ (^3P_2)[2]_{5/2}$	$5p^44f\ (^3P_1)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 783.002	0.003	56 085.18	43		4.39E+6	$5p^44f\ (^3P_2)[4]^{\circ}_{9/2}$	$5p^47d\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
1 783.308 7	0.0016	56 075.54	2 400		2.05E+7	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^44f\ (^3P_1)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 783.709	0.003	56 062.95	6		2.42E+6	$5p^46s\ (^1D_2)[2]_{3/2}$	$5p^45f\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 785.309 7	0.0019	56 012.69	1 800		1.57E+7	$5p^46s\ (^3P_2)[2]_{5/2}$	$5p^44f\ (^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 787.619 4	0.0016	55 940.32	1 200		1.18E+7	$5p^45d\ (^3P_1)[2]_{5/2}$	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 788.529 0	0.0013	55 911.87	650		1.78E+7	$5p^45d\ (^3P_2)[0]_{1/2}$	$5p^46p\ (^1D_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
1 790.297 1	0.0015	55 856.65	3 000		6.82E+6	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 792.212 6	0.0017	55 796.95	1 200		3.93E+6	$5p^45d\ (^3P_2)[4]_{7/2}$	$5p^44f\ (^3P_0)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 798.178 7	0.0014	55 611.82	2 400		2.56E+6	$5p^45d\ (^3P_2)[3]_{7/2}$	$5p^44f\ (^3P_2)[5]^{\circ}_{9/2}$	09SAN/AND	09SAN/AND
1 798.722	0.003	55 595.02	6		7.23E+6	$5p^44f\ (^3P_0)[3]^{\circ}_{5/2}$	$5p^46g\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
1 799.359 5	0.0018	55 575.33	4 800	b	9.75E+7	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^44f\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
1 799.359 5	0.0018	55 575.33	4 800	b	1.46E+7	$5p^45d\ (^3P_2)[1]_{1/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 801.829 7	0.0016	55 499.14	6 000		2.38E+7	$5p^45d\ (^3P_2)[3]_{7/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 803.389	0.003	55 451.14	65		1.44E+7	$5p^45d\ (^1D_2)[2]_{5/2}$	$5p^44f\ (^1S_0)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 807.876	0.003	55 313.54	43	p	2.41E+6	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 811.066	0.003	55 216.09	17		1.65E+6	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 811.955 5	0.0017	55 188.99	3 600		8.00E+6	$5p^45d\ (^3P_2)[4]_{7/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 822.395 5	0.0015	54 872.83	15 000	d	3.65E+7	$5s5p^6\ ^2S_{1/2}$	$5p^46p\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
1 823.925 9	0.0018	54 826.79	6 600		1.20E+8	$5p^45d\ (^1D_2)[4]_{9/2}$	$5p^44f\ (^1D_2)[4]^{\circ}_{9/2}$	09SAN/AND	09SAN/AND
1 824.434 9	0.0019	54 811.49	680		2.49E+5	$5p^45d\ (^3P_2)[4]_{9/2}$	$5p^44f\ (^3P_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 824.434 9	0.0019	54 811.49	680		2.03E+3	$5p^45d\ (^3P_2)[1]_{3/2}$	$5p^46p\ (^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 824.694 7	0.0017	54 803.69	7 800		1.66E+8	$5p^45d\ (^1D_2)[4]_{7/2}$	$5p^44f\ (^1D_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 826.193	0.003	54 758.73	39		8.05E+6	$5p^46s\ (^3P_2)[2]_{3/2}$	$5p^44f\ (^1D_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
1 826.582 8	0.0017	54 747.04	1 800		1.66E+7	$5p^45d\ (^3P_0)[2]_{5/2}$	$5p^44f\ (^1D_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 829.059 4	0.0016	54 672.91	2 400		9.95E+6	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 829.274	0.003	54 666.50	17		9.21E+7	$5p^44f\ (^3P_1)[2]^{\circ}_{5/2}$	$5p^45g\ (^3P_1)[4]_{7/2}$	09SAN/AND	09SAN/AND
1 833.820	0.003	54 530.98	11		1.02E+7	$5p^45d\ (^1D_2)[2]_{5/2}$	$5p^44f\ (^1S_0)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 835.871	0.003	54 470.06	9		1.46E+6	$5p^45d\ (^1D_2)[4]_{9/2}$	$5p^44f\ (^1D_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 837.652	0.003	54 417.26	2		3.33E+6	$5p^45d\ (^3P_2)[3]_{5/2}$	$5p^44f\ (^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 838.744	0.003	54 384.96	110		2.68E+8	$5p^44f\ (^3P_1)[2]^{\circ}_{5/2}$	$5p^45g\ (^3P_1)[3]_{7/2}$	09SAN/AND	09SAN/AND
1 838.926	0.003	54 379.56	11		6.18E+7	$5p^44f\ (^3P_1)[2]^{\circ}_{5/2}$	$5p^45g\ (^3P_1)[3]_{5/2}$	09SAN/AND	09SAN/AND
1 838.996	0.002	54 377.50	600		1.32E+7	$5p^45d\ (^3P_2)[1]_{3/2}$	$5p^44f\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 839.649 9	0.0015	54 358.17	1 200		8.13E+6	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^44f\ (^3P_1)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 840.151 2	0.0020	54 343.36	1 800		1.25E+7	$5p^45d\ (^3P_2)[1]_{3/2}$	$5p^46p\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 840.329 3	0.0019	54 338.10	3 000		3.03E+7	$5p^46s\ (^3P_2)[2]_{3/2}$	$5p^44f\ (^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 841.802 8	0.0019	54 294.63	7 200		2.00E+8	$5p^45d\ (^3P_2)[1]_{1/2}$	$5p^44f\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
1 842.475	0.003	54 274.81	9		3.47E+5	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^44f\ (^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 857.887 6	0.0019	53 824.57	2 400		1.49E+8	$5p^45d\ (^1D_2)[2]_{3/2}$	$5p^44f\ (^1S_0)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 861.965 8	0.0018	53 706.68	2 400		1.14E+5	$5p^45d\ (^3P_2)[0]_{1/2}$	$5p^46p\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 864.290	0.003	53 639.72	26		2.05E+4	$5p^45d\ (^3P_1)[3]_{7/2}$	$5p^44f\ (^1D_2)[5]^{\circ}_{9/2}$	09SAN/AND	09SAN/AND
1 868.642	0.003	53 514.79	110		4.53E+6	$5p^46s\ (^3P_1)[1]_{3/2}$	$5p^44f\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 870.103 0	0.0018	53 472.99	1 200		1.04E+7	$5p^45d\ (^1D_2)[4]_{7/2}$	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 870.828 3	0.0017	53 452.26	5 400		4.88E+7	$5p^45d\ (^3P_1)[2]_{5/2}$	$5p^44f\ (^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 872.090 2	0.0017	53 416.23	2 400		2.67E+7	$5p^45d\ (^3P_0)[2]_{5/2}$	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 873.661 9	0.0019	53 371.42	2 400		3.29E+6	$5p^45d\ (^3P_1)[3]_{7/2}$	$5p^44f\ (^3P_1)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
1 874.746	0.003	53 340.55	9		2.99E+6	$5p^46s\ (^1D_2)[2]_{3/2}$	$5p^47p\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
1 877.901	0.003	53 250.95	43		6.23E+5	$5p^46s\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 881.999	0.003	53 135.00	6		9.94E+6	$5p^44f\ (^3P_0)[3]^{\circ}_{7/2}$	$5p^45g\ (^3P_0)[4]_{7/2}$	09SAN/AND	09SAN/AND
1 882.183 6	0.0017	53 129.78	300		2.76E+8	$5p^44f\ (^3P_0)[3]^{\circ}_{7/2}$	$5p^45g\ (^3P_0)[4]_{9/2}$	09SAN/AND	09SAN/AND
1 883.189 4	0.0017	53 101.40	3 000		2.65E+7	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 886.355 0	0.0017	53 012.29	2 400		3.27E+6	$5p^45d\ (^3P_2)[4]_{7/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 890.545	0.003	52 894.80	6		2.98E+5	$5p^46s\ (^1D_2)[2]_{3/2}$	$5p^47p\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
1 891.784 6	0.0015	52 860.14	170	h	7.75E+6	$5p^45d\ (^3P_1)[1]_{1/2}$	$5p^46p\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
1 893.330	0.003	52 816.99	150		4.87E+6	$5p^46s\ (^3P_2)[2]_{5/2}$	$5p^44f\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
1 895.545	0.003	52 755.29	9		7.14E+6	$5p^44f\,(^3P_2)[5]^\circ_{11/2}$	$5p^45g\,(^3P_2)[6]_{11/2}$	09SAN/AND	09SAN/AND
1 895.683	0.002	52 751.43	6 600		4.94E+8	$5p^44f\,(^3P_2)[5]^\circ_{11/2}$	$5p^45g\,(^3P_2)[6]_{13/2}$	09SAN/AND	09SAN/AND
1 897.809 8	0.0019	52 692.32	2 400		2.64E+7	$5p^45d\,(^3P_2)[3]_{5/2}$	$5p^44f\,(^3P_1)[4]^\circ_{7/2}$	09SAN/AND	09SAN/AND
1 898.895	0.002	52 662.21	1 800	h	1.23E+7	$5p^45d\,(^3P_1)[1]_{3/2}$	$5p^44f\,(^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 902.517	0.002	52 561.96	180	p	4.89E+7	$5p^44f\,(^3P_2)[5]^\circ_{11/2}$	$5p^45g\,(^3P_2)[5]_{11/2}$	09SAN/AND	09SAN/AND
1 903.055 2	0.0019	52 547.08	3 000		3.27E+7	$5p^45d\,(^3P_2)[1]_{3/2}$	$5p^44f\,(^3P_0)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 904.483 6	0.0018	52 507.67	450		2.81E+7	$5p^45d\,(^3P_1)[2]_{3/2}$	$5p^44f\,(^1D_2)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
1 906.183	0.003	52 460.87	1 800		8.30E+6	$5p^45d\,(^3P_2)[2]_{3/2}$	$5p^46p\,(^3P_0)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 910.344	0.002	52 346.58	3 000		9.03E+7	$5p^45d\,(^1D_2)[3]_{5/2}$	$5p^44f\,(^1D_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 915.495 2	0.0020	52 205.82	15 000		8.88E+7	$5p^45d\,(^3P_2)[4]_{7/2}$	$5p^44f\,(^3P_2)[4]^\circ_{7/2}$	09SAN/AND	09SAN/AND
1 919.863 7	0.0018	52 087.03	3 000		1.40E+8	$5p^45d\,(^3P_1)[2]_{3/2}$	$5p^44f\,(^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 922.922 7	0.0020	52 004.17	1 800		1.21E+7	$5p^45d\,(^3P_2)[2]_{3/2}$	$5p^46p\,(^3P_1)[0]^\circ_{1/2}$	09SAN/AND	09SAN/AND
1 923.289	0.002	51 994.26	16 000	d	1.75E+7	$5s5p^6\,{}^2S_{1/2}$	$5p^46p\,(^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 924.097	0.003	51 972.43	11		7.63E+6	$5p^46p\,(^3P_2)[2]^\circ_{3/2}$	$5p^46d\,(^3P_1)[2]_{5/2}$	09SAN/AND	09SAN/AND
1 925.367	0.003	51 938.14	6		4.08E+5	$5p^46s\,(^1D_2)[2]_{3/2}$	$5p^47p\,(^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 926.085	0.003	51 918.78	13	h	2.15E+5	$5p^46p\,(^1D_2)[2]^\circ_{3/2}$	$5p^49s\,(^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
1 927.097 0	0.0017	51 891.52	180		7.50E+6	$5p^45d\,(^1D_2)[1]_{3/2}$	$5p^45f\,(^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 934.721 7	0.0019	51 687.02	600	b,h	1.12E+7	$5p^45d\,(^3P_2)[1]_{3/2}$	$5p^46p\,(^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 934.721 7	0.0019	51 687.02	600	b,h	5.32E+6	$5p^45d\,(^1D_2)[1]_{3/2}$	$5p^45f\,(^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 935.955 9	0.0019	51 654.07	4 800		6.66E+7	$5p^45d\,(^3P_1)[3]_{7/2}$	$5p^44f\,(^3P_1)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
1 936.582	0.003	51 637.37	9		1.37E+5	$5p^45d\,(^3P_1)[1]_{3/2}$	$5p^46p\,(^1D_2)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
1 937.106 8	0.0019	51 623.38	2 400		2.26E+7	$5p^46s\,(^3P_1)[1]_{1/2}$	$5p^44f\,(^1D_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 939.096	0.003	51 570.43	22		2.90E+4	$5p^45d\,(^3P_1)[3]_{7/2}$	$5p^44f\,(^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 941.260	0.003	51 512.94	26		2.72E+5	$5p^45d\,(^3P_1)[3]_{5/2}$	$5p^46p\,(^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 942.233	0.004	51 487.13	2		2.73E+6	$5p^46p\,(^3P_2)[2]^\circ_{5/2}$	$5p^46d\,(^3P_1)[2]_{5/2}$	09SAN/AND	09SAN/AND
1 942.849	0.003	51 470.81	17		9.46E+7	$5p^44f\,(^1D_2)[2]^\circ_{5/2}$	$5p^45g\,(^3P_1)[4]_{7/2}$	09SAN/AND	09SAN/AND
1 945.176 6	0.0017	51 409.21	3 000		4.51E+8	$5p^44f\,(^3P_2)[5]^\circ_{9/2}$	$5p^45g\,(^3P_2)[6]_{11/2}$	09SAN/AND	09SAN/AND
1 946.017	0.003	51 387.01	6		2.30E+7	$5p^44f\,(^3P_1)[3]^\circ_{7/2}$	$5p^45g\,(^3P_1)[4]_{7/2}$	09SAN/AND	09SAN/AND
1 950.473 1	0.0018	51 269.61	880		8.45E+5	$5p^44f\,(^3P_2)[1]^\circ_{1/2}$	$5p^47d\,(^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
1 951.378	0.003	51 245.84	22		2.09E+7	$5p^44f\,(^3P_2)[5]^\circ_{9/2}$	$5p^45g\,(^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
1 952.320	0.003	51 221.10	43		2.37E+7	$5p^44f\,(^3P_2)[5]^\circ_{9/2}$	$5p^45g\,(^3P_2)[5]_{9/2}$	09SAN/AND	09SAN/AND
1 953.537	0.003	51 189.20	86		1.04E+8	$5p^44f\,(^1D_2)[2]^\circ_{5/2}$	$5p^45g\,(^3P_1)[3]_{7/2}$	09SAN/AND	09SAN/AND
1 953.882 5	0.0017	51 180.15	56	p	5.63E+6	$5p^45d\,(^3P_2)[1]_{1/2}$	$5p^46p\,(^3P_0)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 956.732	0.003	51 105.63	6		3.35E+7	$5p^44f\,(^3P_1)[3]^\circ_{7/2}$	$5p^45g\,(^3P_1)[3]_{7/2}$	09SAN/AND	09SAN/AND
1 957.755 9	0.0020	51 078.89	2 400		1.17E+7	$5p^45d\,(^3P_1)[3]_{5/2}$	$5p^44f\,(^3P_1)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 958.863 5	0.0019	51 050.01	600		1.54E+7	$5p^45d\,(^3P_2)[0]_{1/2}$	$5p^46p\,(^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 961.335	0.002	50 985.69	7 200		9.18E+7	$5p^46s\,(^3P_2)[2]_{5/2}$	$5p^44f\,(^3P_0)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
1 961.753	0.003	50 974.81	30		2.09E+6	$5p^45d\,(^3P_2)[3]_{5/2}$	$5p^44f\,(^3P_1)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
1 963.548 3	0.0018	50 928.21	2 400		5.54E+7	$5p^45d\,(^3P_0)[2]_{5/2}$	$5p^44f\,(^1D_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
1 964.974	0.002	50 891.27	1 100		1.92E+7	$5p^45d\,(^3P_2)[3]_{5/2}$	$5p^44f\,(^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 966.716	0.003	50 846.18	1 800	h	4.87E+6	$5p^45d\,(^3P_0)[2]_{3/2}$	$5p^46p\,(^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 968.032	0.003	50 812.18	5 400		3.95E+7	$5p^46s\,(^3P_2)[2]_{3/2}$	$5p^44f\,(^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 971.472 7	0.0019	50 723.50	3 000		3.53E+7	$5p^45d\,(^3P_2)[1]_{1/2}$	$5p^46p\,(^3P_1)[0]^\circ_{1/2}$	09SAN/AND	09SAN/AND
1 973.795	0.003	50 663.81	490		6.35E+6	$5p^45d\,(^1D_2)[1]_{3/2}$	$5p^47p\,(^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 974.283	0.003	50 651.31	240	h	1.89E+6	$5p^45d\,(^1D_2)[4]_{9/2}$	$5p^44f\,(^1D_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
1 978.825 0	0.0020	50 535.04	760		2.48E+6	$5p^45d\,(^3P_2)[4]_{7/2}$	$5p^44f\,(^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 980.498	0.003	50 492.34	44		1.60E+7	$5p^46p\,(^3P_2)[1]^\circ_{1/2}$	$5p^46d\,(^3P_1)[2]_{3/2}$	09SAN/AND	09SAN/AND
1 981.468	0.002	50 467.64	6 600		1.47E+7	$5p^45d\,(^3P_2)[4]_{9/2}$	$5p^44f\,(^3P_2)[5]^\circ_{9/2}$	09SAN/AND	09SAN/AND
1 983.647 6	0.0014	50 412.18	5 400		3.13E+7	$5p^45d\,(^3P_0)[2]_{3/2}$	$5p^44f\,(^3P_1)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
1 984.203	0.003	50 398.07	84		5.23E+6	$5p^46s\,(^1D_2)[2]_{5/2}$	$5p^46p\,(^1S_0)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 989.000	0.004	50 276.52	140	h	9.83E+5	$5p^46s\,(^1D_2)[2]_{3/2}$	$5p^46p\,(^1S_0)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 989.258 8	0.0018	50 269.98	620		6.21E+6	$5p^44f\,(^3P_2)[5]^\circ_{11/2}$	$5p^47d\,(^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
1 990.134	0.002	50 247.88	2 400		2.76E+7	$5p^45d\,(^3P_2)[2]_{3/2}$	$5p^46p\,(^3P_0)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
1 991.895	0.002	50 203.45	4 800		4.53E+4	$5p^45d\,(^3P_1)[1]_{1/2}$	$5p^46p\,(^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 994.962	0.002	50 126.26	1 200		4.20E+6	$5p^46s\,(^3P_2)[2]_{5/2}$	$5p^46p\,(^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 996.564	0.002	50 086.05	11 000		3.68E+5	$5p^45d\,(^3P_2)[0]_{1/2}$	$5p^44f\,(^3P_1)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
1 999.196	0.003	50 020.12	50		2.01E+6	$5p^45d\,(^1D_2)[2]_{5/2}$	$5p^45f\,(^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
Air									
1 999.418	0.004	49 998.35	84		3.20E+6	$5p^46p\ (^3P_1)[1]^\circ_{3/2}$	$5p^45g\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 002.949 5	0.0006	49 910.210	7 800		4.03E+7	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^44f\ (^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 003.339	0.002	49 900.51	1 200		1.48E+5	$5p^45d\ (^3P_1)[1]_{3/2}$	$5p^46p\ (^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 006.729	0.002	49 816.23	1 100		6.73E+6	$5p^45d\ (^1D_2)[2]_{5/2}$	$5p^45f\ (^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 007.890	0.004	49 787.42	50		5.75E+3	$5p^46s\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^1D_2)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
2 008.905	0.002	49 762.28	7 800	h	3.12E+7	$5p^45d\ (^3P_2)[1]_{3/2}$	$5p^46p\ (^1D_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 010.873	0.003	49 713.57	6		6.03E+4	$5p^46p\ (^1D_2)[1]^\circ_{1/2}$	$5p^49s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 012.637	0.006	49 670.01	170	h	9.74E+6	$5p^44f\ (^3P_1)[4]^\circ_{7/2}$	$5p^45g\ (^3P_1)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 020.917 6	0.0008	49 466.52	18 000		3.55E+8	$5p^45d\ (^3P_1)[1]_{3/2}$	$5p^44f\ (^3P_1)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 022.323	0.002	49 432.14	2 400		1.11E+7	$5p^46s\ (^3P_1)[1]_{3/2}$	$5p^44f\ (^3P_1)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 022.444	0.003	49 429.18	470		2.18E+6	$5p^45d\ (^1D_2)[3]_{7/2}$	$5p^44f\ (^1D_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 023.077	0.002	49 413.73	1 200		2.62E+8	$5p^44f\ (^3P_1)[4]^\circ_{7/2}$	$5p^45g\ (^3P_1)[5]_{9/2}$	09SAN/AND	09SAN/AND
2 023.160	0.002	49 411.71	3 000		2.60E+7	$5p^46p\ (^3P_1)[1]^\circ_{1/2}$	$5p^45g\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 023.559	0.003	49 401.95	420		4.33E+6	$5p^46p\ (^3P_1)[1]^\circ_{1/2}$	$5p^47d\ (^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 028.993 9	0.0007	49 269.650	19 000		2.50E+8	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^44f\ (^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 029.867	0.016	49 248.5	11 000	u	6.80E+7	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^44f\ (^3P_0)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 029.897 4	0.0010	49 247.72	25 000	p	1.86E+8	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^44f\ (^3P_0)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 030.012 9	0.0006	49 244.920	9 000		3.00E+8	$5p^45d\ (^1D_2)[3]_{5/2}$	$5p^44f\ (^1D_2)[4]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 030.239 3	0.0008	49 239.430	7 200		4.20E+8	$5p^45d\ (^3P_1)[1]_{1/2}$	$5p^44f\ (^3P_1)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 033.701	0.002	49 155.63	3 200		5.95E+7	$5p^44f\ (^3P_2)[1]^\circ_{3/2}$	$5p^45g\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 034.099	0.002	49 146.00	370		4.10E+5	$5p^44f\ (^3P_2)[1]^\circ_{3/2}$	$5p^47d\ (^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 035.110	0.003	49 121.61	420 000		6.25E+8	$5p^45d\ (^3P_2)[4]_{9/2}$	$5p^44f\ (^3P_2)[5]^\circ_{11/2}$	09SAN/AND	09SAN/AND
2 036.036	0.003	49 099.27	480		4.91E+6	$5p^44f\ (^3P_2)[5]^\circ_{9/2}$	$5p^47d\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 036.468	0.004	49 088.84	2 400		1.15E+6	$5p^45d\ (^3P_1)[2]_{5/2}$	$5p^44f\ (^3P_1)[4]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 041.526 2	0.0014	48 967.24	2 400		3.78E+7	$5p^45d\ (^3P_2)[1]_{1/2}$	$5p^46p\ (^3P_0)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
2 043.335	0.003	48 923.90	100		1.16E+5	$5p^44f\ (^3P_2)[5]^\circ_{9/2}$	$5p^47d\ (^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
2 046.313	0.003	48 852.70	350		3.33E+6	$5p^44f\ (^3P_2)[2]^\circ_{5/2}$	$5p^45g\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 048.152	0.003	48 808.84	3 000	h	9.68E+6	$5p^45d\ (^3P_1)[3]_{7/2}$	$5p^46p\ (^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 051.759	0.003	48 723.05	1 800		2.18E+6	$5p^45d\ (^1D_2)[1]_{3/2}$	$5p^47p\ (^3P_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 052.296	0.003	48 710.31	25		1.43E+6	$5p^46p\ (^3P_1)[2]^\circ_{5/2}$	$5p^47d\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 052.592	0.003	48 703.29	10 000		2.61E+8	$5p^44f\ (^3P_2)[2]^\circ_{5/2}$	$5p^45g\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 052.725	0.003	48 700.13	25		3.78E+6	$5p^44f\ (^3P_2)[1]^\circ_{1/2}$	$5p^47d\ (^3P_2)[1]_{1/2}$	09SAN/AND	09SAN/AND
2 055.242 7	0.0009	48 640.48	19 000		8.11E+7	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^46p\ (^1D_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 056.426 7	0.0006	48 612.480	72 000		2.20E+8	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^44f\ (^3P_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 057.730 1	0.0006	48 581.691	41 000		4.80E+8	$5p^45d\ (^3P_0)[2]_{3/2}$	$5p^44f\ (^3P_0)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 058.604 5	0.0005	48 561.060	33 000		4.03E+8	$5p^45d\ (^3P_1)[2]_{3/2}$	$5p^44f\ (^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 063.030	0.003	48 456.90	290		9.32E+6	$5p^46p\ (^3P_2)[2]^\circ_{3/2}$	$5p^46d\ (^3P_0)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 065.959	0.003	48 388.20	1 800		5.43E+6	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^46p\ (^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 066.530	0.003	48 374.85	1 200		1.43E+6	$5p^45d\ (^3P_1)[3]_{7/2}$	$5p^44f\ (^3P_1)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 070.167	0.003	48 289.86	1 200	h	1.92E+7	$5p^45d\ (^3P_0)[2]_{5/2}$	$5p^44f\ (^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 071.665 5	0.0006	48 254.941	9 000		1.97E+7	$5p^45d\ (^3P_2)[3]_{7/2}$	$5p^44f\ (^3P_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 073.950	0.004	48 201.80	2 400		6.93E+5	$5p^46s\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^1D_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 074.473	0.003	48 189.64	3 100		1.61E+7	$5p^45d\ (^1D_2)[2]_{3/2}$	$5p^45f\ (^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 076.434 0	0.0006	48 144.140	200 000		3.94E+8	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^44f\ (^3P_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 077.059	0.004	48 129.65	8 300		7.58E+6	$5p^45d\ (^3P_2)[3]_{5/2}$	$5p^46p\ (^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 077.297 9	0.0007	48 124.120	320 000		4.87E+8	$5p^45d\ (^3P_2)[3]_{7/2}$	$5p^44f\ (^3P_2)[4]^\circ_{9/2}$	09SAN/AND	09SAN/AND
2 080.480	0.003	48 050.53	500	h	5.98E+6	$5p^46s\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 083.145 7	0.0010	47 989.04	72 000		2.85E+8	$5p^45d\ (^3P_2)[1]_{1/2}$	$5p^44f\ (^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 083.889 6	0.0005	47 971.914	130 000		3.25E+8	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^44f\ (^3P_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 084.175 9	0.0006	47 965.324	4 200		7.55E+6	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 086.403 3	0.0019	47 914.12	8 300		1.13E+7	$5p^45d\ (^1D_2)[3]_{5/2}$	$5p^44f\ (^3P_1)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 088.678 0	0.0006	47 861.950	250 000		6.09E+8	$5p^45d\ (^3P_2)[4]_{7/2}$	$5p^44f\ (^3P_2)[5]^\circ_{9/2}$	09SAN/AND	09SAN/AND
2 091.188	0.003	47 804.52	75		4.44E+6	$5p^46p\ (^3P_2)[2]^\circ_{3/2}$	$5p^47s\ (^3P_0)[0]_{1/2}$	09SAN/AND	09SAN/AND
2 091.970 5	0.0008	47 786.630	96 000		1.50E+8	$5p^45d\ (^3P_2)[3]_{7/2}$	$5p^44f\ (^3P_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 092.333	0.003	47 778.34	25		3.05E+6	$5p^46p\ (^3P_2)[1]^\circ_{1/2}$	$5p^47s\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
2 093.608 4	0.0015	47 749.25	7 800		2.70E+7	$5p^45d\,(^3P_2)[4]_{7/2}$	$5p^46p\,(^3P_1)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 094.505	0.003	47 728.81	75		4.30E+5	$5p^45d\,(^1D_2)[1]_{3/2}$	$5p^47p\,(^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 094.829	0.003	47 721.44	2 400		7.08E+6	$5p^45d\,(^3P_0)[2]_{3/2}$	$5p^46p\,(^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 095.960	0.003	47 695.68	25		1.45E+5	$5p^45d\,(^3P_2)[3]_{5/2}$	$5p^44f\,(^3P_1)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 097.460	0.003	47 661.58	1 000		3.10E+6	$5p^45d\,(^3P_2)[3]_{5/2}$	$5p^46p\,(^1D_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 098.584	0.002	47 636.05	3 000		3.42E+7	$5p^45d\,(^3P_1)[1]_{3/2}$	$5p^44f\,(^3P_0)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 099.444 5	0.0020	47 616.53	3 600		5.03E+7	$5p^46s\,(^3P_2)[2]_{3/2}$	$5p^44f\,(^3P_1)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 100.953	0.003	47 582.34	75		1.07E+5	$5p^46s\,(^3P_2)[2]_{3/2}$	$5p^46p\,(^1D_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 101.255	0.004	47 575.50	100	p	4.75E+5	$5p^46p\,(^3P_2)[3]_{7/2}$	$5p^46d\,(^3P_1)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 101.630 8	0.0008	47 567.003	130 000		5.86E+8	$5p^45d\,(^3P_1)[3]_{7/2}$	$5p^44f\,(^3P_1)[4]^\circ_{9/2}$	09SAN/AND	09SAN/AND
2 102.986	0.003	47 536.34	7 600	d	3.36E+7	$5p^45d\,(^3P_1)[2]_{3/2}$	$5p^46p\,(^1D_2)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
2 107.332	0.004	47 438.34	75	h	8.25E+5	$5p^46s\,(^3P_0)[0]_{1/2}$	$5p^44f\,(^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 108.794	0.003	47 405.45	750		3.62E+6	$5p^46p\,(^3P_1)[0]^\circ_{1/2}$	$5p^46d\,(^1D_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
2 109.247 6	0.0006	47 395.253	22 000		7.41E+7	$5p^46s\,(^3P_2)[2]_{5/2}$	$5p^44f\,(^3P_2)[4]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 110.136	0.009	47 375.29	150	p	2.47E+6	$5p^45d\,(^1D_2)[2]_{3/2}$	$5p^45f\,(^3P_2)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
2 110.303 4	0.0004	47 371.542	33 000		4.58E+8	$5p^45d\,(^3P_1)[2]_{5/2}$	$5p^44f\,(^3P_1)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 112.389	0.003	47 324.78	700		8.28E+4	$5p^45d\,(^3P_2)[2]_{3/2}$	$5p^46p\,(^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 114.044	0.016	47 287.7	3 000	u	1.67E+7	$5p^45d\,(^3P_1)[2]_{5/2}$	$5p^44f\,(^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 114.161 7	0.0006	47 285.100	56 000		3.37E+8	$5p^45d\,(^3P_2)[1]_{3/2}$	$5p^44f\,(^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 119.507	0.003	47 165.87	1 000		3.15E+6	$5p^45d\,(^1D_2)[2]_{3/2}$	$5p^47p\,(^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 121.362 7	0.0020	47 124.61	4 000		4.07E+7	$5p^45d\,(^1S_0)[2]_{5/2}$	$5p^44f\,(^1S_0)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 124.378	0.003	47 057.73	75		2.00E+6	$5p^46p\,(^3P_1)[1]^\circ_{3/2}$	$5p^47d\,(^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 124.823	0.003	47 047.88	2 200	d	7.23E+6	$5p^45d\,(^1D_2)[1]_{1/2}$	$5p^45f\,(^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 127.795 4	0.0004	46 982.160	13 000		1.08E+8	$5p^45d\,(^3P_2)[1]_{3/2}$	$5p^44f\,(^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 131.425	0.002	46 902.17	9 300		3.09E+8	$5p^44f\,(^3P_2)[4]^\circ_{7/2}$	$5p^45g\,(^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
2 131.988 0	0.0008	46 889.780	78 000		5.35E+8	$5p^45d\,(^1D_2)[4]_{7/2}$	$5p^44f\,(^1D_2)[5]^\circ_{9/2}$	09SAN/AND	09SAN/AND
2 132.552	0.003	46 877.39	780		2.89E+7	$5p^44f\,(^3P_2)[4]^\circ_{7/2}$	$5p^45g\,(^3P_2)[5]_{9/2}$	09SAN/AND	09SAN/AND
2 133.719	0.003	46 851.75	1 600		5.67E+6	$5p^45d\,(^1D_2)[2]_{5/2}$	$5p^47p\,(^3P_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 137.184	0.003	46 775.80	3 600		1.59E+7	$5p^45d\,(^3P_1)[1]_{3/2}$	$5p^46p\,(^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 138.024	0.002	46 757.42	2 400		2.08E+7	$5p^45d\,(^3P_0)[2]_{3/2}$	$5p^44f\,(^3P_1)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 139.454	0.002	46 726.16	2 400		1.97E+7	$5p^45d\,(^3P_2)[1]_{3/2}$	$5p^46p\,(^3P_1)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
2 141.377 5	0.0005	46 684.200	49 000		5.33E+8	$5p^45d\,(^1D_2)[3]_{7/2}$	$5p^44f\,(^1D_2)[4]^\circ_{9/2}$	09SAN/AND	09SAN/AND
2 141.466 5	0.0006	46 682.260	120 000		5.35E+8	$5p^45d\,(^1D_2)[4]_{9/2}$	$5p^44f\,(^1D_2)[5]^\circ_{11/2}$	09SAN/AND	09SAN/AND
2 144.258	0.003	46 621.48	250		5.66E+6	$5p^45d\,(^1D_2)[4]_{7/2}$	$5p^44f\,(^3P_1)[4]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 146.865 7	0.0006	46 564.871	49 000		4.55E+8	$5p^45d\,(^3P_0)[2]_{5/2}$	$5p^44f\,(^3P_1)[4]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 147.267	0.005	46 556.16	25 000	p	2.62E+7	$5p^45d\,(^1D_2)[4]_{9/2}$	$5p^44f\,(^1D_2)[5]^\circ_{9/2}$	09SAN/AND	09SAN/AND
2 147.846	0.003	46 543.62	2 400		8.90E+6	$5p^45d\,(^3P_1)[3]_{7/2}$	$5p^44f\,(^3P_0)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 151.541	0.003	46 463.69	410	b,h	8.07E+0	$5p^45d\,(^3P_1)[3]_{5/2}$	$5p^46p\,(^1D_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 151.541	0.003	46 463.69	410	b,h	4.47E+6	$5p^46p\,(^3P_1)[2]^\circ_{3/2}$	$5p^46d\,(^1D_2)[1]_{1/2}$	09SAN/AND	09SAN/AND
2 157.032 1	0.0003	46 345.430	17 000	d	1.93E+8	$5p^45d\,(^3P_2)[0]_{1/2}$	$5p^44f\,(^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 157.451	0.003	46 336.43	50		7.83E+6	$5p^46p\,(^3P_1)[2]^\circ_{3/2}$	$5p^46d\,(^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 157.868	0.004	46 327.48	1 800		1.08E+7	$5p^45d\,(^1D_2)[3]_{7/2}$	$5p^44f\,(^1D_2)[4]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 159.060	0.003	46 301.89	800		1.04E+8	$5p^44f\,(^3P_1)[4]^\circ_{7/2}$	$5p^45g\,(^3P_0)[4]_{9/2}$	09SAN/AND	09SAN/AND
2 159.713	0.003	46 287.91	3 000	h	6.71E+6	$5p^45d\,(^1D_2)[4]_{9/2}$	$5p^44f\,(^3P_1)[4]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 162.602	0.005	46 226.07	150	h	2.85E+6	$5p^46p\,(^1D_2)[3]^\circ_{5/2}$	$5p^45g\,(^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 163.618 6	0.004	46 204.360	6 600		5.44E+8	$5p^45d\,(^1S_0)[2]_{5/2}$	$5p^44f\,(^1S_0)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 166.667	0.004	46 139.37	1 800		8.15E+6	$5p^45d\,(^3P_2)[1]_{3/2}$	$5p^46p\,(^3P_1)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 169.016	0.003	46 089.39	1 200	h	4.45E+7	$5p^45d\,(^3P_2)[0]_{1/2}$	$5p^46p\,(^3P_1)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
2 170.270	0.003	46 062.76	130		4.95E+6	$5p^44f\,(^3P_2)[4]^\circ_{7/2}$	$5p^47d\,(^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 171.150	0.003	46 044.10	25		5.18E+5	$5p^45d\,(^3P_2)[1]_{1/2}$	$5p^46p\,(^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 176.240	0.005	45 936.41	750	h	6.58E+5	$5p^45d\,(^3P_1)[3]_{7/2}$	$5p^46p\,(^1D_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 177.395	0.003	45 912.06	3 000		1.34E+4	$5p^44f\,(^3P_2)[2]^\circ_{5/2}$	$5p^47d\,(^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 178.195	0.003	45 895.19	500		2.07E+5	$5p^45d\,(^1D_2)[2]_{5/2}$	$5p^47p\,(^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 179.655 7	0.0006	45 864.441	37 000		2.73E+8	$5p^45d\,(^3P_2)[3]_{5/2}$	$5p^44f\,(^3P_0)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 181.760	0.004	45 820.21	450	h	1.77E+5	$5p^45d\,(^1D_2)[1]_{1/2}$	$5p^47p\,(^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 182.162 8	0.0005	45 811.753	9 000		1.22E+8	$5p^45d\,(^3P_1)[1]_{3/2}$	$5p^44f\,(^3P_1)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 182.751	0.003	45 799.40	350	h	1.19E+7	$5p^45d\,(^3P_1)[2]_{3/2}$	$5p^46p\,(^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
2 186.324	0.003	45 724.56	15 000	h	2.48E+7	$5p^46s\,(^3P_2)[2]_{5/2}$	$5p^44f\,(^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 189.548 9	0.0006	45 657.230	46 000		2.49E+8	$5p^45d\,(^3P_1)[3]_{5/2}$	$5p^44f\,(^3P_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 191.327	0.003	45 620.18	11 000		1.53E+7	$5p^46s\,(^1D_2)[2]_{3/2}$	$5p^44f\,(^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 196.992	0.003	45 502.56	500	h	1.53E+7	$5p^45d\,(^3P_2)[0]_{1/2}$	$5p^46p\,(^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 197.173 9	0.0004	45 498.800	22 000		3.83E+6	$5p^45d\,(^3P_1)[1]_{1/2}$	$5p^44f\,(^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 200.690 0	0.0006	45 426.113	18 000		2.06E+8	$5p^45d\,(^1D_2)[3]_{5/2}$	$5p^44f\,(^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 200.905	0.004	45 421.68	1 000	h	3.25E+6	$5p^46s\,(^3P_2)[2]_{5/2}$	$5p^44f\,(^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 201.692	0.003	45 405.44	75		1.40E+4	$5p^44f\,(^3P_1)[2]^{\circ}_{3/2}$	$5p^47d\,(^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 203.635	0.003	45 365.40	6 900		3.18E+6	$5p^45d\,(^3P_1)[2]_{3/2}$	$5p^44f\,(^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 205.293	0.004	45 331.30	7 800	h	1.13E+7	$5p^45d\,(^3P_1)[2]_{3/2}$	$5p^46p\,(^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 208.905	0.003	45 257.19	2 400		1.04E+6	$5p^45d\,(^3P_2)[3]_{5/2}$	$5p^46p\,(^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 209.357	0.003	45 247.94	1 000		4.55E+7	$5p^44f\,(^3P_1)[2]^{\circ}_{3/2}$	$5p^45g\,(^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 209.608 1	0.0006	45 242.790	7 200		7.20E+6	$5p^45d\,(^3P_1)[1]_{1/2}$	$5p^46p\,(^3P_1)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 210.470	0.003	45 225.15	450		2.40E+5	$5p^45d\,(^1D_2)[2]_{3/2}$	$5p^47p\,(^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 217.938	0.003	45 072.89	2 500		3.10E+7	$5p^46p\,(^3P_2)[1]^{\circ}_{1/2}$	$5p^46d\,(^3P_0)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 219.047	0.004	45 050.36	50		5.49E+6	$5p^44f\,(^1D_2)[3]^{\circ}_{7/2}$	$5p^45g\,(^3P_1)[5]_{9/2}$	09SAN/AND	09SAN/AND
2 221.286	0.003	45 004.95	20 000		1.56E+7	$5p^45d\,(^3P_2)[3]_{5/2}$	$5p^46p\,(^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 225.200	0.003	44 925.80	8 000		2.88E+6	$5p^46s\,(^3P_2)[2]_{3/2}$	$5p^46p\,(^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 226.274	0.003	44 904.13	740	h	7.75E+5	$5p^45d\,(^1D_2)[4]_{7/2}$	$5p^44f\,(^3P_1)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 228.544	0.002	44 858.41	8 600		2.63E+7	$5p^45d\,(^3P_2)[1]_{3/2}$	$5p^44f\,(^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 228.895 8	0.0018	44 851.32	30 000		2.58E+7	$5p^45d\,(^3P_1)[1]_{3/2}$	$5p^46p\,(^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 229.085 2	0.0007	44 847.511	15 000		7.61E+6	$5p^45d\,(^3P_0)[2]_{5/2}$	$5p^44f\,(^3P_1)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 231.796	0.004	44 793.05	180		8.40E+6	$5p^46p\,(^3P_2)[1]^{\circ}_{3/2}$	$5p^46d\,(^3P_1)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 233.248	0.003	44 763.92	12 000		3.83E+7	$5p^45d\,(^3P_0)[2]_{5/2}$	$5p^44f\,(^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 233.676	0.004	44 755.35	100		1.28E+6	$5p^44f\,(^3P_2)[4]^{\circ}_{7/2}$	$5p^47d\,(^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 234.589	0.003	44 737.07	580		8.95E+7	$5p^46p\,(^3P_1)[2]^{\circ}_{3/2}$	$5p^46d\,(^1D_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
2 238.646	0.002	44 655.99	9 900		3.63E+2	$5p^45d\,(^3P_1)[1]_{1/2}$	$5p^46p\,(^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 240.797	0.005	44 613.14	25	h	4.45E+5	$5p^46p\,(^3P_1)[2]^{\circ}_{5/2}$	$5p^46d\,(^1D_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 241.623	0.004	44 596.70	75		1.77E+6	$5p^46p\,(^3P_1)[2]^{\circ}_{3/2}$	$5p^46d\,(^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 242.937	0.003	44 570.57	9 000	h	3.41E+6	$5p^45d\,(^1D_2)[4]_{9/2}$	$5p^44f\,(^3P_1)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 245.170 8	0.0019	44 526.23	8 400		1.97E+7	$5p^45d\,(^3P_1)[2]_{5/2}$	$5p^46p\,(^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 246.531 0	0.0005	44 499.273	7 800		1.87E+7	$5p^45d\,(^3P_2)[1]_{3/2}$	$5p^46p\,(^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 251.330	0.005	44 404.43	25	h	3.63E+5	$5p^44f\,(^1D_2)[3]^{\circ}_{7/2}$	$5p^46g\,(^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 255.345	0.011	44 325.4	530	c	7.35E+6	$5p^45d\,(^1D_2)[1]_{1/2}$	$5p^47p\,(^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 256.056	0.003	44 311.41	11 000		7.10E+7	$5p^45d\,(^1D_2)[1]_{3/2}$	$5p^46p\,(^1S_0)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 258.239	0.015	44 268.6	2 000	u	2.38E+5	$5p^45d\,(^1D_2)[2]_{3/2}$	$5p^47p\,(^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 260.035	0.003	44 233.40	230		1.46E+6	$5p^45d\,(^1D_2)[2]_{5/2}$	$5p^46p\,(^1S_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 260.162	0.004	44 230.92	100		2.58E+5	$5p^45d\,(^1D_2)[2]_{3/2}$	$5p^47p\,(^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 260.253	0.004	44 229.15	880		6.35E+6	$5p^46p\,(^3P_2)[1]^{\circ}_{3/2}$	$5p^46d\,(^3P_1)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 260.634	0.003	44 221.68	2 900	h	1.23E+8	$5p^45d\,(^3P_2)[0]_{1/2}$	$5p^44f\,(^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 264.143	0.004	44 153.16	130		8.08E+6	$5p^46p\,(^3P_1)[1]^{\circ}_{3/2}$	$5p^46d\,(^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 267.270 0	0.0015	44 092.27	84 000		9.28E+7	$5p^45d\,(^3P_1)[2]_{5/2}$	$5p^44f\,(^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 269.025	0.015	44 058.2	2 300	u	1.93E+6	$5p^45d\,(^3P_1)[2]_{5/2}$	$5p^46p\,(^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 269.260	0.004	44 053.61	500	h	2.08E+6	$5p^46p\,(^3P_1)[2]^{\circ}_{5/2}$	$5p^46d\,(^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 272.721	0.003	43 986.52	6 600		9.45E+6	$5p^45d\,(^3P_1)[3]_{5/2}$	$5p^44f\,(^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 273.997	0.003	43 961.84	9 400		1.26E+7	$5p^46s\,(^3P_2)[2]_{3/2}$	$5p^44f\,(^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 274.293	0.002	43 956.13	8 300		3.63E+6	$5p^45d\,(^3P_2)[1]_{3/2}$	$5p^46p\,(^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 274.669	0.005	43 948.87	50	h	2.08E+6	$5p^46p\,(^1D_2)[3]^{\circ}_{5/2}$	$5p^47d\,(^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 276.219	0.004	43 918.94	500		6.55E+6	$5p^46p\,(^1D_2)[3]^{\circ}_{7/2}$	$5p^45g\,(^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
2 276.917	0.004	43 905.47	100		2.19E+6	$5p^46p\,(^1D_2)[3]^{\circ}_{7/2}$	$5p^45g\,(^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 277.503	0.004	43 894.18	560		5.04E+6	$5p^46p\,(^1D_2)[3]^{\circ}_{7/2}$	$5p^45g\,(^3P_2)[5]_{9/2}$	09SAN/AND	09SAN/AND
2 284.507	0.004	43 759.61	12 000	c	8.20E+6	$5p^45d\,(^3P_1)[3]_{7/2}$	$5p^46p\,(^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 286.878	0.004	43 714.26	250		1.73E+7	$5p^46p\,(^3P_2)[1]^{\circ}_{3/2}$	$5p^47s\,(^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND
2 288.484	0.004	43 683.58	2 200		1.74E+3	$5p^45d\,(^3P_1)[3]_{5/2}$	$5p^44f\,(^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 293.356	0.004	43 590.79	25		9.15E+5	$5p^44f\,(^3P_0)[3]^{\circ}_{5/2}$	$5p^45g\,(^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 296.006	0.004	43 540.47	50		2.91E+1	$5p^46d\,(^3P_2)[2]_{5/2}$	$5p^46f\,(^3P_1)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 296.299	0.003	43 534.93	3 600		2.32E+6	$5p^45d\,(^3P_1)[2]_{3/2}$	$5p^44f\,(^3P_0)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
2 297.040	0.003	43 520.87	1 100		3.07E+4	$5p^46d\ (^3P_2)[2]_{5/2}$	$5p^46f\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 297.833 6	0.0007	43 505.851	250 000		1.26E+7	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 300.702	0.004	43 451.61	630		1.02E+3	$5p^46d\ (^3P_2)[3]_{7/2}$	$5p^46f\ (^3P_1)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 301.205	0.003	43 442.11	1 300	p,*	2.68E+7	$5p^46p\ (^3P_1)[2]^{\circ}_{3/2}$	$5p^47s\ (^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 301.205	0.003	43 442.11	1 300	p,*	1.43E+7	$5p^44f\ (^3P_0)[3]^{\circ}_{7/2}$	$5p^45g\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 301.242	0.003	43 441.41	1 800	p	2.35E+7	$5p^44f\ (^3P_0)[3]^{\circ}_{5/2}$	$5p^45g\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 301.735	0.004	43 432.11	160		1.72E+4	$5p^46d\ (^3P_2)[3]_{7/2}$	$5p^46f\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 302.185	0.003	43 423.62	160		5.95E+6	$5p^44f\ (^3P_0)[3]^{\circ}_{5/2}$	$5p^45g\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 304.762 4	0.0011	43 375.07	60 000		2.84E+7	$5p^45d\ (^3P_1)[1]_{1/2}$	$5p^44f\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 306.453	0.004	43 343.28	75	h	1.61E+7	$5p^46p\ (^1D_2)[1]^{\circ}_{3/2}$	$5p^47d\ (^3P_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
2 307.065	0.004	43 331.78	100	h	1.78E+7	$5p^46p\ (^1D_2)[1]^{\circ}_{3/2}$	$5p^47d\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 307.707	0.016	43 319.7	37 000	u	2.57E+6	$5p^45d\ (^3P_0)[2]_{3/2}$	$5p^44f\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 308.136	0.003	43 311.68	2 500		4.88E+7	$5p^44f\ (^3P_0)[3]^{\circ}_{7/2}$	$5p^45g\ (^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
2 308.899	0.003	43 297.37	2 400		3.34E+7	$5p^44f\ (^3P_0)[3]^{\circ}_{5/2}$	$5p^45g\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 309.457	0.004	43 286.90	500		1.06E+7	$5p^44f\ (^3P_0)[3]^{\circ}_{7/2}$	$5p^45g\ (^3P_2)[5]_{9/2}$	09SAN/AND	09SAN/AND
2 316.875 3	0.0006	43 148.320	600 000		9.80E+7	$5p^45d\ (^3P_2)[3]_{7/2}$	$5p^46p\ (^3P_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 318.965	0.005	43 109.44	50		3.70E+3	$5p^47s\ (^3P_2)[2]_{5/2}$	$5p^46f\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 320.525	0.004	43 080.46	10 000	d	2.05E+6	$5p^45d\ (^3P_2)[3]_{5/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 321.062 9	0.0009	43 070.480	100 000		1.05E+7	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 323.964	0.002	43 016.72	41 000		2.75E+7	$5p^45d\ (^3P_0)[2]_{3/2}$	$5p^44f\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 324.798	0.003	43 001.28	5 400		4.30E+5	$5p^46s\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 325.954 4	0.0008	42 979.910	140 000		6.59E+7	$5p^45d\ (^3P_2)[4]_{9/2}$	$5p^44f\ (^3P_2)[4]^{\circ}_{9/2}$	09SAN/AND	09SAN/AND
2 328.187	0.011	42 938.69	50	h	1.44E+5	$5p^46s\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 330.951	0.003	42 887.79	2 500	c	1.39E+6	$5p^46s\ (^3P_0)[0]_{1/2}$	$5p^46p\ (^1D_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 331.090	0.004	42 885.23	1 300	h	8.13E+5	$5p^45d\ (^1D_2)[1]_{1/2}$	$5p^47p\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 333.509	0.016	42 840.8	1 200	u	6.20E+5	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 333.830	0.003	42 834.89	4 400	h	1.72E+7	$5p^46s\ (^3P_1)[1]_{1/2}$	$5p^44f\ (^1D_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 334.725	0.002	42 818.46	4 000		1.45E+8	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	$5p^45g\ (^3P_1)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 337.877	0.003	42 760.75	11 000		2.52E+7	$5p^45d\ (^3P_0)[2]_{3/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 340.492 9	0.0007	42 712.953	230 000		9.00E+7	$5p^45d\ (^3P_2)[3]_{7/2}$	$5p^46p\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 340.951	0.004	42 704.59	150	h	1.45E+6	$5p^46p\ (^3P_0)[1]^{\circ}_{1/2}$	$5p^46d\ (^3P_1)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 342.594	0.002	42 674.65	16 000	h	3.25E+7	$5p^45d\ (^3P_1)[2]_{3/2}$	$5p^46p\ (^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 344.365 5	0.0009	42 642.402	8 400		6.35E+6	$5p^45d\ (^3P_2)[4]_{9/2}$	$5p^44f\ (^3P_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 344.479	0.005	42 640.33	75	p	6.64E+5	$5p^46s\ (^1D_2)[2]_{5/2}$	$5p^44f\ (^1D_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 346.326	0.003	42 606.77	4 300		1.74E+7	$5p^45d\ (^1D_2)[2]_{3/2}$	$5p^46p\ (^1S_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 346.711	0.003	42 599.78	2 400		7.74E+6	$5p^44f\ (^3P_2)[4]^{\circ}_{9/2}$	$5p^46d\ (^3P_1)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 349.756	0.004	42 544.59	25		3.60E+2	$5p^46d\ (^3P_2)[4]_{9/2}$	$5p^46f\ (^3P_1)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 350.176	0.004	42 536.98	100		1.04E+7	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	$5p^45g\ (^3P_1)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 350.476	0.004	42 531.56	25		9.68E+6	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	$5p^45g\ (^3P_1)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 351.741 5	0.0012	42 508.67	40 000	h	8.75E+7	$5p^45d\ (^1D_2)[3]_{7/2}$	$5p^44f\ (^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 353.731	0.003	42 472.74	1 600		2.17E+7	$5p^45d\ (^3P_1)[1]_{1/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 353.939	0.004	42 468.98	100		1.88E+3	$5p^44f\ (^3P_2)[3]^{\circ}_{5/2}$	$5p^46d\ (^3P_1)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 354.074	0.006	42 466.55	100	h	1.96E+6	$5p^44f\ (^3P_2)[5]^{\circ}_{9/2}$	$5p^46d\ (^1D_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 354.429 7	0.0008	42 460.140	66 000		6.25E+7	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 354.910	0.004	42 451.48	190		9.58E+6	$5p^44f\ (^3P_1)[4]^{\circ}_{9/2}$	$5p^45g\ (^3P_2)[6]_{11/2}$	09SAN/AND	09SAN/AND
2 356.106 1	0.0006	42 429.930	7 800		2.25E+6	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 357.018	0.006	42 413.51	300		1.62E+6	$5p^46p\ (^3P_1)[1]^{\circ}_{3/2}$	$5p^46d\ (^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 358.016	0.003	42 395.56	11 000	h	9.20E+6	$5p^46s\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 359.212	0.003	42 374.08	21 000		2.10E+7	$5p^45d\ (^3P_1)[1]_{3/2}$	$5p^44f\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 364.001	0.004	42 288.23	330		4.38E+6	$5p^44f\ (^3P_1)[4]^{\circ}_{9/2}$	$5p^45g\ (^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
2 364.799 2	0.0007	42 273.970	140 000		6.05E+7	$5p^45d\ (^3P_2)[3]_{5/2}$	$5p^44f\ (^3P_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 365.215	0.004	42 266.54	50		8.33E+5	$5p^44f\ (^3P_2)[3]^{\circ}_{5/2}$	$5p^47s\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 365.390	0.004	42 263.41	900		2.99E+6	$5p^44f\ (^3P_1)[4]^{\circ}_{9/2}$	$5p^45g\ (^3P_2)[5]_{9/2}$	09SAN/AND	09SAN/AND
2 365.486	0.004	42 261.70	6 900	p	1.24E+6	$5p^45d\ (^3P_1)[2]_{5/2}$	$5p^44f\ (^3P_0)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 365.521	0.004	42 261.08	9 600	p	2.43E+6	$5p^45d\ (^3P_1)[2]_{5/2}$	$5p^44f\ (^3P_0)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 365.687	0.002	42 258.11	7 200		3.46E+7	$5p^44f\ (^3P_1)[4]^{\circ}_{9/2}$	$5p^45g\ (^3P_2)[5]_{11/2}$	09SAN/AND	09SAN/AND
2 370.407	0.004	42 173.97	340		3.60E+4	$5p^45d\ (^3P_0)[2]_{3/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
2 375.469	0.004	42 084.10	400		1.38E+2	$5p^46d\ (^3P_2)[4]_{7/2}$	$5p^46f\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 376.191	0.005	42 071.31	1 600	s	7.75E+5	$5p^45d\ (^3P_1)[1]_{3/2}$	$5p^44f\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 380.098 5	0.0014	42 002.25	9 000	h	1.64E+7	$5p^45d\ (^3P_0)[2]_{5/2}$	$5p^46p\ (^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 384.964	0.004	41 916.58	500		1.46E+4	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	$5p^46g\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 390.054	0.002	41 827.31	3 300	h	1.36E+7	$5p^44f\ (^3P_2)[2]^{\circ}_{5/2}$	$5p^46d\ (^1D_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 390.751	0.003	41 815.11	2 000	h	1.35E+7	$5p^45d\ (^3P_1)[1]_{3/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 393.521	0.003	41 766.73	7 000		3.95E+7	$5p^46p\ (^3P_2)[2]^{\circ}_{3/2}$	$5p^46d\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 394.823 1	0.0009	41 744.023	5 400		2.65E+7	$5p^45d\ (^3P_2)[1]_{3/2}$	$5p^46p\ (^3P_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 396.740	0.002	41 710.63	4 000		1.71E+7	$5p^44f\ (^3P_2)[1]^{\circ}_{3/2}$	$5p^46d\ (^1D_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
2 397.722	0.002	41 693.55	250		2.95E+5	$5p^45d\ (^1S_0)[2]_{5/2}$	$5p^45f\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 397.946	0.004	41 689.66	1 000		2.53E+5	$5p^46p\ (^1D_2)[1]^{\circ}_{3/2}$	$5p^48s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 400.011 2	0.0012	41 653.79	16 000		3.46E+7	$5p^45d\ (^3P_1)[2]_{5/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 401.678	0.003	41 624.89	7 200	h	2.77E+6	$5p^45d\ (^1D_2)[4]_{7/2}$	$5p^44f\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 402.479	0.004	41 611.00	50		4.93E+5	$5p^44f\ (^3P_1)[2]^{\circ}_{5/2}$	$5p^45g\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 403.510	0.004	41 593.16	250		1.08E+7	$5p^44f\ (^3P_1)[2]^{\circ}_{5/2}$	$5p^45g\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 404.196	0.004	41 581.30	25	h	2.14E+6	$5p^46p\ (^1D_2)[1]^{\circ}_{3/2}$	$5p^47d\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 406.166	0.006	41 547.25	12		1.13E+6	$5p^46p\ (^3P_1)[1]^{\circ}_{3/2}$	$5p^47s\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 406.927	0.002	41 534.11	6 600		1.59E+7	$5p^45d\ (^3P_0)[2]_{5/2}$	$5p^46p\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 410.829	0.002	41 466.90	1 800		2.80E+7	$5p^44f\ (^3P_1)[2]^{\circ}_{5/2}$	$5p^45g\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 411.892 8	0.0013	41 448.61	4 200		6.48E+7	$5p^45d\ (^1D_2)[1]_{3/2}$	$5p^44f\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 414.635 1	0.0014	41 401.54	6 600		2.09E+7	$5p^45d\ (^3P_1)[2]_{5/2}$	$5p^46p\ (^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 420.013	0.004	41 309.54	3 500	c	6.60E+6	$5p^46s\ (^1D_2)[2]_{5/2}$	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 421.314	0.002	41 287.34	3 000		9.40E+6	$5p^45d\ (^3P_2)[1]_{3/2}$	$5p^46p\ (^3P_1)[0]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 421.607	0.002	41 282.36	2 300		6.03E+6	$5p^45d\ (^3P_1)[3]_{7/2}$	$5p^44f\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 421.661	0.002	41 281.44	1 100	p	2.02E+6	$5p^46p\ (^3P_2)[2]^{\circ}_{5/2}$	$5p^46d\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 422.303	0.004	41 270.48	130		1.48E+6	$5p^46p\ (^1D_2)[3]^{\circ}_{7/2}$	$5p^47d\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 422.465	0.004	41 267.74	50		8.05E+5	$5p^44f\ (^3P_2)[2]^{\circ}_{5/2}$	$5p^46d\ (^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 422.465	0.004	41 267.74	50		6.58E+5	$5p^46p\ (^1D_2)[1]^{\circ}_{3/2}$	$5p^48s\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 422.850	0.002	41 261.17	2 500	d	2.43E+7	$5p^45d\ (^1D_2)[1]_{1/2}$	$5p^46p\ (^1S_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 423.021	0.006	41 258.26	100		4.38E+5	$5p^46p\ (^1D_2)[3]^{\circ}_{7/2}$	$5p^47d\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 424.596	0.004	41 231.46	380	h	2.80E+7	$5p^44f\ (^1D_2)[4]^{\circ}_{7/2}$	$5p^45g\ (^3P_1)[5]_{9/2}$	09SAN/AND	09SAN/AND
2 424.780 9	0.0018	41 228.32	6 600		2.24E+7	$5p^45d\ (^3P_1)[1]_{3/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 426.405 4	0.0008	41 200.720	36 000		2.32E+7	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 427.172 5	0.0015	41 187.70	16 000	h	3.27E+7	$5p^46s\ (^1D_2)[2]_{3/2}$	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 427.653 5	0.0008	41 179.540	100 000		1.10E+8	$5p^45d\ (^3P_2)[1]_{1/2}$	$5p^46p\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 431.920	0.003	41 107.30	2 500	c	1.12E+7	$5p^45d\ (^3P_2)[0]_{1/2}$	$5p^46p\ (^3P_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 432.421	0.002	41 098.84	5 000	h	5.55E+6	$5p^45d\ (^1D_2)[1]_{3/2}$	$5p^44f\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 434.558	0.004	41 062.76	25		2.71E+6	$5p^45d\ (^1D_2)[3]_{5/2}$	$5p^44f\ (^3P_1)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 439.799	0.002	40 974.56	2 600		1.73E+7	$5p^46p\ (^3P_2)[2]^{\circ}_{5/2}$	$5p^46d\ (^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 441.362	0.004	40 948.33	75		3.00E+6	$5p^46p\ (^3P_1)[0]^{\circ}_{1/2}$	$5p^46d\ (^3P_1)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 444.660	0.002	40 893.09	3 800		5.00E+6	$5p^45d\ (^3P_0)[2]_{3/2}$	$5p^44f\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 449.209	0.003	40 817.14	2 000	c	8.62E+3	$5p^45d\ (^1D_2)[4]_{7/2}$	$5p^44f\ (^3P_1)[4]^{\circ}_{9/2}$	09SAN/AND	09SAN/AND
2 449.428	0.002	40 813.49	2 300		3.15E+7	$5p^45d\ (^1D_2)[2]_{3/2}$	$5p^46p\ (^1S_0)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 450.780	0.002	40 790.98	2 000		1.23E+6	$5p^46p\ (^3P_0)[1]^{\circ}_{1/2}$	$5p^47s\ (^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND
2 451.449	0.002	40 779.85	6 300	c	2.25E+7	$5p^46s\ (^3P_1)[1]_{3/2}$	$5p^44f\ (^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 453.235	0.003	40 750.16	2 300	c	8.37E+5	$5p^45d\ (^3P_1)[2]_{3/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 455.433	0.004	40 713.69	2 000		7.73E+6	$5p^46p\ (^3P_2)[1]^{\circ}_{3/2}$	$5p^46d\ (^3P_0)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 455.809 2	0.0007	40 707.453	960 000		1.46E+8	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 457.056	0.006	40 686.80	180	h	2.38E+7	$5p^46p\ (^1D_2)[2]^{\circ}_{3/2}$	$5p^47d\ (^3P_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
2 457.299	0.002	40 682.78	1 800		9.93E+5	$5p^46s\ (^3P_0)[0]^{\circ}_{1/2}$	$5p^46p\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 458.480	0.004	40 663.23	100		2.70E+5	$5p^44f\ (^3P_0)[3]^{\circ}_{7/2}$	$5p^47d\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 458.824 9	0.0020	40 657.53	13 000		4.08E+6	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 459.243 5	0.0016	40 650.61	110 000	d	1.63E+5	$5p^45d\ (^3P_2)[0]_{1/2}$	$5p^46p\ (^3P_1)[0]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 462.111	0.002	40 603.27	17 000		4.38E+7	$5p^45d\ (^3P_2)[3]_{5/2}$	$5p^44f\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 463.145	0.004	40 586.23	150		2.40E+6	$5p^46p\ (^3P_0)[1]^{\circ}_{1/2}$	$5p^46d\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 466.323 8	0.0008	40 533.920	11 000		1.37E+7	$5p^45d\ (^3P_0)[2]_{3/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 466.551	0.004	40 530.19	1 900	h	2.88E+7	$5p^46p\ (^1D_2)[3]^{\circ}_{5/2}$	$5p^46d\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
2 466.920 8	0.0010	40 524.110	9 000		9.97E+6	$5p^46s\ (^3P_2)[2]_{3/2}$	$5p^44f\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 468.081 8	0.0010	40 505.050	9 000		2.83E+6	$5p^45d\ (^3P_2)[4]_{7/2}$	$5p^44f\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 468.902	0.002	40 491.59	750		1.17E+7	$5p^46p\ (^3P_0)[1]^{\circ}_{3/2}$	$5p^46d\ (^3P_1)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 469.397	0.004	40 483.47	150	c	2.53E+5	$5p^45d\ (^1D_2)[4]_{9/2}$	$5p^44f\ (^3P_1)[4]^{\circ}_{9/2}$	09SAN/AND	09SAN/AND
2 472.202	0.004	40 437.54	3 800		9.58E+6	$5p^45d\ (^3P_1)[2]_{5/2}$	$5p^44f\ (^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 474.411	0.015	40 401.5	750	u	1.97E+6	$5p^44f\ (^3P_2)[2]^{\circ}_{5/2}$	$5p^47s\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 476.078 6	0.0007	40 374.242	17 000		3.85E+6	$5p^45d\ (^3P_2)[4]_{7/2}$	$5p^44f\ (^3P_2)[4]^{\circ}_{9/2}$	09SAN/AND	09SAN/AND
2 476.872	0.004	40 361.30	880		1.59E+7	$5p^44f\ (^3P_2)[2]^{\circ}_{3/2}$	$5p^46d\ (^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND
2 477.571 2	0.0009	40 349.921	960 000		1.44E+8	$5p^45d\ (^3P_2)[3]_{7/2}$	$5p^46p\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 478.335	0.003	40 337.48	4 000		1.12E+8	$5p^46p\ (^3P_2)[2]^{\circ}_{3/2}$	$5p^46d\ (^3P_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
2 483.063 3	0.0008	40 260.680	9 000		8.73E+6	$5p^45d\ (^3P_1)[1]_{1/2}$	$5p^46p\ (^3P_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 485.445 6	0.0007	40 222.093	530 000		1.17E+8	$5p^45d\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 486.301	0.004	40 208.26	1 000		5.58E+6	$5p^46p\ (^3P_2)[1]^{\circ}_{3/2}$	$5p^46d\ (^3P_0)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 486.384	0.004	40 206.91	250		1.10E+7	$5p^46p\ (^1D_2)[2]^{\circ}_{5/2}$	$5p^47d\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 487.109	0.004	40 195.19	130		1.10E+6	$5p^45d\ (^1D_2)[0]_{1/2}$	$5p^45f\ (^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 487.834	0.004	40 183.48	630	h	3.95E+5	$5p^46s\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 489.588	0.004	40 155.18	3 800		1.76E+7	$5p^44f\ (^3P_2)[4]^{\circ}_{7/2}$	$5p^46d\ (^1D_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 495.073 6	0.0010	40 066.894	250 000		3.27E+7	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 496.954 2	0.0012	40 036.720	19 000		1.09E+7	$5p^45d\ (^3P_2)[4]_{7/2}$	$5p^44f\ (^3P_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 499.835	0.004	39 990.59	1 000		1.22E+7	$5p^46p\ (^3P_0)[1]^{\circ}_{1/2}$	$5p^47s\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 501.427	0.004	39 965.13	2 300		1.91E+5	$5p^46s\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 502.253 9	0.0012	39 951.930	17 000		2.85E+8	$5p^45d\ (^1S_0)[2]_{3/2}$	$5p^44f\ (^1S_0)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 502.538	0.004	39 947.39	880	h	2.35E+6	$5p^45d\ (^3P_1)[1]_{3/2}$	$5p^44f\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 511.556 6	0.0011	39 803.960	15 000		1.73E+8	$5p^45d\ (^3P_1)[1]_{1/2}$	$5p^46p\ (^3P_1)[0]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 512.204	0.016	39 793.7	10 000	u	3.13E+6	$5p^45d\ (^1D_2)[4]_{7/2}$	$5p^44f\ (^3P_0)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 514.642	0.004	39 755.12	3 500	h	1.07E+7	$5p^46s\ (^3P_1)[1]_{3/2}$	$5p^46p\ (^1D_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 515.745	0.004	39 737.69	1 500	p	3.97E+5	$5p^45d\ (^3P_0)[2]_{5/2}$	$5p^44f\ (^3P_0)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 515.790	0.002	39 736.99	2 200	p	1.03E+6	$5p^45d\ (^3P_0)[2]_{5/2}$	$5p^44f\ (^3P_0)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 520.864	0.003	39 657.01	3 300		6.88E+7	$5p^46p\ (^3P_0)[1]^{\circ}_{3/2}$	$5p^46d\ (^3P_1)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 524.672	0.006	39 597.19	2 000	p	3.27E+6	$5p^44f\ (^3P_2)[4]^{\circ}_{7/2}$	$5p^46d\ (^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 525.243 2	0.0011	39 588.240	96 000	h	5.07E+6	$5p^45d\ (^3P_1)[1]_{3/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 525.670 7	0.0008	39 581.540	840 000		1.53E+8	$5p^45d\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 525.944	0.003	39 577.25	14 000		1.31E+7	$5p^45d\ (^1D_2)[2]_{5/2}$	$5p^44f\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 526.428	0.004	39 569.67	500		1.22E+6	$5p^44f\ (^3P_1)[2]^{\circ}_{3/2}$	$5p^46d\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 526.971	0.004	39 561.17	880		7.23E+6	$5p^44f\ (^3P_2)[3]^{\circ}_{5/2}$	$5p^46d\ (^3P_0)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 528.896 1	0.0010	39 531.060	16 000		3.29E+7	$5p^45d\ (^3P_2)[1]_{3/2}$	$5p^46p\ (^3P_0)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 532.361	0.006	39 476.97	1 800	p	4.35E+5	$5p^45d\ (^3P_1)[2]_{5/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 532.945	0.004	39 467.88	4 400	d	1.49E+7	$5p^45d\ (^1D_2)[1]_{1/2}$	$5p^46p\ (^1S_0)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 533.447 2	0.0018	39 460.05	51 000	h	2.95E+7	$5p^45d\ (^1D_2)[4]_{9/2}$	$5p^44f\ (^3P_0)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 533.610	0.002	39 457.51	3 200		1.26E+7	$5p^45d\ (^3P_2)[3]_{5/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 538.397	0.005	39 383.11	630		2.05E+7	$5p^46p\ (^3P_0)[1]^{\circ}_{1/2}$	$5p^46d\ (^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND
2 538.703	0.003	39 378.36	19 000		2.43E+7	$5p^46s\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 540.528	0.003	39 350.07	9 000	h	2.78E+8	$5p^46p\ (^1D_2)[3]^{\circ}_{5/2}$	$5p^46d\ (^1D_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 540.833	0.003	39 345.36	4 000		8.56E+6	$5p^45d\ (^1D_2)[3]_{5/2}$	$5p^44f\ (^3P_1)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 546.241	0.004	39 261.80	8 000	h	1.87E+7	$5p^45d\ (^1D_2)[3]_{5/2}$	$5p^44f\ (^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 548.469	0.003	39 227.47	2 300		7.78E+6	$5p^45d\ (^1D_2)[2]_{5/2}$	$5p^44f\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 550.777	0.003	39 191.98	1 500		2.99E+6	$5p^46d\ (^3P_2)[3]_{5/2}$	$5p^46f\ (^3P_1)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 551.139 6	0.0013	39 186.41	16 000		2.23E+7	$5p^45d\ (^1D_2)[4]_{7/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 552.049	0.004	39 172.44	1 600		2.72E+5	$5p^46d\ (^3P_2)[3]_{5/2}$	$5p^46f\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 554.832 5	0.0012	39 129.770	16 000		1.40E+7	$5p^45d\ (^3P_0)[2]_{5/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 557.230	0.003	39 093.08	2 800		1.70E+7	$5p^46p\ (^3P_0)[1]^{\circ}_{3/2}$	$5p^46d\ (^3P_1)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 560.374 8	0.0012	39 045.074	72 000		4.28E+7	$5p^45d\ (^3P_1)[1]_{3/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 568.711 6	0.0009	38 918.360	14 000		1.98E+8	$5p^46p\ (^3P_2)[3]^{\circ}_{5/2}$	$5p^46d\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 569.944	0.005	38 899.70	350		2.81E+6	$5p^46p\ (^1D_2)[2]^{\circ}_{5/2}$	$5p^47d\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 570.301	0.004	38 894.30	3 300	d	6.90E+6	$5p^45d\ (^3P_2)[0]_{1/2}$	$5p^46p\ (^3P_0)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 571.411 3	0.0007	38 877.503	10 000		2.60E+7	$5p^45d\ (^3P_0)[2]_{5/2}$	$5p^46p\ (^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 573.047 0	0.0014	38 852.79	260 000		2.64E+8	$5p^45d\ (^1D_2)[4]_{9/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
2 574.563	0.003	38 829.91	4 800		1.26E+8	$5p^46p\ (^3P_1)[0]^\circ_{1/2}$	$5p^46d\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 575.122	0.003	38 821.49	3 800	c	1.45E+7	$5p^46s\ (^1D_2)[2]_{5/2}$	$5p^44f\ (^1D_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 578.623	0.005	38 768.78	100		1.36E+0	$5p^44f\ (^3P_2)[2]^\circ_{3/2}$	$5p^46d\ (^3P_0)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 585.171	0.003	38 670.59	4 500		1.59E+6	$5p^45d\ (^3P_1)[2]_{5/2}$	$5p^44f\ (^3P_2)[4]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 586.343	0.003	38 653.07	2 800		9.05E+6	$5p^46p\ (^3P_2)[2]^\circ_{3/2}$	$5p^47s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 589.130	0.003	38 611.46	2 000		2.65E+7	$5p^46p\ (^3P_2)[3]^\circ_{5/2}$	$5p^46d\ (^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 589.278 3	0.0009	38 609.250	11 000		1.82E+6	$5p^45d\ (^3P_1)[3]_{7/2}$	$5p^44f\ (^3P_2)[5]^\circ_{9/2}$	09SAN/AND	09SAN/AND
2 591.156 9	0.0013	38 581.260	9 600		2.11E+8	$5p^46p\ (^3P_2)[1]^\circ_{1/2}$	$5p^46d\ (^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 591.365	0.004	38 578.16	2 300		3.39E+7	$5p^46p\ (^3P_0)[1]^\circ_{3/2}$	$5p^47s\ (^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND
2 592.276	0.005	38 564.60	130		2.38E+5	$5p^44f\ (^1D_2)[2]^\circ_{5/2}$	$5p^45g\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 593.068	0.003	38 552.83	2 300		1.11E+6	$5p^45d\ (^3P_2)[1]_{3/2}$	$5p^44f\ (^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 596.857 4	0.0005	38 496.574	600 000		2.83E+8	$5p^45d\ (^3P_1)[3]_{7/2}$	$5p^46p\ (^3P_1)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 597.773	0.004	38 483.00	2 100		5.58E+6	$5p^46p\ (^3P_2)[3]^\circ_{7/2}$	$5p^46d\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 600.310 9	0.0006	38 445.450	140 000		2.09E+8	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^46p\ (^3P_0)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 600.527	0.005	38 442.25	3 300	h	1.32E+7	$5p^44f\ (^3P_2)[4]^\circ_{7/2}$	$5p^47s\ (^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 602.353	0.005	38 415.29	2 400	p	1.63E+7	$5p^44f\ (^1D_2)[2]^\circ_{5/2}$	$5p^45g\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 602.469 0	0.0015	38 413.57	10 000		2.92E+6	$5p^45d\ (^1D_2)[3]_{7/2}$	$5p^44f\ (^1D_2)[5]^\circ_{9/2}$	09SAN/AND	09SAN/AND
2 603.706 7	0.0016	38 395.31	16 000	h	5.10E+7	$5p^44f\ (^3P_2)[4]^\circ_{7/2}$	$5p^46d\ (^1D_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
2 604.351	0.005	38 385.82	380	b,h	1.73E+7	$5p^44f\ (^1D_2)[3]^\circ_{5/2}$	$5p^45g\ (^3P_1)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 604.351	0.005	38 385.82	380	b,h	8.60E+4	$5p^46p\ (^1D_2)[2]^\circ_{5/2}$	$5p^47d\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 605.206	0.003	38 373.21	9 000		1.46E+8	$5p^46p\ (^3P_0)[1]^\circ_{3/2}$	$5p^46d\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 605.443 8	0.0005	38 369.714	150 000		1.79E+8	$5p^46p\ (^3P_2)[2]^\circ_{5/2}$	$5p^46d\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 610.123 2	0.0005	38 300.930	230 000		4.80E+7	$5p^45d\ (^3P_2)[1]_{1/2}$	$5p^46p\ (^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 611.584	0.003	38 279.50	2 900		3.15E+7	$5p^46p\ (^3P_1)[2]^\circ_{3/2}$	$5p^46d\ (^3P_1)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 612.037	0.005	38 272.87	2 300	p	5.65E+6	$5p^45d\ (^3P_1)[2]_{3/2}$	$5p^44f\ (^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 614.669 1	0.0008	38 234.343	17 000		3.05E+8	$5p^46p\ (^3P_1)[0]^\circ_{1/2}$	$5p^47s\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 616.284 2	0.0008	38 210.742	34 000		5.50E+8	$5p^46p\ (^3P_2)[2]^\circ_{3/2}$	$5p^46d\ (^3P_2)[1]_{1/2}$	09SAN/AND	09SAN/AND
2 616.940	0.005	38 201.16	380		1.14E+7	$5p^44f\ (^3P_1)[3]^\circ_{7/2}$	$5p^45g\ (^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
2 617.865	0.005	38 187.67	200		4.35E+6	$5p^44f\ (^3P_1)[3]^\circ_{7/2}$	$5p^45g\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 618.638	0.003	38 176.39	1 300		1.20E+7	$5p^44f\ (^3P_1)[3]^\circ_{7/2}$	$5p^45g\ (^3P_2)[5]_{9/2}$	09SAN/AND	09SAN/AND
2 619.231	0.003	38 167.76	10 000		7.13E+7	$5p^46p\ (^3P_2)[2]^\circ_{5/2}$	$5p^47s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 620.773	0.005	38 145.30	1 800	h	4.34E+5	$5p^45d\ (^1D_2)[3]_{7/2}$	$5p^44f\ (^3P_1)[4]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 620.940	0.005	38 142.86	300	p	2.08E+6	$5p^46p\ (^1D_2)[2]^\circ_{5/2}$	$5p^48s\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 622.316	0.003	38 122.86	1 800	h	2.25E+6	$5p^44f\ (^3P_2)[4]^\circ_{7/2}$	$5p^46d\ (^1D_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 622.532	0.005	38 119.71	1 000	h	1.64E+7	$5p^44f\ (^1D_2)[4]^\circ_{7/2}$	$5p^45g\ (^3P_0)[4]_{9/2}$	09SAN/AND	09SAN/AND
2 623.576	0.005	38 104.55	2 000		5.81E+7	$5p^44f\ (^1D_2)[3]^\circ_{5/2}$	$5p^45g\ (^3P_1)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 624.067	0.005	38 097.42	1 100		2.18E+6	$5p^46s\ (^3P_2)[2]_{3/2}$	$5p^44f\ (^3P_2)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
2 627.496	0.003	38 047.70	2 500		5.15E+4	$5p^45d\ (^3P_1)[1]_{1/2}$	$5p^46p\ (^3P_0)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
2 628.988	0.005	38 026.11	6 000		2.55E+6	$5p^46s\ (^3P_0)[0]_{1/2}$	$5p^46p\ (^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 629.536	0.004	38 018.19	2 000		1.44E+6	$5p^46s\ (^3P_1)[1]_{3/2}$	$5p^46p\ (^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 630.509 8	0.0006	38 004.113	1 500 000		2.91E+8	$5p^45d\ (^3P_2)[4]_{9/2}$	$5p^46p\ (^3P_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 632.871	0.005	37 970.03	1 500		3.80E+6	$5p^44f\ (^3P_1)[2]^\circ_{3/2}$	$5p^46d\ (^1D_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
2 634.214 3	0.0007	37 950.671	40 000		1.42E+8	$5p^45d\ (^1D_2)[2]_{3/2}$	$5p^44f\ (^1D_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 636.052	0.004	37 924.21	7 000		3.10E+8	$5p^46p\ (^1D_2)[3]^\circ_{5/2}$	$5p^47s\ (^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 636.616	0.003	37 916.10	4 500	d	7.98E+2	$5p^45d\ (^3P_2)[0]_{1/2}$	$5p^44f\ (^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 636.797	0.003	37 913.50	2 800		7.35E+5	$5p^45d\ (^3P_0)[2]_{5/2}$	$5p^44f\ (^3P_1)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 640.263	0.002	37 863.73	29 000	d	4.80E+7	$5p^46s\ (^3P_1)[1]_{1/2}$	$5p^46p\ (^1D_2)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
2 642.636 3	0.0009	37 829.730	75 000		2.93E+8	$5p^46p\ (^3P_2)[2]^\circ_{3/2}$	$5p^47s\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 643.494	0.003	37 817.45	4 500		5.72E+4	$5p^45d\ (^3P_2)[3]_{5/2}$	$5p^46p\ (^3P_1)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 646.209 6	0.0008	37 778.650	20 000		2.80E+7	$5p^45d\ (^3P_0)[2]_{3/2}$	$5p^46p\ (^3P_0)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 646.277	0.014	37 777.69	1 500	u	5.78E+6	$5p^46p\ (^3P_0)[1]^\circ_{3/2}$	$5p^47s\ (^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 646.940	0.005	37 768.23	75	c	3.38E+2	$5p^44f\ (^1D_2)[4]^\circ_{9/2}$	$5p^45g\ (^3P_0)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 649.040 5	0.0009	37 738.280	14 000		5.10E+6	$5p^46s\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^3P_1)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 650.744 6	0.0005	37 714.020	44 000		1.77E+8	$5p^45d\ (^3P_1)[2]_{3/2}$	$5p^46p\ (^3P_1)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
2 652.019 6	0.0008	37 695.890	66 000		5.60E+8	$5p^46p\ (^3P_2)[2]^\circ_{3/2}$	$5p^46d\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 656.260	0.004	37 635.71	5 300	h	4.75E+7	$5p^46p\ (^1D_2)[3]^\circ_{5/2}$	$5p^47s\ (^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 656.886 7	0.0007	37 626.840	13 000		6.10E+8	$5p^46p\ (^3P_1)[0]^\circ_{1/2}$	$5p^46d\ (^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
2 658.366	0.005	37 605.90	1 100		6.20E+5	$5p^45d\,(^1D_2)[0]_{1/2}$	$5p^47p\,(^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 658.720	0.002	37 600.90	16 000	c	1.11E+8	$5p^45d\,(^1D_2)[2]_{3/2}$	$5p^44f\,(^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 659.907	0.005	37 584.11	1 000	s	2.58E+6	$5p^46s\,(^3P_1)[1]_{3/2}$	$5p^44f\,(^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 660.996	0.005	37 568.74	25	h	4.28E+4	$5p^45d\,(^1S_0)[2]_{5/2}$	$5p^47p\,(^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 662.324	0.005	37 550.00	750	c	4.53E+5	$5p^46s\,(^3P_1)[1]_{3/2}$	$5p^46p\,(^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 663.677	0.005	37 530.93	250		4.20E+4	$5p^45d\,(^1S_0)[2]_{5/2}$	$5p^47p\,(^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 667.004	0.005	37 484.11	1 500	h	3.12E+5	$5p^44f\,(^1D_2)[3]^{\circ}_{5/2}$	$5p^46g\,(^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 668.801	0.002	37 458.87	7 200		3.59E+8	$5p^46p\,(^3P_2)[1]^{\circ}_{1/2}$	$5p^46d\,(^3P_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
2 669.793 3	0.0009	37 444.950	11 000		3.92E+8	$5p^46p\,(^3P_1)[2]^{\circ}_{3/2}$	$5p^46d\,(^3P_1)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 671.172	0.004	37 425.62	3 100		1.57E+7	$5p^46p\,(^1D_2)[1]^{\circ}_{3/2}$	$5p^46d\,(^1D_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 671.694 2	0.0006	37 418.310	26 000		1.10E+8	$5p^46p\,(^3P_2)[2]^{\circ}_{3/2}$	$5p^46d\,(^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 674.631	0.002	37 377.23	9 000		3.10E+7	$5p^44f\,(^3P_2)[1]^{\circ}_{1/2}$	$5p^46d\,(^3P_1)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 676.984	0.002	37 344.38	12 000		2.87E+7	$5p^46p\,(^3P_2)[2]^{\circ}_{5/2}$	$5p^47s\,(^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 678.593	0.002	37 321.95	6 600		2.33E+7	$5p^45d\,(^3P_0)[2]_{3/2}$	$5p^46p\,(^3P_1)[0]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 678.991 7	0.0006	37 316.390	35 000		7.09E+8	$5p^46p\,(^1D_2)[3]^{\circ}_{5/2}$	$5p^46d\,(^1D_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 681.232 8	0.0018	37 285.20	17 000		5.88E+8	$5p^46p\,(^3P_0)[1]^{\circ}_{1/2}$	$5p^46d\,(^3P_0)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 682.020 5	0.0005	37 274.250	34 000		3.95E+7	$5p^45d\,(^3P_2)[3]_{5/2}$	$5p^46p\,(^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 686.612 8	0.0008	37 210.540	27 000		1.59E+8	$5p^46p\,(^3P_2)[2]^{\circ}_{5/2}$	$5p^46d\,(^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 689.408 4	0.0020	37 171.86	11 000	p	1.63E+8	$5p^46p\,(^1D_2)[3]^{\circ}_{7/2}$	$5p^46d\,(^1D_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 691.840	0.003	37 138.28	3 600		2.13E+8	$5p^46p\,(^3P_0)[1]^{\circ}_{1/2}$	$5p^47s\,(^3P_0)[0]_{1/2}$	09SAN/AND	09SAN/AND
2 700.315 3	0.0005	37 021.730	220 000		3.56E+8	$5p^46p\,(^3P_2)[2]^{\circ}_{5/2}$	$5p^46d\,(^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 700.723 1	0.0013	37 016.140	96 000		1.82E+8	$5p^45d\,(^1D_2)[1]_{3/2}$	$5p^44f\,(^3P_1)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 701.198 2	0.0013	37 009.630	430 000		2.52E+8	$5p^45d\,(^1D_2)[4]_{7/2}$	$5p^46p\,(^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 705.336 3	0.0014	36 953.023	15 000		8.43E+6	$5p^45d\,(^3P_0)[2]_{5/2}$	$5p^46p\,(^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 706.806 7	0.0009	36 932.950	140 000		6.10E+8	$5p^46p\,(^3P_2)[2]^{\circ}_{5/2}$	$5p^46d\,(^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 710.614	0.002	36 881.08	3 600		5.27E+7	$5p^46p\,(^3P_1)[2]^{\circ}_{3/2}$	$5p^46d\,(^3P_1)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 711.712	0.002	36 866.14	3 000		6.03E+7	$5p^46p\,(^1D_2)[1]^{\circ}_{3/2}$	$5p^46d\,(^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 714.153	0.003	36 832.99	6 000		5.50E+6	$5p^45d\,(^3P_1)[1]_{3/2}$	$5p^46p\,(^3P_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 740.748 4	0.0009	36 475.593	21 000		1.11E+8	$5p^45d\,(^1D_2)[2]_{5/2}$	$5p^44f\,(^1D_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 748.229 7	0.0013	36 376.304	52 000		1.13E+8	$5p^45d\,(^3P_1)[1]_{3/2}$	$5p^46p\,(^3P_1)[0]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 750.640	0.003	36 344.43	10 000		8.13E+6	$5p^45d\,(^1D_2)[3]_{7/2}$	$5p^44f\,(^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 751.138 0	0.0008	36 337.851	12 000		1.43E+8	$5p^46p\,(^3P_1)[2]^{\circ}_{5/2}$	$5p^46d\,(^3P_1)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 757.409	0.003	36 255.21	19 000		1.43E+8	$5p^45d\,(^1D_2)[1]_{1/2}$	$5p^44f\,(^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 764.580 6	0.0012	36 161.170	6 000		2.24E+8	$5p^46p\,(^3P_1)[2]^{\circ}_{3/2}$	$5p^46d\,(^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 774.491 8	0.0011	36 032.000	84 000		1.39E+8	$5p^45d\,(^1D_2)[3]_{5/2}$	$5p^46p\,(^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 776.442 7	0.0005	36 006.683	230 000		5.26E+8	$5p^46p\,(^3P_2)[3]^{\circ}_{5/2}$	$5p^46d\,(^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 779.178 5	0.0010	35 971.240	19 000		2.58E+7	$5p^45d\,(^3P_2)[0]_{1/2}$	$5p^46p\,(^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 784.165 5	0.0006	35 906.812	32 000		3.05E+8	$5p^45d\,(^1S_0)[2]_{5/2}$	$5p^46p\,(^1S_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 787.056 3	0.0013	35 869.570	78 000		1.31E+7	$5p^45d\,(^1D_2)[4]_{9/2}$	$5p^44f\,(^3P_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 788.258 1	0.0011	35 854.110	90 000		1.23E+8	$5p^45d\,(^3P_1)[2]_{5/2}$	$5p^46p\,(^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 788.866 4	0.0005	35 846.290	22 000		9.95E+6	$5p^45d\,(^3P_1)[2]_{3/2}$	$5p^44f\,(^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 792.106 9	0.0007	35 804.690	25 000		2.73E+8	$5p^46p\,(^3P_2)[3]^{\circ}_{5/2}$	$5p^47s\,(^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 794.465 4	0.0009	35 774.472	19 000		1.42E+8	$5p^46p\,(^3P_2)[1]^{\circ}_{1/2}$	$5p^47s\,(^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 799.410	0.003	35 711.28	4 800		2.57E+8	$5p^46p\,(^1D_2)[1]^{\circ}_{3/2}$	$5p^47s\,(^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 809.929 6	0.0005	35 577.601	29 000		5.45E+8	$5p^46p\,(^3P_0)[1]^{\circ}_{3/2}$	$5p^46d\,(^3P_0)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 810.427	0.002	35 571.31	3 000		5.95E+6	$5p^46p\,(^3P_2)[3]^{\circ}_{7/2}$	$5p^46d\,(^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
2 810.872 2	0.0005	35 565.671	160 000		2.47E+8	$5p^45d\,(^3P_0)[2]_{3/2}$	$5p^46p\,(^3P_0)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
2 817.091 2	0.0018	35 487.16	110 000		3.47E+7	$5p^45d\,(^3P_1)[2]_{3/2}$	$5p^46p\,(^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 819.330	0.003	35 458.98	4 800		2.55E+8	$5p^46p\,(^1D_2)[3]^{\circ}_{7/2}$	$5p^47s\,(^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 823.063 2	0.0019	35 412.09	38 000		5.67E+8	$5p^46p\,(^1D_2)[3]^{\circ}_{7/2}$	$5p^46d\,(^1D_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
2 824.152 9	0.0006	35 398.430	72 000		5.48E+6	$5p^45d\,(^3P_2)[4]_{7/2}$	$5p^46p\,(^3P_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
2 829.450 2	0.0010	35 332.160	14 000		1.60E+8	$5p^46p\,(^3P_2)[1]^{\circ}_{1/2}$	$5p^46d\,(^3P_2)[1]_{1/2}$	09SAN/AND	09SAN/AND
2 835.105 9	0.0008	35 261.680	3 600		1.45E+8	$5p^46p\,(^3P_1)[1]^{\circ}_{3/2}$	$5p^46d\,(^3P_1)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 835.702	0.002	35 254.27	6 000		1.95E+6	$5p^45d\,(^3P_1)[3]_{5/2}$	$5p^44f\,(^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
2 838.075 2	0.0006	35 224.790	66 000		6.48E+8	$5p^46p\,(^3P_1)[2]^{\circ}_{5/2}$	$5p^46d\,(^3P_1)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 844.535 6	0.0008	35 144.792	14 000		7.82E+7	$5p^45d\,(^1D_2)[2]_{5/2}$	$5p^44f\,(^3P_1)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
2 844.955	0.002	35 139.61	1 800		3.88E+7	$5p^46p\,(^1D_2)[3]^{\circ}_{7/2}$	$5p^46d\,(^1D_2)[4]_{7/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
2 845.700 2	0.0006	35 130.410	380 000		6.48E+8	$5p^46p\,(^3P_2)[3]^\circ_{7/2}$	$5p^46d\,(^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
2 846.159	0.016	35 124.75	15 000	u	1.78E+5	$5p^45d\,(^3P_1)[1]_{1/2}$	$5p^46p\,(^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 850.426	0.002	35 072.16	3 000		7.68E+7	$5p^46p\,(^3P_0)[1]^\circ_{3/2}$	$5p^46d\,(^3P_0)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 851.237 9	0.0006	35 062.183	90 000		9.28E+7	$5p^45d\,(^3P_2)[3]_{5/2}$	$5p^46p\,(^3P_0)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 852.458	0.016	35 047.19	7 200	u	5.90E+6	$5p^46s\,(^3P_2)[2]_{5/2}$	$5p^46p\,(^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 854.480 1	0.0011	35 022.360	24 000		3.15E+8	$5p^46p\,(^3P_1)[2]^\circ_{5/2}$	$5p^47s\,(^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 857.830 4	0.0011	34 981.304	8 400		1.41E+7	$5p^46p\,(^3P_2)[3]^\circ_{5/2}$	$5p^47s\,(^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 859.321 7	0.0007	34 963.060	860 000		1.67E+8	$5p^45d\,(^3P_2)[4]_{7/2}$	$5p^46p\,(^3P_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 860.885 5	0.0012	34 943.950	33 000		3.40E+7	$5p^45d\,(^3P_1)[2]_{3/2}$	$5p^46p\,(^3P_1)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 862.420 7	0.0012	34 925.210	7 200		2.61E+8	$5p^46p\,(^3P_0)[1]^\circ_{3/2}$	$5p^47s\,(^3P_0)[0]_{1/2}$	09SAN/AND	09SAN/AND
2 865.031 9	0.0014	34 893.380	34 000		8.18E+7	$5p^46s\,(^3P_1)[1]_{3/2}$	$5p^46p\,(^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 868.805 5	0.0013	34 847.484	4 800		2.29E+7	$5p^46p\,(^3P_2)[3]^\circ_{5/2}$	$5p^46d\,(^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 871.292 7	0.0011	34 817.300	6 000		2.17E+7	$5p^46p\,(^3P_2)[1]^\circ_{1/2}$	$5p^46d\,(^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 872.321 3	0.0018	34 804.83	31 000		5.11E+7	$5p^44f\,(^3P_0)[3]^\circ_{7/2}$	$5p^46d\,(^1D_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
2 875.283 9	0.0017	34 768.97	7 800		2.68E+8	$5p^46p\,(^1D_2)[2]^\circ_{3/2}$	$5p^46d\,(^1D_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 881.184 4	0.0006	34 697.770	72 000		3.67E+8	$5p^46p\,(^3P_1)[1]^\circ_{3/2}$	$5p^46d\,(^3P_1)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 884.432 2	0.0007	34 658.703	50 000		1.17E+8	$5p^46p\,(^3P_2)[3]^\circ_{5/2}$	$5p^46d\,(^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 890.373 5	0.0009	34 587.464	8 400		7.33E+6	$5p^45d\,(^3P_0)[2]_{3/2}$	$5p^44f\,(^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 891.839 3	0.0012	34 569.933	13 000		2.82E+7	$5p^46p\,(^3P_2)[3]^\circ_{5/2}$	$5p^46d\,(^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 893.846 2	0.0007	34 545.960	120 000		2.98E+8	$5p^46p\,(^3P_2)[3]^\circ_{7/2}$	$5p^47s\,(^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 894.978	0.002	34 532.46	35 000		1.98E+6	$5p^45d\,(^1D_2)[4]_{7/2}$	$5p^44f\,(^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 895.492 1	0.0007	34 526.324	22 000		5.65E+7	$5p^46s\,(^3P_2)[2]_{3/2}$	$5p^46p\,(^3P_1)[0]^\circ_{1/2}$	09SAN/AND	09SAN/AND
2 899.730	0.002	34 475.87	3 600		9.93E+5	$5p^45d\,(^3P_0)[2]_{5/2}$	$5p^44f\,(^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 914.639 3	0.0006	34 299.520	27 000		4.08E+8	$5p^46p\,(^1D_2)[2]^\circ_{5/2}$	$5p^46d\,(^1D_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 921.128 3	0.0007	34 223.330	110 000		2.20E+8	$5p^46p\,(^3P_2)[3]^\circ_{7/2}$	$5p^46d\,(^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
2 921.920	0.003	34 214.06	60 000		2.57E+7	$5p^45d\,(^3P_1)[2]_{5/2}$	$5p^46p\,(^3P_1)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 922.314 3	0.0011	34 209.441	4 800		1.56E+8	$5p^46p\,(^1D_2)[2]^\circ_{3/2}$	$5p^46d\,(^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 924.097	0.004	34 188.59	600		3.09E+7	$5p^45d\,(^1D_2)[0]_{1/2}$	$5p^46p\,(^1S_0)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
2 924.588	0.002	34 182.85	600		2.56E+8	$5p^46p\,(^3P_1)[1]^\circ_{3/2}$	$5p^47s\,(^3P_1)[1]_{1/2}$	09SAN/AND	09SAN/AND
2 938.283 1	0.0007	34 023.530	22 000		3.35E+8	$5p^46p\,(^3P_2)[1]^\circ_{3/2}$	$5p^46d\,(^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
2 942.229 2	0.0008	33 977.900	1 800		1.30E+8	$5p^46p\,(^3P_1)[1]^\circ_{3/2}$	$5p^46d\,(^3P_1)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 944.082 6	0.0007	33 956.511	21 000		5.75E+6	$5p^45d\,(^3P_1)[3]_{5/2}$	$5p^44f\,(^3P_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 962.856 0	0.0008	33 741.363	12 000		3.40E+8	$5p^46p\,(^1D_2)[2]^\circ_{5/2}$	$5p^46d\,(^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 965.026 9	0.0007	33 716.660	7 800		3.23E+8	$5p^46p\,(^3P_2)[1]^\circ_{3/2}$	$5p^46d\,(^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
2 969.061 9	0.0010	33 670.840	45 000		6.88E+7	$5p^45d\,(^3P_1)[2]_{5/2}$	$5p^46p\,(^3P_1)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 972.879 0	0.0011	33 627.610	4 200		8.84E+6	$5p^45d\,(^1D_2)[3]_{5/2}$	$5p^46p\,(^1D_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 976.860 1	0.0010	33 582.640	920 000		1.67E+8	$5p^45d\,(^1D_2)[3]_{7/2}$	$5p^46p\,(^1D_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 982.581 5	0.0014	33 518.222	6 000		3.55E+7	$5p^45d\,(^1D_2)[2]_{3/2}$	$5p^44f\,(^3P_1)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
2 985.254 6	0.0016	33 488.210	3 000		2.19E+6	$5p^45d\,(^3P_1)[3]_{5/2}$	$5p^44f\,(^3P_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
2 995.348 6	0.0006	33 375.363	27 000		7.15E+7	$5p^45d\,(^1D_2)[3]_{5/2}$	$5p^46p\,(^1D_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
2 996.230 5	0.0011	33 365.540	3 000		8.38E+7	$5p^46p\,(^3P_1)[2]^\circ_{3/2}$	$5p^46d\,(^3P_0)[2]_{5/2}$	09SAN/AND	09SAN/AND
2 998.260	0.007	33 342.96	600		8.70E+7	$5p^46p\,(^1D_2)[2]^\circ_{3/2}$	$5p^47s\,(^1D_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
2 999.418 2	0.0010	33 330.082	66 000		1.04E+8	$5p^45d\,(^3P_0)[2]_{5/2}$	$5p^46p\,(^3P_1)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
3 001.284 2	0.0007	33 309.360	130 000		6.18E+7	$5p^45d\,(^3P_1)[3]_{5/2}$	$5p^46p\,(^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
3 003.056 8	0.0020	33 289.70	600		1.06E+6	$5p^45d\,(^3P_0)[2]_{3/2}$	$5p^44f\,(^3P_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
3 015.825	0.003	33 148.77	600		8.68E+6	$5p^45d\,(^1D_2)[3]_{7/2}$	$5p^44f\,(^3P_1)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
3 050.678 7	0.0011	32 770.060	14 000		2.67E+7	$5p^46s\,(^3P_2)[2]_{3/2}$	$5p^46p\,(^3P_0)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
3 054.235 4	0.0015	32 731.900	6 600		1.52E+7	$5p^45d\,(^3P_1)[2]_{3/2}$	$5p^46p\,(^3P_0)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
3 055.983 3	0.0020	32 713.18	1 200		1.07E+8	$5p^46p\,(^3P_1)[2]^\circ_{3/2}$	$5p^47s\,(^3P_0)[0]_{1/2}$	09SAN/AND	09SAN/AND
3 061.260 4	0.0013	32 656.790	23 000		5.23E+7	$5p^45d\,(^1D_2)[2]_{5/2}$	$5p^44f\,(^1D_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
3 062.596	0.003	32 642.55	600		3.05E+6	$5p^45d\,(^3P_0)[2]_{3/2}$	$5p^46p\,(^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
3 066.591 2	0.0007	32 600.023	20 000		5.43E+7	$5p^45d\,(^3P_2)[4]_{7/2}$	$5p^46p\,(^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
3 078.052	0.014	32 478.65	1 200	u	1.99E+7	$5p^46s\,(^3P_0)[0]_{1/2}$	$5p^46p\,(^3P_1)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
3 084.442	0.002	32 411.36	1 200		1.34E+6	$5p^45d\,(^1D_2)[3]_{5/2}$	$5p^44f\,(^3P_1)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
3 097.456 1	0.0008	32 275.190	23 000		3.69E+7	$5p^45d\,(^3P_1)[2]_{3/2}$	$5p^46p\,(^3P_1)[0]^\circ_{1/2}$	09SAN/AND	09SAN/AND
3 149.356 0	0.0006	31 743.330	660 000		2.18E+8	$5p^45d\,(^3P_2)[1]_{3/2}$	$5p^46p\,(^3P_2)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
3 152.357 2	0.0011	31 713.110	840 000		6.27E+7	$5p^45d\,(^3P_2)[1]_{3/2}$	$5p^46p\,(^3P_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
3 153.967 4	0.0015	31 696.920	90 000		4.90E+7	$5p^45d\ (^3P_1)[1]_{3/2}$	$5p^46p\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 172.606 0	0.0020	31 510.712	72 000		2.25E+8	$5p^46s\ (^1D_2)[2]_{3/2}$	$5p^46p\ (^1D_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
3 178.643	0.003	31 450.87	48 000		3.40E+7	$5p^45d\ (^1D_2)[3]_{5/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 198.834	0.002	31 252.360	1 800		3.50E+5	$5p^45d\ (^3P_1)[3]_{7/2}$	$5p^44f\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 209.674 2	0.0014	31 146.812	84 000		7.23E+7	$5p^45d\ (^3P_0)[2]_{5/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 213.822	0.002	31 106.61	78 000		3.81E+7	$5p^45d\ (^3P_2)[0]_{1/2}$	$5p^46p\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
3 227.386 5	0.0019	30 975.880	7 200		6.25E+7	$5p^45d\ (^1D_2)[0]_{1/2}$	$5p^44f\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 234.281 1	0.0013	30 909.850	3 600		9.13E+7	$5p^46p\ (^3P_2)[1]^{\circ}_{3/2}$	$5p^47s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
3 247.497 5	0.0012	30 784.060	1 200		1.49E+6	$5p^45d\ (^3P_1)[3]_{7/2}$	$5p^44f\ (^3P_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
3 255.310 4	0.0008	30 710.180	50 000		2.86E+7	$5p^45d\ (^1D_2)[3]_{7/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
3 262.298 3	0.0010	30 644.400	10 000		5.01E+6	$5p^45d\ (^1D_2)[3]_{5/2}$	$5p^44f\ (^3P_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
3 268.321 2	0.0012	30 587.930	40 000		2.18E+8	$5p^46s\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
3 299.881 6	0.0016	30 295.394	78 000		6.85E+7	$5p^46s\ (^3P_0)[0]_{1/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 303.742 6	0.0016	30 259.990	37 000		2.88E+6	$5p^45d\ (^3P_1)[1]_{1/2}$	$5p^46p\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
3 311.534	0.002	30 188.800	21 000		1.98E+7	$5p^46s\ (^3P_1)[1]_{3/2}$	$5p^44f\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 315.287	0.003	30 154.62	1 200		7.88E+6	$5p^44f\ (^3P_2)[4]^{\circ}_{9/2}$	$5p^46d\ (^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
3 315.513 8	0.0013	30 152.560	780 000		6.27E+7	$5p^46s\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 322.792 6	0.0013	30 086.511	1 800		1.27E+7	$5p^46p\ (^3P_2)[1]^{\circ}_{3/2}$	$5p^47s\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
3 339.860	0.003	29 932.77	1 800		2.08E+7	$5p^46s\ (^3P_1)[1]_{3/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
3 340.604 2	0.0008	29 926.100	330 000		1.07E+8	$5p^45d\ (^3P_2)[3]_{5/2}$	$5p^46p\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 344.021	0.003	29 895.52	260 000		2.70E+8	$5p^46s\ (^1D_2)[2]_{5/2}$	$5p^46p\ (^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 349.463 3	0.0013	29 846.950	720 000		2.49E+8	$5p^46s\ (^3P_2)[2]_{3/2}$	$5p^46p\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 357.699 5	0.0016	29 773.740	56 000		5.28E+7	$5p^46s\ (^1D_2)[2]_{3/2}$	$5p^46p\ (^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 358.919 0	0.0013	29 762.930	600		4.39E+7	$5p^44f\ (^3P_1)[3]^{\circ}_{5/2}$	$5p^45g\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
3 379.117 5	0.0008	29 585.030	2 400		1.49E+7	$5p^44f\ (^3P_2)[3]^{\circ}_{7/2}$	$5p^46d\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
3 389.289 2	0.0013	29 496.244	2 400		3.50E+7	$5p^44f\ (^3P_2)[3]^{\circ}_{7/2}$	$5p^46d\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
3 397.215	0.017	29 427.43	2 400	u	4.75E+7	$5p^46s\ (^1D_2)[2]_{5/2}$	$5p^46p\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 406.644 3	0.0013	29 345.980	110 000		8.40E+7	$5p^46s\ (^3P_1)[1]_{3/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 411.337 3	0.0017	29 305.610	140 000		2.55E+8	$5p^46s\ (^1D_2)[2]_{3/2}$	$5p^46p\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 418.111 8	0.0009	29 247.530	21 000		4.76E+7	$5p^44f\ (^3P_2)[4]^{\circ}_{9/2}$	$5p^46d\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
3 443.975 8	0.0014	29 027.890	1 200		1.56E+7	$5p^44f\ (^3P_2)[3]^{\circ}_{5/2}$	$5p^46d\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
3 450.420 5	0.0014	28 973.673	25 000		7.07E+6	$5p^45d\ (^1D_2)[3]_{5/2}$	$5p^44f\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 463.444 9	0.0016	28 864.720	240 000		1.52E+7	$5p^45d\ (^3P_2)[1]_{3/2}$	$5p^46p\ (^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 465.223 9	0.0013	28 849.902	23 000		2.68E+6	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^46p\ (^3P_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
3 503.655	0.003	28 533.46	1 200		2.87E+6	$5p^45d\ (^1D_2)[3]_{7/2}$	$5p^46p\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 518.321 0	0.0012	28 414.523	59 000		3.48E+6	$5p^45d\ (^3P_1)[3]_{5/2}$	$5p^46p\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 532.888	0.002	28 297.370	600		8.18E+6	$5p^46s\ (^3P_1)[1]_{1/2}$	$5p^44f\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 533.383	0.002	28 293.400	17 000		3.15E+7	$5p^45d\ (^1D_2)[2]_{5/2}$	$5p^44f\ (^3P_1)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
3 541.569	0.002	28 228.010	2 400		1.81E+7	$5p^45d\ (^3P_2)[0]_{1/2}$	$5p^46p\ (^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 559.817	0.002	28 083.310	290 000		1.76E+8	$5p^46s\ (^3P_0)[0]_{1/2}$	$5p^46p\ (^3P_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 562.137	0.003	28 065.02	11 000		8.40E+6	$5p^46s\ (^3P_1)[1]_{3/2}$	$5p^44f\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
3 565.143	0.002	28 041.360	90 000		1.99E+8	$5p^46s\ (^3P_1)[1]_{1/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
3 592.487	0.003	27 827.93	6 600		2.25E+6	$5p^45d\ (^1D_2)[3]_{5/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 597.452 4	0.0015	27 789.520	320 000		1.63E+8	$5p^46s\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 598.950 7	0.0012	27 777.951	100 000		1.53E+7	$5p^45d\ (^3P_0)[2]_{3/2}$	$5p^46p\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
3 602.869 3	0.0011	27 747.740	220 000		7.55E+6	$5p^45d\ (^3P_0)[2]_{3/2}$	$5p^46p\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 605.571	0.020	27 726.95	120 000	u	4.68E+6	$5p^45d\ (^1D_2)[3]_{7/2}$	$5p^44f\ (^3P_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
3 608.312	0.003	27 705.88	780 000		2.23E+8	$5p^46s\ (^3P_1)[1]_{3/2}$	$5p^46p\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 618.190	0.006	27 630.25	380 000		1.41E+7	$5p^46s\ (^1D_2)[2]_{5/2}$	$5p^44f\ (^3P_0)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
3 622.704	0.002	27 595.820	31 000		1.23E+7	$5p^45d\ (^3P_1)[2]_{3/2}$	$5p^46p\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 624.440 6	0.0014	27 582.600	17 000		5.79E+7	$5p^44f\ (^1D_2)[5]^{\circ}_{11/2}$	$5p^46d\ (^1D_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
3 630.688	0.003	27 535.140	20 000		2.25E+8	$5p^46s\ (^1S_0)[0]_{1/2}$	$5p^46p\ (^1S_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 641.343 1	0.0008	27 454.570	180 000	c	1.43E+8	$5p^46s\ (^3P_1)[1]_{1/2}$	$5p^46p\ (^3P_1)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 643.781	0.003	27 436.20	22 000		5.41E+7	$5p^44f\ (^1D_2)[5]^{\circ}_{9/2}$	$5p^46d\ (^1D_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
3 651.079 3	0.0014	27 381.360	310 000		2.58E+6	$5p^45d\ (^3P_1)[1]_{1/2}$	$5p^46p\ (^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 656.719	0.004	27 339.13	42 000		1.01E+8	$5p^45d\ (^1D_2)[1]_{3/2}$	$5p^46p\ (^1D_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
3 661.404 0	0.0020	27 304.150	880 000		1.65E+8	$5p^46s\ (^3P_2)[2]_{5/2}$	$5p^46p\ (^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
3 680.469 9	0.0013	27 162.710	190 000		7.03E+7	$5p^4 6s\ (^3P_1)[1]_{3/2}$	$5p^4 6p\ (^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 699.494	0.003	27 023.03	380 000		1.81E+8	$5p^4 6s\ (^1D_2)[2]_{5/2}$	$5p^4 6p\ (^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
3 710.786 5	0.0011	26 940.800	9 000		1.44E+8	$5p^4 5d\ (^1S_0)[2]_{3/2}$	$5p^4 6p\ (^1S_0)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
3 729.991 6	0.0009	26 802.090	58 000		5.67E+6	$5p^4 5d\ (^3P_1)[1]_{3/2}$	$5p^4 6p\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 734.357	0.004	26 770.76	140 000		1.34E+8	$5p^4 6s\ (^1D_2)[2]_{5/2}$	$5p^4 6p\ (^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 751.418 2	0.0019	26 649.011	32 000		3.53E+7	$5p^4 6s\ (^1D_2)[2]_{3/2}$	$5p^4 6p\ (^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 797.926 5	0.0015	26 322.683	19 000		4.93E+6	$5p^4 5d\ (^3P_1)[2]_{5/2}$	$5p^4 6p\ (^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 817.478 4	0.0016	26 187.870	19 000		2.58E+6	$5p^4 5d\ (^1D_2)[3]_{5/2}$	$5p^4 6p\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 819.554 8	0.0015	26 173.634	55 000		1.62E+7	$5p^4 6s\ (^3P_1)[1]_{1/2}$	$5p^4 4f\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
3 822.370 6	0.0015	26 154.353	19 000		4.80E+7	$5p^4 4f\ (^3P_1)[4]^{\circ}_{9/2}$	$5p^4 6d\ (^3P_1)[3]_{7/2}$	09SAN/AND	09SAN/AND
3 823.626	0.002	26 145.763	29 000		1.04E+6	$5p^4 5d\ (^3P_1)[3]_{7/2}$	$5p^4 6p\ (^3P_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
3 837.462 0	0.0017	26 051.500	260 000		9.22E+6	$5p^4 5d\ (^3P_1)[3]_{5/2}$	$5p^4 6p\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 864.335	0.002	25 870.341	200 000		1.72E+8	$5p^4 6s\ (^3P_0)[0]_{1/2}$	$5p^4 6p\ (^3P_0)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
3 870.436	0.004	25 829.56	4 800		4.70E+5	$5p^4 4f\ (^1D_2)[2]^{\circ}_{3/2}$	$5p^4 5g\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
3 883.630	0.004	25 741.81	13 000		1.83E+8	$5p^4 6s\ (^1S_0)[0]_{1/2}$	$5p^4 6p\ (^1S_0)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
3 888.374 5	0.0020	25 710.402	740 000		7.77E+6	$5p^4 5d\ (^3P_1)[3]_{7/2}$	$5p^4 6p\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 892.217	0.005	25 685.02	29 000		6.33E+5	$5p^4 6s\ (^1D_2)[2]_{3/2}$	$5p^4 4f\ (^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 904.816	0.003	25 602.15	66 000		1.95E+7	$5p^4 5d\ (^1D_2)[1]_{3/2}$	$5p^4 6p\ (^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 910.315 6	0.0015	25 566.142	26 000		1.30E+5	$5p^4 5d\ (^3P_1)[3]_{5/2}$	$5p^4 6p\ (^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 925.595 7	0.0014	25 466.630	620 000		6.18E+7	$5p^4 5d\ (^3P_2)[3]_{5/2}$	$5p^4 6p\ (^3P_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
3 938.264	0.002	25 384.710	18 000		9.75E+4	$5p^4 5d\ (^3P_0)[2]_{3/2}$	$5p^4 6p\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
3 955.935	0.002	25 271.320	130 000		6.10E+7	$5p^4 6s\ (^3P_1)[1]_{1/2}$	$5p^4 6p\ (^3P_1)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 977.555	0.004	25 133.96	13 000		5.18E+6	$5p^4 5d\ (^1D_2)[1]_{3/2}$	$5p^4 6p\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
3 993.870	0.008	25 031.29	40 000		5.72E+5	$5p^4 5d\ (^3P_2)[3]_{5/2}$	$5p^4 6p\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
4 001.697 8	0.0009	24 982.330	410 000	c	9.05E+7	$5p^4 6s\ (^3P_2)[2]_{3/2}$	$5p^4 6p\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
4 006.544 4	0.0016	24 952.110	860 000		1.08E+8	$5p^4 6s\ (^3P_2)[2]_{3/2}$	$5p^4 6p\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
4 006.777 3	0.0017	24 950.660	250 000		3.60E+7	$5p^4 6s\ (^3P_1)[1]_{3/2}$	$5p^4 6p\ (^3P_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
4 015.032	0.003	24 899.361	13 000		3.95E+5	$5p^4 5d\ (^3P_0)[2]_{3/2}$	$5p^4 6p\ (^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
4 023.604	0.004	24 846.32	110 000		3.50E+7	$5p^4 6s\ (^1D_2)[2]_{5/2}$	$5p^4 6p\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
4 028.414	0.004	24 816.65	3 600		5.25E+6	$5p^4 6p\ (^3P_0)[1]^{\circ}_{3/2}$	$5p^4 6d\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
4 028.637	0.007	24 815.28	2 400		2.55E+7	$5p^4 4f\ (^1D_2)[3]^{\circ}_{7/2}$	$5p^4 6d\ (^1D_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
4 035.127	0.004	24 775.37	6 600		3.65E+7	$5p^4 4f\ (^3P_0)[3]^{\circ}_{7/2}$	$5p^4 6d\ (^3P_0)[2]_{5/2}$	09SAN/AND	09SAN/AND
4 043.424	0.003	24 724.530	310 000		1.23E+8	$5p^4 6s\ (^1D_2)[2]_{3/2}$	$5p^4 6p\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
4 081.492	0.003	24 493.930	140 000		1.41E+8	$5p^4 6s\ (^3P_1)[1]_{3/2}$	$5p^4 6p\ (^3P_1)[0]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
4 119.290	0.003	24 269.183	5 400		4.10E+7	$5p^4 4f\ (^3P_0)[3]^{\circ}_{5/2}$	$5p^4 6d\ (^3P_0)[2]_{3/2}$	09SAN/AND	09SAN/AND
4 151.998	0.002	24 078.001	51 000		3.17E+7	$5p^4 5d\ (^1S_0)[2]_{3/2}$	$5p^4 4f\ (^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
4 158.601	0.005	24 039.77	96 000		1.09E+7	$5p^4 6s\ (^1D_2)[2]_{5/2}$	$5p^4 4f\ (^3P_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
4 163.251 1	0.0014	24 012.920	38 000		4.40E+7	$5p^4 4f\ (^3P_2)[5]^{\circ}_{11/2}$	$5p^4 6d\ (^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
4 173.543	0.003	23 953.703	90 000		6.33E+6	$5p^4 5d\ (^3P_1)[1]_{3/2}$	$5p^4 6p\ (^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
4 193.238	0.003	23 841.201	24 000		2.21E+7	$5p^4 5d\ (^1D_2)[2]_{3/2}$	$5p^4 6p\ (^1D_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
4 212.753	0.018	23 730.76	60 000	u	9.23E+6	$5p^4 5d\ (^1D_2)[2]_{5/2}$	$5p^4 6p\ (^1D_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
4 283.720	0.003	23 337.630	4 200		9.43E+5	$5p^4 5d\ (^1D_2)[1]_{3/2}$	$5p^4 4f\ (^3P_0)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
4 296.097	0.004	23 270.39	20 000		2.08E+6	$5p^4 5d\ (^1D_2)[3]_{7/2}$	$5p^4 6p\ (^3P_1)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
4 297.518	0.003	23 262.700	16 000		1.09E+7	$5p^4 5d\ (^1D_2)[2]_{5/2}$	$5p^4 6p\ (^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
4 312.797	0.003	23 180.291	6 600		3.53E+7	$5p^4 4f\ (^3P_1)[3]^{\circ}_{7/2}$	$5p^4 6d\ (^3P_1)[2]_{5/2}$	09SAN/AND	09SAN/AND
4 326.328 4	0.0012	23 107.790	22 000		3.58E+7	$5p^4 4f\ (^3P_2)[5]^{\circ}_{9/2}$	$5p^4 6d\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
4 335.439	0.003	23 059.232	7 800		1.71E+6	$5p^4 6s\ (^3P_1)[1]_{1/2}$	$5p^4 6p\ (^3P_0)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
4 398.004	0.002	22 731.200	43 000		9.50E+6	$5p^4 5d\ (^3P_1)[2]_{3/2}$	$5p^4 6p\ (^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
4 403.863	0.003	22 700.960	220 000		1.32E+7	$5p^4 5d\ (^3P_1)[2]_{3/2}$	$5p^4 6p\ (^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
4 410.221 4	0.0019	22 668.232	720 000		2.68E+7	$5p^4 5d\ (^3P_2)[3]_{5/2}$	$5p^4 6p\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
4 425.675	0.003	22 589.080	560 000		1.87E+7	$5p^4 6s\ (^3P_2)[2]_{3/2}$	$5p^4 6p\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
4 447.664	0.002	22 477.402	66 000		1.41E+7	$5p^4 5d\ (^1D_2)[1]_{3/2}$	$5p^4 6p\ (^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
4 493.667	0.003	22 247.300	60 000		2.93E+6	$5p^4 6s\ (^1D_2)[2]_{3/2}$	$5p^4 4f\ (^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
4 506.720 9	0.0013	22 182.860	720 000		1.44E+7	$5p^4 5d\ (^3P_2)[3]_{5/2}$	$5p^4 6p\ (^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
4 522.859	0.002	22 103.710	350 000		1.08E+7	$5p^4 6s\ (^3P_2)[2]_{3/2}$	$5p^4 6p\ (^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
4 572.608 1	0.0013	21 863.230	66 000		2.51E+6	$5p^4 5d\ (^3P_1)[2]_{5/2}$	$5p^4 6p\ (^3P_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
4 612.179	0.003	21 675.654	5 400		2.18E+7	$5p^4 4f\ (^3P_2)[4]^{\circ}_{7/2}$	$5p^4 6d\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
4 620.609	0.005	21 636.11	250 000		2.36E+7	$5p^45d\,(^1D_2)[2]_{3/2}$	$5p^46p\,(^1D_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
4 665.518	0.004	21 427.850	130 000		6.20E+5	$5p^45d\,(^3P_1)[2]_{5/2}$	$5p^46p\,(^3P_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
4 716.118	0.002	21 197.950	26 000		3.06E+7	$5p^44f\,(^1D_2)[4]^{\circ}_{9/2}$	$5p^46d\,(^1D_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
4 792.908	0.005	20 858.33	4 800	h	1.28E+6	$5p^45d\,(^1D_2)[2]_{5/2}$	$5p^46p\,(^1D_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
4 795.687	0.005	20 846.24	3 800		3.68E+6	$5p^46s\,(^3P_1)[1]_{1/2}$	$5p^46p\,(^3P_0)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
4 851.586	0.005	20 606.06	85 000	h	1.95E+7	$5p^45d\,(^1D_2)[2]_{5/2}$	$5p^46p\,(^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
4 864.125	0.016	20 552.94	45 000	c	5.55E+6	$5p^45d\,(^1D_2)[1]_{3/2}$	$5p^46p\,(^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
5 035.73	0.05	19 852.55	80 000	p	2.26E+6	$5p^45d\,(^3P_1)[2]_{3/2}$	$5p^46p\,(^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
5 066.928	0.005	19 730.32	3 800		6.25E+4	$5p^44f\,(^1S_0)[3]^{\circ}_{5/2}$	$5p^49s\,(^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
5 169.407	0.004	19 339.193	50 000		9.26E+5	$5p^45d\,(^3P_0)[2]_{5/2}$	$5p^46p\,(^3P_2)[3]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
5 267.388	0.008	18 979.46	25 000		7.65E+6	$5p^45d\,(^1D_2)[2]_{3/2}$	$5p^46p\,(^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
5 380.792	0.004	18 579.460	60 000		2.70E+6	$5p^45d\,(^3P_1)[2]_{5/2}$	$5p^46p\,(^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
5 463.999	0.003	18 296.530	27 000		1.48E+6	$5p^45d\,(^1D_2)[3]_{5/2}$	$5p^46p\,(^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
5 528.635	0.009	18 082.62	40 000		2.59E+6	$5p^46s\,(^3P_0)[0]_{1/2}$	$5p^46p\,(^3P_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
5 577.826	0.006	17 923.15	29 000	c	2.17E+6	$5p^46s\,(^3P_1)[1]_{1/2}$	$5p^46p\,(^3P_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
5 592.831	0.005	17 875.070	46 000		6.28E+6	$5p^45d\,(^1D_2)[2]_{5/2}$	$5p^44f\,(^3P_2)[4]^{\circ}_{7/2}$	09SAN/AND	09SAN/AND
5 669.340	0.006	17 633.843	22 000	h	8.80E+6	$5p^45d\,(^1D_2)[1]_{1/2}$	$5p^46p\,(^1D_2)[1]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
5 707.232	0.008	17 516.77	7 600		8.25E+6	$5p^45d\,(^1D_2)[1]_{3/2}$	$5p^46p\,(^3P_1)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
5 740.253	0.007	17 416.00	3 800		2.50E+5	$5p^44f\,(^3P_2)[4]^{\circ}_{7/2}$	$5p^46d\,(^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
5 806.886	0.010	17 216.16	50 000	d	1.75E+7	$5p^45d\,(^1D_2)[0]_{1/2}$	$5p^46p\,(^1D_2)[1]^{\circ}_{1/2}$	09SAN/AND	09SAN/AND
5 851.096	0.007	17 086.08	14 000		4.58E+7	$5p^47p\,(^3P_2)[3]^{\circ}_{5/2}$	$5p^47d\,(^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
5 861.755	0.010	17 055.01	24 000	c	1.21E+6	$5p^45d\,(^1D_2)[2]_{3/2}$	$5p^46p\,(^1D_2)[3]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
5 882.431	0.007	16 995.06	6 700		2.07E+6	$5p^45f\,(^3P_2)[4]^{\circ}_{9/2}$	$5p^45g\,(^3P_2)[6]_{11/2}$	09SAN/AND	09SAN/AND
5 939.492	0.007	16 831.79	11 000		8.66E+6	$5p^45f\,(^3P_2)[4]^{\circ}_{9/2}$	$5p^45g\,(^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
5 940.143	0.002	16 829.950	50 000		2.10E+7	$5p^45f\,(^3P_1)[4]^{\circ}_{7/2}$	$5p^45g\,(^3P_1)[4]_{7/2}$	09SAN/AND	09SAN/AND
5 942.981	0.011	16 821.91	17 000		4.40E+7	$5p^45f\,(^3P_2)[3]^{\circ}_{7/2}$	$5p^45g\,(^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
5 946.965	0.002	16 810.642	58 000		1.80E+8	$5p^45f\,(^3P_2)[3]^{\circ}_{7/2}$	$5p^45g\,(^3P_2)[5]_{9/2}$	09SAN/AND	09SAN/AND
5 948.254	0.004	16 807.000	15 000		3.69E+7	$5p^45f\,(^3P_2)[4]^{\circ}_{9/2}$	$5p^45g\,(^3P_2)[5]_{9/2}$	09SAN/AND	09SAN/AND
5 950.137	0.002	16 801.680	84 000		2.03E+8	$5p^45f\,(^3P_2)[4]^{\circ}_{9/2}$	$5p^45g\,(^3P_2)[5]_{11/2}$	09SAN/AND	09SAN/AND
5 962.772	0.007	16 766.08	7 600		2.51E+4	$5p^45f\,(^3P_1)[3]^{\circ}_{7/2}$	$5p^45g\,(^3P_1)[4]_{7/2}$	09SAN/AND	09SAN/AND
5 973.731	0.003	16 735.320	26 000		3.13E+7	$5p^47p\,(^3P_2)[2]^{\circ}_{5/2}$	$5p^47d\,(^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
6 003.719	0.011	16 651.73	9 500		9.90E+7	$5p^47p\,(^3P_2)[1]^{\circ}_{1/2}$	$5p^47d\,(^3P_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
6 015.073	0.009	16 620.30	38 000		1.39E+8	$5p^47p\,(^3P_2)[1]^{\circ}_{3/2}$	$5p^47d\,(^3P_2)[1]_{1/2}$	09SAN/AND	09SAN/AND
6 022.211	0.007	16 600.60	14 000	h	1.75E+6	$5p^45f\,(^3P_2)[2]^{\circ}_{3/2}$	$5p^47d\,(^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
6 041.164	0.007	16 548.52	3 800		5.88E+6	$5p^45f\,(^3P_1)[4]^{\circ}_{7/2}$	$5p^45g\,(^3P_1)[3]_{7/2}$	09SAN/AND	09SAN/AND
6 043.987	0.004	16 540.790	60 000		4.55E+5	$5p^45d\,(^3P_0)[2]_{5/2}$	$5p^46p\,(^3P_2)[2]^{\circ}_{5/2}$	09SAN/AND	09SAN/AND
6 064.596	0.007	16 484.58	40 000		1.03E+7	$5p^45f\,(^3P_1)[3]^{\circ}_{7/2}$	$5p^45g\,(^3P_1)[3]_{7/2}$	09SAN/AND	09SAN/AND
6 066.597	0.011	16 479.14	3 800	p	4.45E+4	$5p^45f\,(^3P_1)[3]^{\circ}_{7/2}$	$5p^45g\,(^3P_1)[3]_{5/2}$	09SAN/AND	09SAN/AND
6 079.854	0.003	16 443.210	300 000		1.41E+8	$5p^45f\,(^3P_2)[2]^{\circ}_{3/2}$	$5p^45g\,(^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
6 095.764	0.007	16 400.29	14 000		3.55E+7	$5p^47p\,(^3P_2)[2]^{\circ}_{5/2}$	$5p^48s\,(^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
6 109.068	0.007	16 364.58	4 800		1.01E+7	$5p^47p\,(^3P_2)[2]^{\circ}_{3/2}$	$5p^45g\,(^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
6 122.072	0.008	16 329.82	48 000		1.13E+8	$5p^47p\,(^3P_2)[1]^{\circ}_{3/2}$	$5p^47d\,(^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
6 136.237	0.008	16 292.12	14 000		1.68E+7	$5p^47p\,(^3P_2)[2]^{\circ}_{5/2}$	$5p^47d\,(^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
6 146.616	0.019	16 264.61	1 900	h	8.30E+4	$5p^47p\,(^3P_2)[2]^{\circ}_{3/2}$	$5p^45g\,(^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
6 148.772	0.002	16 258.910	40 000		7.58E+7	$5p^47p\,(^3P_2)[1]^{\circ}_{3/2}$	$5p^47d\,(^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
6 149.150	0.008	16 257.91	3 800		3.18E+6	$5p^45f\,(^3P_2)[5]^{\circ}_{11/2}$	$5p^45g\,(^3P_2)[6]_{11/2}$	09SAN/AND	09SAN/AND
6 150.637	0.002	16 253.980	250 000		2.19E+8	$5p^45f\,(^3P_2)[5]^{\circ}_{11/2}$	$5p^45g\,(^3P_2)[6]_{13/2}$	09SAN/AND	09SAN/AND
6 158.366	0.003	16 233.581	83 000		7.90E+7	$5p^47p\,(^3P_2)[2]^{\circ}_{5/2}$	$5p^47d\,(^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
6 163.051	0.007	16 221.240	47 000		5.55E+7	$5p^47p\,(^3P_2)[2]^{\circ}_{5/2}$	$5p^47d\,(^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
6 199.831	0.008	16 125.01	9 500		7.15E+6	$5p^45f\,(^3P_0)[3]^{\circ}_{7/2}$	$5p^45g\,(^3P_0)[4]_{7/2}$	09SAN/AND	09SAN/AND
6 201.849	0.008	16 119.76	38 000	h	1.95E+8	$5p^45f\,(^3P_0)[3]^{\circ}_{7/2}$	$5p^45g\,(^3P_0)[4]_{9/2}$	09SAN/AND	09SAN/AND
6 223.188	0.008	16 064.49	24 000		2.11E+7	$5p^45f\,(^3P_2)[5]^{\circ}_{11/2}$	$5p^45g\,(^3P_2)[5]_{11/2}$	09SAN/AND	09SAN/AND
6 226.692	0.012	16 055.45	1 900		1.23E+5	$5p^45d\,(^3P_0)[2]_{5/2}$	$5p^46p\,(^3P_2)[2]^{\circ}_{3/2}$	09SAN/AND	09SAN/AND
6 230.538	0.008	16 045.54	2 900		1.45E+6	$5p^45f\,(^3P_2)[1]^{\circ}_{1/2}$	$5p^47d\,(^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
6 241.947	0.008	16 016.21	14 000		1.59E+7	$5p^47p\,(^3P_2)[1]^{\circ}_{3/2}$	$5p^48s\,(^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
6 242.957	0.002	16 013.620	270 000		2.03E+8	$5p^45f\,(^3P_2)[5]^{\circ}_{9/2}$	$5p^45g\,(^3P_2)[6]_{11/2}$	09SAN/AND	09SAN/AND
6 256.656	0.003	15 978.560	50 000		9.30E+7	$5p^47p\,(^3P_2)[2]^{\circ}_{5/2}$	$5p^48s\,(^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND

TABLE 5. Observed spectral lines of Cs III—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
6 301.796	0.008	15 864.10	2 900		1.13E+5	$5p^45f\ (^3P_1)[3]^\circ_{7/2}$	$5p^46g\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
6 307.271	0.008	15 850.33	6 700		1.11E+7	$5p^45f\ (^3P_2)[5]^\circ_{9/2}$	$5p^45g\ (^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
6 312.657	0.020	15 836.81	2 900	h	5.63E+5	$5p^45f\ (^3P_2)[5]^\circ_{9/2}$	$5p^45g\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
6 317.152	0.008	15 825.54	9 500		7.15E+6	$5p^45f\ (^3P_2)[5]^\circ_{9/2}$	$5p^45g\ (^3P_2)[5]_{9/2}$	09SAN/AND	09SAN/AND
6 335.878	0.002	15 778.770	120 000		1.15E+8	$5p^47p\ (^3P_2)[3]^\circ_{5/2}$	$5p^47d\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
6 372.618	0.008	15 687.80	38 000		9.94E+7	$5p^45f\ (^3P_1)[3]^\circ_{5/2}$	$5p^45g\ (^3P_1)[4]_{7/2}$	09SAN/AND	09SAN/AND
6 384.045	0.010	15 659.72	4 800		1.65E+6	$5p^47p\ (^3P_2)[3]^\circ_{7/2}$	$5p^47d\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
6 388.397	0.008	15 649.05	14 000	h	2.06E+6	$5p^45d\ (^1D_2)[1]_{3/2}$	$5p^44f\ (^3P_2)[1]^\circ_{1/2}$	09SAN/AND	09SAN/AND
6 453.514	0.003	15 491.152	54 000		2.27E+6	$5p^45f\ (^3P_2)[2]^\circ_{3/2}$	$5p^47d\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
6 456.328	0.002	15 484.401	310 000		1.45E+8	$5p^47p\ (^3P_2)[3]^\circ_{7/2}$	$5p^47d\ (^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
6 473.314	0.017	15 443.77	19 000	p	4.95E+7	$5p^47p\ (^3P_2)[3]^\circ_{5/2}$	$5p^48s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
6 489.065	0.008	15 406.28	14 000		5.25E+7	$5p^45f\ (^3P_1)[3]^\circ_{5/2}$	$5p^45g\ (^3P_1)[3]_{7/2}$	09SAN/AND	09SAN/AND
6 516.790	0.008	15 340.74	3 800		2.65E+7	$5p^45f\ (^3P_2)[2]^\circ_{5/2}$	$5p^45g\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
6 518.981	0.009	15 335.58	14 000		2.83E+7	$5p^47p\ (^3P_2)[3]^\circ_{5/2}$	$5p^47d\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
6 543.970	0.003	15 277.024	67 000		2.33E+7	$5p^47p\ (^3P_2)[3]^\circ_{5/2}$	$5p^47d\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
6 559.510	0.013	15 240.83	8 600	p	5.70E+5	$5p^45f\ (^3P_2)[2]^\circ_{5/2}$	$5p^45g\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
6 595.363	0.010	15 157.98	70 000		4.56E+7	$5p^47p\ (^3P_2)[3]^\circ_{7/2}$	$5p^47d\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
6 595.819	0.009	15 156.93	14 000		1.26E+7	$5p^47p\ (^3P_2)[2]^\circ_{3/2}$	$5p^47d\ (^3P_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
6 600.776	0.009	15 145.55	44 000	b,h	6.57E+7	$5p^47p\ (^3P_2)[2]^\circ_{3/2}$	$5p^47d\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
6 600.776	0.009	15 145.55	44 000	b,h	2.87E+7	$5p^47p\ (^3P_2)[3]^\circ_{7/2}$	$5p^47d\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
6 624.435	0.003	15 091.460	66 000		1.10E+8	$5p^45f\ (^3P_2)[2]^\circ_{5/2}$	$5p^45g\ (^3P_2)[3]_{7/2}$	09SAN/AND	09SAN/AND
6 638.888	0.008	15 058.604	17 000		2.90E+6	$5p^45d\ (^1D_2)[2]_{5/2}$	$5p^46p\ (^3P_1)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
6 648.458	0.007	15 036.930	36 000		8.25E+6	$5p^45f\ (^3P_2)[1]^\circ_{3/2}$	$5p^45g\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
6 652.74	0.02	15 027.24	5 700		1.67E+6	$5p^45f\ (^3P_2)[1]^\circ_{3/2}$	$5p^47d\ (^3P_2)[1]_{3/2}$	09SAN/AND	09SAN/AND
6 655.079	0.013	15 021.97	19 000	h	5.72E+6	$5p^47p\ (^3P_2)[3]^\circ_{5/2}$	$5p^48s\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
6 665.742	0.009	14 997.94	16 000		3.40E+7	$5p^47p\ (^3P_2)[1]^\circ_{1/2}$	$5p^48s\ (^3P_2)[2]_{3/2}$	09SAN/AND	09SAN/AND
6 688.247	0.009	14 947.47	17 000	b,*	8.20E+5	$5p^45f\ (^3P_2)[1]^\circ_{1/2}$	$5p^47d\ (^3P_2)[0]_{1/2}$	09SAN/AND	09SAN/AND
6 688.247	0.009	14 947.47	17 000	b,*	1.93E+7	$5p^45f\ (^3P_2)[2]^\circ_{5/2}$	$5p^45g\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
6 700.688	0.012	14 919.72	17 000		3.07E+5	$5p^46s\ (^3P_1)[1]_{3/2}$	$5p^46p\ (^3P_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
6 708.245	0.009	14 902.914	57 000		5.38E+7	$5p^47p\ (^3P_2)[3]^\circ_{7/2}$	$5p^48s\ (^3P_2)[2]_{5/2}$	09SAN/AND	09SAN/AND
6 761.343	0.009	14 785.88	3 800		3.22E+4	$5p^45f\ (^3P_1)[3]^\circ_{5/2}$	$5p^46g\ (^3P_2)[3]_{5/2}$	09SAN/AND	09SAN/AND
6 761.626	0.009	14 785.26	2 900		7.27E+4	$5p^47d\ (^3P_2)[3]_{5/2}$	$5p^46f\ (^3P_1)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
6 806.02	0.02	14 688.81	950	h	9.59E+5	$5p^45f\ (^3P_2)[3]^\circ_{7/2}$	$5p^47d\ (^3P_2)[4]_{7/2}$	09SAN/AND	09SAN/AND
6 840.880	0.014	14 613.97	1 900	h	2.12E+6	$5p^46d\ (^3P_2)[2]_{5/2}$	$5p^45f\ (^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
6 857.867	0.009	14 577.77	14 000		1.30E+6	$5p^45d\ (^1D_2)[2]_{3/2}$	$5p^44f\ (^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
6 890.00	0.02	14 509.78	2 900		5.68E+6	$5p^45f\ (^3P_2)[4]^\circ_{9/2}$	$5p^47d\ (^3P_2)[4]_{9/2}$	09SAN/AND	09SAN/AND
7 219.603 0	0.0005	13 847.360 9	1 400 000		4.80E+1	$5p^5\ ^2P^\circ_{1/2}$	$5p^5\ ^2P^\circ_{3/2}$	09SAN/AND	95BIE/HAN
8 007.736 4	0.0019	12 484.490	370 000		6.79E+7	$5p^46d\ (^3P_2)[4]_{9/2}$	$5p^45f\ (^3P_2)[5]^\circ_{11/2}$	09SAN/AND	09SAN/AND
8 135.877	0.003	12 287.860	350 000		6.68E+7	$5p^46d\ (^3P_2)[4]_{7/2}$	$5p^45f\ (^3P_2)[5]^\circ_{9/2}$	09SAN/AND	09SAN/AND
8 802.632	0.016	11 357.12	660 000		5.28E+7	$5p^47s\ (^3P_2)[2]_{5/2}$	$5p^47p\ (^3P_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
9 280.219	0.005	10 772.652	380 000		3.76E+7	$5p^46d\ (^3P_2)[4]_{9/2}$	$5p^47p\ (^3P_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
9 599.161 5	0.0018	10 414.720 0	210 000	d	3.75E+7	$5p^47s\ (^3P_2)[2]_{3/2}$	$5p^47p\ (^3P_2)[3]^\circ_{5/2}$	09SAN/AND	09SAN/AND
9 759.33	0.03	10 243.79	360 000	d	4.70E+7	$5p^47s\ (^3P_2)[2]_{5/2}$	$5p^47p\ (^3P_2)[1]^\circ_{3/2}$	09SAN/AND	09SAN/AND
Vacuum									
10 472.685	0.015	9 548.649	250 000		2.21E+7	$5p^46d\ (^3P_2)[1]_{3/2}$	$5p^47p\ (^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
10 572.880	0.012	9 458.161	300 000		3.45E+6	$5p^47s\ (^3P_2)[2]_{3/2}$	$5p^47p\ (^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
10 803.607	0.007	9 256.168	660 000		4.95E+6	$5p^46d\ (^3P_2)[4]_{7/2}$	$5p^47p\ (^3P_2)[2]^\circ_{5/2}$	09SAN/AND	09SAN/AND
10 820.497	0.005	9 241.720	720 000		2.00E+7	$5p^46d\ (^3P_2)[3]_{5/2}$	$5p^47p\ (^3P_2)[2]^\circ_{3/2}$	09SAN/AND	09SAN/AND
17 702.94	0.03	5 648.778	170 000		1.31E+7	$5p^48s\ (^3P_2)[2]_{5/2}$	$5p^48p\ (^3P_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
18 497.538	0.008	5 406.125	60 000		2.68E+6	$5p^47d\ (^3P_2)[2]_{5/2}$	$5p^48p\ (^3P_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
19 734.410	0.008	5 067.291	130 000		1.13E+7	$5p^47d\ (^3P_2)[4]_{9/2}$	$5p^48p\ (^3P_2)[3]^\circ_{7/2}$	09SAN/AND	09SAN/AND
21 126.994	0.018	4 733.281	170 000		4.58E+3	$5p^45f\ (^3P_1)[4]^\circ_{9/2}$	$5p^45g\ (^3P_2)[5]_{9/2}$	09SAN/AND	09SAN/AND
21 150.78	0.04	4 727.957	90 000		3.09E+4	$5p^45f\ (^3P_1)[4]^\circ_{9/2}$	$5p^45g\ (^3P_2)[5]_{11/2}$	09SAN/AND	09SAN/AND

TABLE 6. Energy levels of Cs III

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading Percentages	Reference
$5s^25p^5$	$^2P^{\circ}$	3/2	0.000 0	—	98.1%+1.2% $5p^44f$ ($^1D_2$)[1]	09SAN/AND
	$^2P^{\circ}$	1/2	13 847.360 9	0.0010	97.8%+1.4% $5p^44f$ ($^1D_2$)[1]	09SAN/AND
$5s5p^6$	^2S	1/2	108 652.967	0.032	61.9%+34.7% $5p^45d$ ($^1D_2$)[0]	09SAN/AND
$5s^25p^45d$	($^3P_2$)[2]	5/2	120 425.101	0.005	52.8%+30.1% $5p^45d$ ($^3P_2$)[3]+5.0% $5p^45d$ ($^1D_2$)[2]	09SAN/AND
	($^3P_2$)[3]	7/2	120 782.636	0.006	88.1%+5.5% $5p^45d$ ($^3P_1$)[3]+5.2% $5p^45d$ ($^1D_2$)[3]	09SAN/AND
	($^3P_2$)[2]	3/2	121 065.660	0.006	55.4%+18.3% $5p^45d$ ($^3P_2$)[1]+7.9% $5p^45d$ ($^3P_1$)[1]	09SAN/AND
	($^3P_2$)[1]	1/2	122 346.271	0.008	65.2%+17.5% $5p^45d$ ($^3P_1$)[1]+16.7% $5p^45d$ ($^1D_2$)[1]	09SAN/AND
	($^3P_2$)[4]	9/2	125 926.848	0.008	85.4%+14.5% $5p^45d$ ($^1D_2$)[4]	09SAN/AND
	($^3P_2$)[4]	7/2	128 532.528	0.005	72.0%+20.4% $5p^45d$ ($^1D_2$)[4]+6.9% $5p^45d$ ($^3P_1$)[3]	09SAN/AND
	($^3P_2$)[1]	3/2	131 782.478	0.004	33.3%+20.5% $5p^45d$ ($^3P_0$)[2]+11.5% $5p^45d$ ($^1D_2$)[2]	09SAN/AND
	($^3P_2$)[0]	1/2	132 419.196	0.007	82.4%+6.3% $5p^45d$ ($^1D_2$)[1]+4.0% $5s5p^6$ $^2S_{1/2}$	09SAN/AND
	($^3P_1$)[1]	1/2	133 265.831	0.005	70.9%+24.7% $5p^45d$ ($^1D_2$)[1]+3.2% $5p^45d$ ($^3P_2$)[1]	09SAN/AND
	($^3P_1$)[3]	5/2	135 081.058	0.004	45.2%+21.5% $5p^45d$ ($^3P_0$)[2]+17.6% $5p^45d$ ($^3P_2$)[3]	09SAN/AND
	($^3P_0$)[2]	3/2	135 747.850	0.004	36.2%+39.4% $5p^45d$ ($^3P_1$)[2]+7.8% $5p^45d$ ($^1S_0$)[2]	09SAN/AND
	($^3P_1$)[1]	3/2	136 693.500	0.005	32.5%+24.6% $5p^45d$ ($^1D_2$)[2]+10.1% $5p^45d$ ($^1D_2$)[1]	09SAN/AND
	($^3P_1$)[3]	7/2	137 785.195	0.007	83.2%+5.7% $5p^45d$ ($^1D_2$)[4]+5.6% $5p^45d$ ($^1D_2$)[3]	09SAN/AND
	($^3P_2$)[3]	5/2	138 464.327	0.004	12.0%+26.4% $5p^45d$ ($^3P_2$)[2]+25.1% $5p^46s$ ($^3P_2$)[2]	09SAN/AND
	($^3P_1$)[2]	3/2	140 794.613	0.004	17.2%+30.1% $5p^45d$ ($^1D_2$)[1]+18.5% $5p^45d$ ($^3P_1$)[1]	09SAN/AND
	($^3P_1$)[2]	5/2	142 067.732	0.004	58.2%+23.3% $5p^45d$ ($^1D_2$)[2]+6.1% $5p^45d$ ($^3P_0$)[2]	09SAN/AND
	($^1D_2$)[4]	7/2	144 535.128	0.015	71.4%+20.5% $5p^45d$ ($^3P_2$)[4]+7.1% $5p^45d$ ($^1D_2$)[3]	09SAN/AND
	($^3P_0$)[2]	5/2	144 591.760	0.005	14.9%+27.9% $5p^45d$ ($^3P_1$)[3]+18.8% $5p^45d$ ($^3P_1$)[2]	09SAN/AND
	($^1D_2$)[4]	9/2	144 868.730	0.010	85.4%+14.5% $5p^45d$ ($^3P_2$)[4]	09SAN/AND
	($^1D_2$)[3]	5/2	150 093.899	0.004	70.7%+18.3% $5p^45d$ ($^1D_2$)[2]+6.2% $5p^45d$ ($^3P_1$)[2]	09SAN/AND
	($^1D_2$)[3]	7/2	153 011.345	0.008	81.3%+7.8% $5p^45d$ ($^3P_2$)[3]+5.0% $5p^45d$ ($^3P_2$)[4]	09SAN/AND
	($^1D_2$)[1]	3/2	160 991.868	0.009	34.6%+23.6% $5p^45d$ ($^1S_0$)[2]+20.5% $5p^45d$ ($^3P_1$)[2]	09SAN/AND
	($^1D_2$)[2]	5/2	162 863.218	0.006	27.8%+24.0% $5p^45d$ ($^3P_2$)[3]+22.5% $5p^45d$ ($^3P_1$)[3]	09SAN/AND
	($^1D_2$)[2]	3/2	164 489.795	0.008	41.9%+25.1% $5p^45d$($^3P_2$)[2]+8.9% $5p^45d$ ($^1S_0$)[2]	09SAN/AND
	($^1D_2$)[1]	1/2	165 835.434	0.018	37.2%+20.2% $5p^45d$ ($^3P_2$)[1]+15.4% $5p^45d$ ($^1D_2$)[0]	09SAN/AND
	($^1D_2$)[0]	1/2	171 114.803	0.024	41.7%+19.1% $5s5p^6$ $^2S_{1/2}$+12.4% $5p^45d$ ($^1D_2$)[1]	09SAN/AND
	($^1S_0$)[2]	5/2	171 189.785	0.014	76.4%+17.7% $5p^45d$ ($^3P_0$)[2]	09SAN/AND
	($^1S_0$)[2]	3/2	178 362.472	0.011	43.3%+27.1% $5p^45d$ ($^3P_0$)[2]+10.4% $5p^45d$ ($^3P_1$)[1]	09SAN/AND
$5s^25p^46s$	($^3P_2$)[2]	5/2	133 343.034	0.006	60.6%+10.6% $5p^45d$ ($^3P_2$)[2]+8.6% $5p^46s$ ($^1D_2$)[2]	09SAN/AND
	($^3P_2$)[2]	3/2	138 543.477	0.004	60.5%+12.5% $5p^45d$ ($^3P_2$)[1]+12.2% $5p^46s$ ($^1D_2$)[2]	09SAN/AND
	($^3P_0$)[0]	1/2	145 443.182	0.010	66.5%+18.7% $5p^46s$ ($^1S_0$)[0]+11.2% $5p^46s$ ($^3P_1$)[1]	09SAN/AND
	($^3P_1$)[1]	3/2	148 575.860	0.006	89.6%+3.4% $5p^45d$ ($^3P_2$)[1]	09SAN/AND
	($^3P_1$)[1]	1/2	150 467.268	0.005	86.7%+8.1% $5p^46s$ ($^3P_0$)[0]	09SAN/AND
	($^1D_2$)[2]	5/2	156 698.493	0.013	83.3%+10.2% $5p^46s$ ($^3P_2$)[2]+4.0% $5p^45d$ ($^1D_2$)[2]	09SAN/AND
	($^1D_2$)[2]	3/2	156 820.269	0.009	78.1%+13.4% $5p^46s$ ($^3P_2$)[2]	09SAN/AND
	($^1S_0$)[0]	1/2	179 561.464	0.018	71.2%+19.3% $5p^46s$ ($^3P_0$)[0]+6.7% $5p^45d$ ($^1D_2$)[0]	09SAN/AND
$5s^25p^46p$	($^3P_2$)[2]$^{\circ}$	3/2	160 647.193	0.004	41.5%+39.8% $5p^46p$ ($^3P_2$)[1]+10.5% $5p^46p$ ($^1D_2$)[1]	09SAN/AND
	($^3P_2$)[2]$^{\circ}$	5/2	161 132.553	0.003	60.7%+28.0% $5p^46p$ ($^3P_2$)[3]+5.8% $5p^46p$ ($^1D_2$)[2]	09SAN/AND
	($^3P_2$)[3]$^{\circ}$	5/2	163 495.585	0.003	55.6%+29.3% $5p^46p$ ($^3P_2$)[2]+10.8% $5p^46p$ ($^1D_2$)[3]	09SAN/AND
	($^3P_2$)[1]$^{\circ}$	1/2	163 525.805	0.004	65.9%+23.2% $5p^46p$ ($^1D_2$)[1]+4.8% $5p^46p$ ($^3P_0$)[1]	09SAN/AND
	($^3P_2$)[3]$^{\circ}$	7/2	163 930.957	0.003	85.2%+14.7% $5p^46p$ ($^1D_2$)[3]	09SAN/AND
	($^3P_2$)[1]$^{\circ}$	3/2	168 390.420	0.004	44.3%+40.9% $5p^46p$ ($^3P_2$)[2]+7.8% $5p^46p$ ($^1D_2$)[2]	09SAN/AND
	($^3P_0$)[1]$^{\circ}$	1/2	171 313.524	0.006	64.6%+21.7% $5p^46p$ ($^1S_0$)[1]+7.5% $5p^46p$ ($^3P_2$)[1]	09SAN/AND
	($^3P_1$)[0]$^{\circ}$	1/2	173 069.797	0.005	71.0%+20.6% $5p^46p$ ($^3P_1$)[1]+5.0% $5p^46p$ ($^1D_2$)[1]	09SAN/AND
	($^3P_0$)[1]$^{\circ}$	3/2	173 526.505	0.004	41.4%+31.2% $5p^46p$ ($^3P_1$)[2]+14.4% $5p^46p$ ($^1S_0$)[1]	09SAN/AND
	($^3P_1$)[2]$^{\circ}$	3/2	175 738.571	0.004	33.5%+32.7% $5p^46p$ ($^3P_0$)[1]+13.8% $5p^46p$ ($^3P_1$)[1]	09SAN/AND
	($^3P_1$)[2]$^{\circ}$	5/2	176 281.761	0.005	97.7%+0.6% $5p^44f$ ($^3P_2$)[2]	09SAN/AND
	($^3P_1$)[1]$^{\circ}$	3/2	177 921.836	0.004	64.1%+25.3% $5p^46p$ ($^3P_1$)[2]+4.7% $5p^44f$ ($^3P_2$)[1]	09SAN/AND
	($^3P_1$)[1]$^{\circ}$	1/2	178 508.625	0.006	60.9%+18.0% $5p^46p$ ($^3P_1$)[0]+7.1% $5p^44f$ ($^3P_2$)[1]	09SAN/AND
	($^1D_2$)[3]$^{\circ}$	5/2	181 544.785	0.009	77.7%+14.3% $5p^46p$ ($^3P_2$)[3]+5.1% $5p^46p$($^1D_2$)[2]	09SAN/AND
	($^1D_2$)[1]$^{\circ}$	3/2	183 469.263	0.005	72.3%+9.1% $5p^46p$ ($^3P_2$)[1]+7.6% $5p^46p$ ($^3P_1$)[1]	09SAN/AND
	($^1D_2$)[3]$^{\circ}$	7/2	183 721.523	0.006	72.6%+12.4% $5p^46p$ ($^3P_2$)[3]+7.9% $5p^44f$ ($^3P_1$)[4]	09SAN/AND

TABLE 6. Energy levels of Cs III—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading Percentages	Reference
	$(^1D_2)[2]°$	3/2	186 125.895	0.010	84.1%+13.3% $5p^46p$ $(^3P_2)[2]$	09SAN/AND
	$(^1D_2)[2]°$	5/2	186 593.999	0.008	82.3%+8.7% $5p^46p$ $(^3P_2)[2]$+4.6% $5p^46p$ $(^1D_2)[3]$	09SAN/AND
	$(^1D_2)[1]°$	1/2	188 330.992	0.012	62.5%+17.1% $5p^46p$ $(^3P_2)[1]$+7.1% $5p^46p$ $(^3P_1)[0]$	09SAN/AND
	$(^1S_0)[1]°$	1/2	205 303.279	0.014	72.4%+25.4% $5p^46p(^3P_0)[1]$	09SAN/AND
	$(^1S_0)[1]°$	3/2	207 096.599	0.013	72.3%+23.1% $5p^46p$ $(^3P_0)[1]$+1.3% $5p^46p$ $(^1D_2)[1]$	09SAN/AND
$5s^25p^44f$	$(^3P_2)[3]°$	7/2	168 569.255	0.005	54.8%+27.5% $5p^44f(^3P_2)[4]$+6.0% $5p^44f$ $(^3P_0)[3]$	09SAN/AND
	$(^3P_2)[4]°$	9/2	168 906.759	0.007	86.1%+8.2% $5p^44f$ $(^3P_1)[4]$+5.0% $5p^44f$ $(^1D_2)[4]$	09SAN/AND
	$(^3P_2)[3]°$	5/2	169 037.575	0.007	57.9%+17.9% $5p^44f$ $(^3P_2)[2]$+6.9% $5p^44f$ $(^3P_1)[2]$	09SAN/AND
	$(^3P_2)[2]°$	3/2	170 335.312	0.007	68.9%+19.4% $5p^44f$ $(^3P_1)[2]$+11.4% $5p^44f$ $(^1D_2)[2]$	09SAN/AND
	$(^3P_2)[5]°$	11/2	175 048.447	0.009	81.8%+18.1% $5p^44f$ $(^1D_2)[5]$	09SAN/AND
	$(^3P_2)[5]°$	9/2	176 394.478	0.008	71.6%+24.3% $5p^44f$ $(^1D_2)[5]$	09SAN/AND
	$(^3P_2)[1]°$	1/2	176 640.903	0.006	72.1%+18.8% $5p^44f$ $(^1D_2)[1]$+7.7% $5p^46p$ $(^3P_1)[1]$	09SAN/AND
	$(^3P_2)[1]°$	3/2	178 764.633	0.006	63.8%+20.6% $5p^44f$ $(^1D_2)[1]$+5.1% $5p^46p$ $(^3P_1)[1]$	09SAN/AND
	$(^3P_2)[2]°$	5/2	179 067.577	0.007	52.4%+11.3% $5p^44f$ $(^1D_2)[3]$+10.3% $5p^44f$ $(^3P_0)[3]$	09SAN/AND
	$(^3P_2)[4]°$	7/2	180 738.292	0.005	54.2%+20.7% $5p^44f(^3P_2)[3]$+7.3% $5p^44f$ $(^3P_1)[4]$	09SAN/AND
	$(^3P_1)[2]°$	3/2	182 505.260	0.009	66.3%+27.9% $5p^44f$ $(^1D_2)[2]$+4.9% $5p^44f$ $(^3P_2)[2]$	09SAN/AND
	$(^3P_0)[3]°$	7/2	184 328.767	0.009	40.8%+20.6% $5p^44f$ $(^3P_2)[3]$+14.8% $5p^44f$ $(^1S_0)[3]$	09SAN/AND
	$(^3P_0)[3]°$	5/2	184 329.523	0.013	47.8%+22.3% $5p^44f$ $(^3P_1)[3]$+12.5% $5p^44f$ $(^3P_2)[3]$	09SAN/AND
	$(^3P_1)[4]°$	9/2	185 352.206	0.011	84.1%+5.6% $5p^44f$ $(^3P_2)[4]$+5.4% $5p^44f$ $(^1D_2)[4]$	09SAN/AND
	$(^3P_1)[2]°$	5/2	186 160.020	0.017	55.7%+19.5% $5p^44f$ $(^3P_1)[3]$+11.1% $5p^44f$ $(^1D_2)[3]$	09SAN/AND
	$(^1D_2)[2]°$	5/2	189 355.684	0.015	36.6%+21.6% $5p^44f$ $(^3P_2)[2]$+19.6% $5p^44f$ $(^3P_1)[2]$	09SAN/AND
	$(^3P_1)[3]°$	7/2	189 439.279	0.009	81.3%+5.4% $5p^44f$ $(^3P_0)[3]$+4.6% $5p^44f$ $(^3P_2)[4]$	09SAN/AND
	$(^3P_1)[4]°$	7/2	191 156.624	0.011	56.3%+17.7% $5p^44f$ $(^3P_0)[3]$+10.1% $5p^44f$ $(^3P_1)[3]$	09SAN/AND
	$(^1D_2)[5]°$	9/2	191 424.921	0.018	70.5%+24.5% $5p^44f$ $(^3P_2)[5]$	09SAN/AND
	$(^1D_2)[5]°$	11/2	191 550.995	0.012	81.7%+18.2% $5p^44f$ $(^3P_2)[5]$	09SAN/AND
	$(^1D_2)[1]°$	3/2	192 881.607	0.026	70.4%+14.2% $5p^44f$ $(^3P_2)[1]$+7.9% $5p^44f$ $(^1D_2)[2]$	09SAN/AND
	$(^1D_2)[1]°$	1/2	193 302.220	0.037	73.2%+17.0% $5p^44f$ $(^3P_2)[1]$	09SAN/AND
	$(^1D_2)[3]°$	7/2	195 520.010	0.009	78.7%+5.5% $5p^44f$ $(^1S_0)[3]$+4.7% $5p^44f$ $(^3P_0)[3]$	09SAN/AND
	$(^3P_1)[3]°$	5/2	198 008.006	0.008	29.0%+39.5% $5p^44f$ $(^1D_2)[2]$+11.7% $5p^44f$ $(^3P_2)[3]$	09SAN/AND
	$(^1D_2)[4]°$	7/2	199 338.813	0.009	78.7%+9.5% $5p^44f$ $(^3P_2)[4]$+5.2% $5p^44f$ $(^3P_1)[4]$	09SAN/AND
	$(^1D_2)[4]°$	9/2	199 695.552	0.012	84.6%+7.8% $5p^44f$ $(^3P_2)[4]$	09SAN/AND
	$(^1D_2)[2]°$	3/2	202 090.692	0.015	45.8%+19.5% $5p^44f$ $(^3P_2)[2]$+12.9% $5p^44f$ $(^3P_2)[1]$	09SAN/AND
	$(^1D_2)[3]°$	5/2	202 440.470	0.009	58.0%+13.3% $5p^44f$ $(^3P_1)[2]$+8.7% $5p^44f$ $(^3P_0)[3]$	09SAN/AND
	$(^1P_0)[3]°$	7/2	217 943.145	0.016	69.3%+17.3% $5p^44f$ $(^3P_0)[3]$+9.7% $5p^44f$ $(^1D_2)[3]$	09SAN/AND
	$(^1P_0)[3]°$	5/2	218 314.386	0.018	66.2%+20.2% $5p^44f$ $(^3P_0)[3]$+5.0% $5p^44f$ $(^1D_2)[3]$	09SAN/AND
$5s^25p^46d$	$(^3P_2)[2]$	5/2	198 065.497	0.008	47.0%+28.1% $5p^46d$ $(^3P_2)[3]$+12.6% $5p^47s$ $(^3P_2)[2]$	09SAN/AND
	$(^3P_2)[3]$	7/2	198 154.285	0.004	86.2%+10.7% $5p^46d$ $(^1D_2)[3]$	09SAN/AND
	$(^3P_2)[2]$	3/2	198 343.092	0.009	54.7%+27.9% $5p^46d$ $(^3P_2)[1]$+8.5% $5p^46d$ $(^1D_2)[2]$	09SAN/AND
	$(^3P_2)[1]$	1/2	198 857.951	0.014	75.0%+15.7% $5p^46d$ $(^1D_2)[1]$+6.8% $5p^46d$ $(^3P_2)[0]$	09SAN/AND
	$(^3P_2)[4]$	9/2	199 061.365	0.004	85.6%+14.3% $5p^46d$ $(^1D_2)[4]$	09SAN/AND
	$(^3P_2)[4]$	7/2	199 502.265	0.004	82.5%+14.8% $5p^46d$ $(^1D_2)[4]$	09SAN/AND
	$(^3P_2)[0]$	1/2	200 984.677	0.025	76.7%+11.3% $5p^46d$ $(^1D_2)[0]$+4.0% $5p^46d$ $(^3P_2)[1]$	09SAN/AND
	$(^3P_2)[1]$	3/2	202 107.065	0.013	56.4%+20.3% $5p^46d$ $(^3P_2)[2]$+8.5% $5p^46d$ $(^1D_2)[2]$	09SAN/AND
	$(^3P_2)[3]$	5/2	202 413.948	0.005	46.1%+34.7% $5p^46d$ $(^3P_2)[2]$+8.6% $5p^46d$ $(^1D_2)[3]$	09SAN/AND
	$(^3P_0)[2]$	3/2	208 598.702	0.017	69.2%+22.4% $5p^46d$ $(^1S_0)[2]$	09SAN/AND
	$(^3P_0)[2]$	5/2	209 104.107	0.007	66.2%+20.5% $5p^46d$ $(^1S_0)[2]$+11.5% $5p^46d$ $(^3P_2)[3]$	09SAN/AND
	$(^3P_1)[1]$	1/2	210 696.634	0.011	92.0%+4.1% $5p^46d$ $(^1D_2)[1]$	09SAN/AND
	$(^3P_1)[3]$	7/2	211 506.551	0.008	98.8%+0.5% $5p^46d$ $(^1D_2)[3]$	09SAN/AND
	$(^3P_1)[1]$	3/2	211 899.734	0.008	38.0%+37.8% $5p^46d$ $(^3P_2)[2]$+19.3% $5p^47s$ $(^3P_1)[1]$	09SAN/AND
	$(^3P_1)[2]$	5/2	212 619.602	0.008	98.5%+0.4% $5p^46d$ $(^1D_2)[2]$	09SAN/AND
	$(^3P_1)[3]$	5/2	213 183.517	0.009	82.5%+7.9% $5p^46d$ $(^3P_0)[2]$	09SAN/AND
	$(^3P_1)[2]$	3/2	214 018.110	0.023	43.9%+38.0% $5p^46d$ $(^3P_1)[1]$+4.3% $5p^46d$ $(^1D_2)[1]$	09SAN/AND
	$(^1D_2)[4]$	7/2	218 861.157	0.015	83.0%+14.7% $5p^46d$ $(^3P_2)[4]$	09SAN/AND
	$(^1D_2)[4]$	9/2	219 133.601	0.011	85.4%+14.3% $5p^46d$ $(^3P_2)[4]$	09SAN/AND
	$(^1D_2)[2]$	5/2	220 335.354	0.012	57.9%+17.6% $5p^47s$ $(^1D_2)[2]$+11.5% $5p^46d$ $(^1D_2)[3]$	09SAN/AND
	$(^1D_2)[0]$	1/2	220 475.332	0.072	47.0%+31.8% $5p^46d$ $(^1D_2)[1]$+7.5% $5p^46d$ $(^3P_2)[1]$	09SAN/AND

TABLE 6. Energy levels of Cs III—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading Percentages	Reference
	$(^1D_2)[3]$	7/2	220 893.511	0.010	85.3%+10.8% $5p^46d\ (^3P_2)[3]$	09SAN/AND
	$(^1D_2)[3]$	5/2	220 894.873	0.017	71.7%+11.6% $5p^46d\ (^3P_2)[3]$+9.6% $5p^46d\ (^1D_2)[2]$	09SAN/AND
	$(^1D_2)[2]$	3/2	222 074.975	0.038	62.2%+10.8% $5p^46d\ (^3P_2)[2]$+5.5% $5p^46d\ (^1D_2)[1]$	09SAN/AND
	$(^1D_2)[1]$	1/2	222 202.260	0.070	31.8%+35.6% $5p^46d\ (^1D_2)[0]$+8.1% $5p^46d\ (^3P_2)[1]$	09SAN/AND
$5s^25p^47s$	$(^3P_2)[2]$	5/2	198 476.917	0.008	73.6%+11.5% $5p^47s\ (^1D_2)[2]$+6.9% $5p^46d\ (^3P_2)[3]$	09SAN/AND
	$(^3P_2)[2]$	3/2	199 300.271	0.003	82.2%+14.0% $5p^47s\ (^1D_2)[2]$	09SAN/AND
	$(^3P_0)[0]$	1/2	208 451.728	0.018	73.4%+23.7% $5p^47s\ (^1P_0)[0]$	09SAN/AND
	$(^3P_1)[1]$	3/2	211 304.133	0.011	79.7%+11.8% $5p^46d\ (^3P_1)[1]$+6.9% $5p^46d\ (^3P_1)[2]$	09SAN/AND
	$(^3P_1)[1]$	1/2	212 104.640	0.046	95.6%+2.4% $5p^46d\ (^3P_1)[1]$	09SAN/AND
	$(^1D_2)[2]$	5/2	219 180.537	0.027	68.3%+15.9% $5p^46d\ (^1D_2)[2]$+10.9% $5p^47s\ (^3P_2)[2]$	09SAN/AND
	$(^1D_2)[2]$	3/2	219 468.972	0.054	67.8%+13.3% $5p^46d\ (^1D_2)[1]$+11.3% $5p^47s\ (^3P_2)[2]$	09SAN/AND
$5s^25p^47p$	$(^3P_2)[1]^\circ$	3/2	208 720.735	0.009	45.5%+39.7% $5p^47p\ (^3P_2)[2]$+8.4% $5p^47p(^1D_2)[1]$	09SAN/AND
	$(^3P_2)[2]^\circ$	5/2	208 758.432	0.005	63.4%+24.4% $5p^47p\ (^3P_2)[3]$+7.9% $5p^47p\ (^1D_2)[2]$	09SAN/AND
	$(^3P_2)[3]^\circ$	5/2	209 714.989	0.003	60.6%+25.0% $5p^47p\ (^3P_2)[2]$+9.9% $5p^47p\ (^1D_2)[3]$	09SAN/AND
	$(^3P_2)[3]^\circ$	7/2	209 834.028	0.010	86.1%+13.4% $5p^47p\ (^1D_2)[3]$	09SAN/AND
	$(^3P_2)[1]^\circ$	1/2	210 160.827	0.025	80.9%+16.8% $5p^47p\ (^1D_2)[1]$	09SAN/AND
	$(^3P_2)[2]^\circ$	3/2	211 655.671	0.008	42.1%+38.6% $5p^47p\ (^3P_2)[1]$+7.1% $5p^47p\ (^1D_2)[2]$	09SAN/AND
$5s^25p^45f$	$(^3P_2)[3]^\circ$	7/2	210 805.017	0.009	51.3%+36.1% $5p^45f\ (^3P_2)[4]$+6.6% $5p^45f\ (^1D_2)[3]$	09SAN/AND
	$(^3P_2)[4]^\circ$	9/2	210 808.663	0.007	87.4%+10.7% $5p^45f\ (^1D_2)[4]$	09SAN/AND
	$(^3P_2)[2]^\circ$	3/2	211 309.951	0.014	75.6%+11.9% $5p^45f\ (^1D_2)[2]$+8.0% $5p^45f\ (^3P_2)[1]$	09SAN/AND
	$(^3P_2)[5]^\circ$	11/2	211 545.853	0.005	86.7%+13.2% $5p^45f\ (^1D_2)[5]$	09SAN/AND
	$(^3P_2)[5]^\circ$	9/2	211 790.121	0.005	84.7%+13.6% $5p^45f\ (^1D_2)[5]$	09SAN/AND
	$(^3P_2)[1]^\circ$	1/2	211 865.083	0.031	85.9%+12.9% $5p^45f\ (^1D_2)[1]$	09SAN/AND
	$(^3P_2)[2]^\circ$	5/2	212 679.469	0.009	60.9%+21.0% $5p^45f\ (^3P_2)[3]$+7.6% $5p^45f\ (^1D_2)[2]$	09SAN/AND
	$(^3P_2)[1]^\circ$	3/2	212 883.345	0.018	70.5%+11.6% $5p^45f\ (^1D_2)[1]$	09SAN/AND
	$(^3P_0)[3]^\circ$	7/2	221 338.771	0.022	73.3%+19.9% $5p^45f\ (^1S_0)[3]$+5.0% $5p^45f\ (^3P_1)[4]$	09SAN/AND
	$(^3P_1)[4]^\circ$	9/2	222 882.382	0.006	98.6%+0.6% $5p^46f\ (^3P_2)[4]$	09SAN/AND
	$(^3P_1)[4]^\circ$	7/2	223 996.499	0.020	65.2%+30.6% $5p^45f(^3P_1)[3]$	09SAN/AND
	$(^3P_1)[3]^\circ$	7/2	224 060.404	0.017	68.7%+28.5% $5p^45f\ (^3P_1)[4]$	09SAN/AND
	$(^3P_1)[3]^\circ$	5/2	225 138.674	0.018	51.9%+35.8% $5p^45f\ (^3P_1)[2]$	09SAN/AND
$5s^25p^48s$	$(^3P_2)[2]$	5/2	224 736.976	0.010	81.2%+12.3% $5p^48s\ (^1D_2)[2]$	09SAN/AND
	$(^3P_2)[2]$	3/2	225 158.748	0.021	63.0%+14.4% $5p^47d\ (^3P_2)[2]$+10.3% $5p^48s\ (^1D_2)[2]$	09SAN/AND
$5s^25p^47d$	$(^3P_2)[2]$	5/2	224 979.641	0.008	46.1%+34.9% $5p^47d(^3P_2)[3]$+7.0% $5p^47d\ (^1D_2)[2]$	09SAN/AND
	$(^3P_2)[3]$	7/2	224 992.013	0.006	84.8%+12.0% $5p^47d\ (^1D_2)[3]$	09SAN/AND
	$(^3P_2)[2]$	3/2	225 050.560	0.013	38.4%+24.8% $5p^47d\ (^3P_2)[1]$+22.7% $5p^48s\ (^3P_2)[2]$	09SAN/AND
	$(^3P_2)[4]$	9/2	225 318.454	0.014	86.1%+13.8% $5p^47d\ (^1D_2)[4]$	09SAN/AND
	$(^3P_2)[1]$	1/2	225 341.032	0.025	59.1%+24.7% $5p^47d\ (^3P_2)[0]$+10.7% $5p^47d\ (^1D_2)[1]$	09SAN/AND
	$(^3P_2)[4]$	7/2	225 493.754	0.006	83.3%+13.8% $5p^47d\ (^1D_2)[4]$	09SAN/AND
	$(^3P_2)[3]$	5/2	226 801.085	0.015	43.5%+33.6% $5p^47d\ (^3P_2)[2]$+7.9% $5p^47d\ (^1D_2)[3]$	09SAN/AND
	$(^3P_2)[0]$	1/2	226 812.586	0.020	53.4%+14.9% $5p^47d\ (^3P_2)[1]$+9.8% $5p^46d\ (^1D_2)[1]$	09SAN/AND
	$(^3P_2)[1]$	3/2	227 910.582	0.025	47.5%+24.4% $5p^47d\ (^3P_2)[2]$+7.1% $5p^47d\ (^1D_2)[2]$	09SAN/AND
$5s^25p^45g$	$(^3P_2)[5]$	11/2	227 610.341	0.007	86.8%+13.2% $5p^45g\ (^1D_2)[5]$	09SAN/AND
	$(^3P_2)[5]$	9/2	227 615.662	0.005	49.0%+37.7% $5p^45g\ (^3P_2)[4]$+7.5% $5p^45g\ (^1D_2)[5]$	09SAN/AND
	$(^3P_2)[4]$	7/2	227 626.936	0.015	85.2%+13.0% $5p^45g\ (^1D_2)[4]$	09SAN/AND
	$(^3P_2)[4]$	9/2	227 640.453	0.013	48.9%+37.7% $5p^45g(^3P_2)[5]$	09SAN/AND
	$(^3P_2)[3]$	5/2	227 753.161	0.015	85.7%+13.7% $5p^45g\ (^1D_2)[3]$	09SAN/AND
	$(^3P_2)[3]$	7/2	227 770.928	0.009	84.6%+13.5% $5p^45g\ (^1D_2)[3]$	09SAN/AND
	$(^3P_2)[6]$	13/2	227 799.834	0.008	85.8%+14.2% $5p^45g\ (^1D_2)[6]$	09SAN/AND
	$(^3P_2)[6]$	11/2	227 803.736	0.007	85.8%+14.2% $5p^45g\ (^1D_2)[6]$	09SAN/AND
	$(^3P_2)[2]$	3/2	227 920.278	0.016	85.3%+14.6% $5p^45g\ (^1D_2)[2]$	09SAN/AND
	$(^3P_2)[2]$	5/2	228 020.228	0.021	84.7%+14.5% $5p^45g\ (^1D_2)[2]$	09SAN/AND
	$(^3P_0)[4]$	9/2	237 458.534	0.023	74.7%+24.7% $5p^45g\ (^1S_0)[4]$	09SAN/AND
	$(^3P_0)[4]$	7/2	237 463.780	0.026	74.6%+24.7% $5p^45g\ (^1S_0)[4]$	09SAN/AND
	$(^3P_1)[3]$	5/2	240 539.563	0.030	91.3%+7.1% $5p^46g\ (^3P_2)[3]$	09SAN/AND

TABLE 6. Energy levels of Cs III—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading Percentages	Reference
	$(^3P_1)[3]$	7/2	240 544.980	0.019	92.0%+6.5% $5p^46g$ $(^3P_2)[3]$	09SAN/AND
	$(^3P_1)[5]$	9/2	240 570.325	0.036	96.8%+2.7% $5p^46g$ $(^3P_2)[5]$	09SAN/AND
	$(^3P_1)[4]$	7/2	240 826.462	0.015	99.1%+0.5% $5p^46g$ $(^3P_2)[4]$	09SAN/AND
$5s^25p^48p$	$(^3P_2)[3]^\circ$	7/2	230 385.759	0.008	84.1%	09SAN/AND
$5s^25p^49s$	$(^3P_2)[2]$	3/2	238 044.694	0.030	74.1%	09SAN/AND
$5s^25p^46g$	$(^3P_2)[3]$	5/2	239 924.534	0.022	76.8%	09SAN/AND
$5s^25p^46f$	$(^3P_1)[2]^\circ$	5/2	241 586.357	0.022	75.1%	09SAN/AND
	$(^3P_1)[4]^\circ$	7/2	241 605.939	0.033	88.0%	09SAN/AND
Cs IV ($5p^4$ $^3P_2$)		*Limit*	267 736	30		09SAN/AND

References for Cs III

34FIT/SAW M. A. Fitzgerald and R. A. Sawyer, Phys. Rev. **46**, 576 (1934).

76EPS/REA G. L. Epstein and J. Reader, J. Opt. Soc. Am. **66**, 590 (1976).

81COW R. D. Cowan, *The Theory of Atomic Structure and Spectra* (University of California, Berkeley, CA, 1981).

81SAN C. J. Sansonetti, Ph.D. thesis, Purdue University, 1981.

95BIE/HAN E. Biémont, J. E. Hansen, P. Quinet, and C. J. Zeippen, Astron. Astrophys. **111**, 333 (1995).

01CUM/OSU A. Cummings and G. O'Sullivan, J. Phys. B **34**, 199 (2001).

09SAN/AND C. J. Sansonetti, K. L. Andrew, and R. D. Cowan, Phys. Ser. **80**, 025303 (2009).

6.4. Cs IV

Te isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^63d^{10}4s^24p^64d^{10}5s^25p^4$ $^3P_2$
Ionization energy: (343 000 cm^{-1}); (42.5 eV)

The Cs IV spectrum was first reported by Reader [83REA], who measured 14 lines between 700 and 1300 Å and located all the levels in the ground configuration plus four levels of the $5s5p^5$ configuration. Later Tauheed and Joshi [94TAU/JOS] reobserved the spectrum, discovering and classifying many new transitions and establishing 41 of the 48 levels in the $5s^25p^35d$ and $6s$ configurations. Observations in the 300–500 Å region enabled Tauheed *et al.* [05TAU/JAB] to establish 41 levels in the $5s^25p^36d$ and $7s$ configurations (see Tables 7 and 8). Because *LS* coupling is not very good for the odd levels of this spectrum, the dominant component for each level does not result in unique names. To specify the upper level of a transition Tauheed *et al.* [05TAU/JAB] used the integer portion of the level value and added its *J* value in parentheses. We have also adopted this practice in the wavelength table. The energy level table is ordered by *J* value and the leading percentages are given so the user can judge the degree of mixing. The ionization energy cited above was calculated by Fraga *et al.* [76FRA/KAR].

Oscillator strengths for the resonance lines of Cs IV have been calculated by Gruzdev [69GRU]; however, because these calculations produce energy levels significantly different from those experimentally measured, it is difficult to verify the accuracy of the transition probabilities obtained.

TABLE 7. Observed spectral lines of Cs IV

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
344.207	0.005	290 522.9	5		$5s^25p^4$ $^3P_2$	290 521(2)°	05TAU/JAB
344.639	0.005	290 158.4	7		$5s^25p^4$ $^3P_2$	290 157(3)°	05TAU/JAB
345.540	0.005	289 401.7	8		$5s^25p^4$ $^3P_2$	289 400(3)°	05TAU/JAB
345.878	0.005	289 119.0	20		$5s^25p^4$ $^3P_2$	289 119(3)°	05TAU/JAB
346.516	0.005	288 587.0	10		$5s^25p^4$ $^3P_2$	288 588(2)°	05TAU/JAB
355.839	0.005	281 025.6	15	b	$5s^25p^4$ $^3P_1$	293 926(2)°	05TAU/JAB
360.206	0.005	277 619.3	5		$5s^25p^4$ $^3P_1$	290 521(2)°	05TAU/JAB

TABLE 7. Observed spectral lines of Cs IV—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
363.319	0.005	275 240.0	5		$5s^25p^4\ ^3P_1$	288 142(1)°	05TAU/JAB
364.002	0.005	274 724.0	5		$5s^25p^4\ ^3P_1$	287 626(0)°	05TAU/JAB
366.070	0.005	273 171.5	7		$5s^25p^4\ ^1D_2$	293 926(2)°	05TAU/JAB
367.467	0.005	272 133.0	25		$5s^25p^4\ ^3P_2$	272 134(3)°	05TAU/JAB
367.628	0.005	272 014.0	5		$5s^25p^4\ ^1D_2$	292 768(1)°	05TAU/JAB
369.428	0.005	270 689.1	15	b	$5s^25p^4\ ^3P_2$	270 688(3)°	05TAU/JAB
369.495	0.005	270 640.0	10		$5s^25p^4\ ^3P_1$	283 542(0)°	05TAU/JAB
369.696	0.005	270 492.5	18		$5s^25p^4\ ^3P_0$	280 242(1)°	05TAU/JAB
370.350	0.005	270 015.0	5		$5s^25p^4\ ^3P_2$	270 016(2)°	05TAU/JAB
370.692	0.005	269 766.0	5		$5s^25p^4\ ^1D_2$	290 521(2)°	05TAU/JAB
371.088	0.005	269 477.7	18		$5s^25p^4\ ^3P_2$	269 478(1)°	05TAU/JAB
371.192	0.005	269 402.0	5		$5s^25p^4\ ^1D_2$	290 157(3)°	05TAU/JAB
372.239	0.005	268 644.9	25		$5s^25p^4\ ^1D_2$	289 400(3)°	05TAU/JAB
372.410	0.005	268 521.3	22		$5s^25p^4\ ^3P_2$	268 521(1)°	05TAU/JAB
373.122	0.005	268 008.8	38		$5s^25p^4\ ^3P_2$	268 007(2)°	05TAU/JAB
373.366	0.005	267 834.0	5		$5s^25p^4\ ^1D_2$	288 588(2)°	05TAU/JAB
374.252	0.005	267 199.4	40		$5s^25p^4\ ^3P_2$	267 199(3)°	05TAU/JAB
374.450	0.005	267 058.0	90		$5s^25p^4\ ^3P_2$	267 056(2)°	05TAU/JAB
375.431	0.005	266 360.5	18		$5s^25p^4\ ^3P_1$	279 262(2)°	05TAU/JAB
377.206	0.005	265 107.0	15		$5s^25p^4\ ^3P_2$	265 107(1)°	05TAU/JAB
378.535	0.005	264 176.3	25		$5s^25p^4\ ^3P_2$	264 176(2)°	05TAU/JAB
380.006	0.005	263 154.0	15		$5s^25p^4\ ^1D_2$	283 908(1)°	05TAU/JAB
381.461	0.005	262 150.2	28		$5s^25p^4\ ^3P_2$	262 150(3)°	05TAU/JAB
381.872	0.005	261 867.6	15		$5s^25p^4\ ^3P_2$	261 868(1)°	05TAU/JAB
382.193	0.005	261 647.7	32		$5s^25p^4\ ^3P_2$	261 648(3)°	05TAU/JAB
382.880	0.005	261 178.7	30		$5s^25p^4\ ^3P_2$	261 178(2)°	05TAU/JAB
384.758	0.005	259 903.5	15		$5s^25p^4\ ^3P_1$	272 805(2)°	05TAU/JAB
386.420	0.005	258 785.7	40		$5s^25p^4\ ^1D_2$	279 540(3)°	05TAU/JAB
386.442	0.005	258 771.0	28		$5s^25p^4\ ^3P_0$	268 521(1)°	05TAU/JAB
388.431	0.005	257 445.8	12		$5s^25p^4\ ^1D_2$	278 200(2)°	05TAU/JAB
388.931	0.005	257 115.0	20		$5s^25p^4\ ^3P_1$	270 016(2)°	05TAU/JAB
391.209	0.005	255 617.9	25		$5s^25p^4\ ^3P_1$	268 521(1)°	05TAU/JAB
391.503	0.005	255 426.0	40	b	$5s^25p^4\ ^3P_1$	268 328(0)°	05TAU/JAB
391.604	0.005	255 360.0	10		$5s^25p^4\ ^3P_0$	265 107(1)°	05TAU/JAB
391.997	0.005	255 104.0	28	b	$5s^25p^4\ ^3P_1$	268 007(2)°	05TAU/JAB
393.222	0.005	254 309.1	38		$5s^25p^4\ ^3P_1$	267 211(1)°	05TAU/JAB
393.464	0.005	254 152.6	23		$5s^25p^4\ ^3P_1$	267 056(2)°	05TAU/JAB
394.952	0.005	253 195.5	90		$5s^25p^4\ ^3P_2$	253 194(1)°	05TAU/JAB
396.505	0.005	252 203.9	32		$5s^25p^4\ ^3P_1$	265 107(1)°	05TAU/JAB
396.637	0.005	252 120.0	18		$5s^25p^4\ ^3P_0$	261 868(1)°	05TAU/JAB
396.745	0.005	252 051.2	90	b	$5s^25p^4\ ^1D_2$	272 805(2)°	05TAU/JAB
397.533	0.005	251 551.7	40		$5s^25p^4\ ^3P_2$	251 552(2)°	05TAU/JAB
397.804	0.005	251 380.2	30		$5s^25p^4\ ^1D_2$	272 134(3)°	05TAU/JAB
397.974	0.005	251 272.9	70		$5s^25p^4\ ^3P_1$	264 176(2)°	05TAU/JAB
398.211	0.005	251 123.0	28		$5s^25p^4\ ^IS_0$	294 402(1)°	05TAU/JAB
399.336	0.005	250 416.0	98		$5s^25p^4\ ^3P_2$	250 415(3)°	05TAU/JAB
400.106	0.005	249 933.9	70		$5s^25p^4\ ^1D_2$	270 688(3)°	05TAU/JAB
400.585	0.005	249 635.0	10		$5s^25p^4\ ^3P_1$	262 537(0)°	05TAU/JAB
400.819	0.005	249 489.0	28		$5s^25p^4\ ^IS_0$	292 768(1)°	05TAU/JAB
401.186	0.005	249 260.9	50		$5s^25p^4\ ^1D_2$	270 016(2)°	05TAU/JAB
402.053	0.005	248 723.7	30		$5s^25p^4\ ^1D_2$	269 478(1)°	05TAU/JAB
402.110	0.005	248 687.9	35		$5s^25p^4\ ^3P_2$	248 688(2)°	05TAU/JAB
402.779	0.005	248 275.0	18		$5s^25p^4\ ^3P_1$	261 178(2)°	05TAU/JAB
403.603	0.005	247 768.5	18		$5s^25p^4\ ^1D_2$	268 521(1)°	05TAU/JAB
405.750	0.005	246 457.0	8		$5s^25p^4\ ^1D_2$	267 211(1)°	05TAU/JAB
406.119	0.005	246 233.0	15		$5s^25p^4\ ^3P_2$	246 233(1)°	05TAU/JAB
406.355	0.005	246 090.0	22		$5s^25p^4\ ^3P_2$	246 089(3)°	05TAU/JAB

TABLE 7. Observed spectral lines of Cs IV—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
406.403	0.005	246 061.0	24		$5s^25p^4\ ^3P_2$	246 061(2)°	05TAU/JAB
409.244	0.005	244 353.0	14		$5s^25p^4\ ^1D_2$	265 107(1)°	05TAU/JAB
410.773	0.005	243 443.4	45		$5s^25p^4\ ^3P_0$	253 194(1)°	05TAU/JAB
414.742	0.005	241 113.9	17		$5s^25p^4\ ^1D_2$	261 868(1)°	05TAU/JAB
415.138	0.005	240 884.0	80		$5s^25p^4\ ^3P_0$	250 634(1)°	05TAU/JAB
416.158	0.005	240 293.6	22		$5s^25p^4\ ^3P_1$	253 194(1)°	05TAU/JAB
420.640	0.005	237 733.0	20		$5s^25p^4\ ^3P_1$	250 634(1)°	05TAU/JAB
424.113	0.005	235 786.1	30		$5s^25p^4\ ^3P_1$	248 688(2)°	05TAU/JAB
428.892	0.005	233 159.0	10		$5s^25p^4\ ^3P_1$	246 061(2)°	05TAU/JAB
430.219	0.005	232 440.0	28		$5s^25p^4\ ^1D_2$	253 194(1)°	05TAU/JAB
435.424	0.005	229 661.0	15		$5s^25p^4\ ^1D_2$	250 415(3)°	05TAU/JAB
443.784	0.005	225 335.0	10		$5s^25p^4\ ^1D_2$	246 089(3)°	05TAU/JAB
479.616	0.005	208 500.0	5		$5s^25p^4\ ^3P_2$	208 500(1)°	05TAU/JAB
503.142	0.005	198 751.0	15		$5s^25p^4\ ^3P_0$	208 500(1)°	05TAU/JAB
506.633	0.005	197 381.5	5	b	$5s^25p^4\ ^3P_2$	197 381(2)°	94TAU/JOS
511.254	0.005	195 597.6	23		$5s^25p^4\ ^3P_1$	208 500(1)°	94TAU/JOS
512.728	0.005	195 035.2	45		$5s^25p^4\ ^3P_1$	207 938(2)°	94TAU/JOS
513.650	0.005	194 685.0	30		$5s^25p^4\ ^3P_2$	194 686(1)°	05TAU/JAB
525.460	0.005	190 309.4	80		$5s^25p^4\ ^3P_2$	190 310(3)°	05TAU/JAB
528.492	0.005	189 217.8	50		$5s^25p^4\ ^3P_2$	189 218(2)°	94TAU/JOS
529.760	0.005	188 764.6	53		$5s^25p^4\ ^3P_0$	198 514(1)°	94TAU/JOS
532.636	0.005	187 745.4	30		$5s^25p^4\ ^1D_2$	208 500(1)°	94TAU/JOS
533.992	0.005	187 268.8	45	b	$5s^25p^4\ ^3P_2$	187 267(2)°	94TAU/JOS
534.237	0.005	187 183.0	56		$5s^25p^4\ ^1D_2$	207 938(2)°	94TAU/JOS
537.884	0.005	185 913.6	50		$5s^25p^4\ ^3P_2$	185 914(1)°	94TAU/JOS
538.448	0.005	185 718.9	70		$5s^25p^4\ ^3P_2$	185 719(3)°	94TAU/JOS
538.761	0.005	185 611.1	45		$5s^25p^4\ ^3P_1$	198 514(1)°	05TAU/JAB
539.860	0.005	185 233.1	50	b	$5s^25p^4\ ^3P_1$	198 135(0)°	94TAU/JOS
540.728	0.005	184 936.0	25		$5s^25p^4\ ^3P_0$	194 686(1)°	05TAU/JAB
542.070	0.005	184 477.9	68		$5s^25p^4\ ^3P_1$	197 381(2)°	94TAU/JOS
547.726	0.005	182 573.1	73		$5s^25p^4\ ^3P_2$	182 573(1)°	94TAU/JOS
547.915	0.005	182 510.0	70		$5s^25p^4\ ^3P_2$	182 511(2)°	94TAU/JOS
549.616	0.005	181 945.3	53		$5s^25p^4\ ^3P_2$	181 945(2)°	94TAU/JOS
550.104	0.005	181 783.8	70		$5s^25p^4\ ^3P_1$	194 686(1)°	94TAU/JOS
553.895	0.005	180 539.5	75		$5s^25p^4\ ^3P_2$	180 538(3)°	94TAU/JOS
555.402	0.005	180 049.8	66		$5s^25p^4\ ^3P_1$	192 952(0)°	94TAU/JOS
556.664	0.005	179 641.7	73		$5s^25p^4\ ^3P_0$	189 392(1)°	94TAU/JOS
557.170	0.005	179 478.5	75		$5s^25p^4\ ^3P_2$	179 478(1)°	94TAU/JOS
558.160	0.005	179 160.2	76		$5s^25p^4\ ^3P_2$	179 160(2)°	94TAU/JOS
559.794	0.005	178 637.2	75		$5s^25p^4\ ^1D_2$	199 392(3)°	94TAU/JOS
562.561	0.005	177 758.4	25		$5s^25p^4\ ^1D_2$	198 514(1)°	05TAU/JAB
566.169	0.005	176 625.8	75		$5s^25p^4\ ^1D_2$	197 381(2)°	94TAU/JOS
566.602	0.005	176 490.6	65		$5s^25p^4\ ^3P_1$	189 392(1)°	94TAU/JOS
567.163	0.005	176 316.2	70		$5s^25p^4\ ^3P_1$	189 218(2)°	94TAU/JOS
567.650	0.005	176 165.0	67		$5s^25p^4\ ^3P_0$	185 914(1)°	94TAU/JOS
572.117	0.005	174 789.5	42		$5s^25p^4\ ^3P_2$	174 789(3)°	94TAU/JOS
572.348	0.005	174 718.9	55		$5s^25p^4\ ^3P_2$	174 719(2)°	94TAU/JOS
573.515	0.005	174 363.5	78	b	$5s^25p^4\ ^3P_1$	187 267(2)°	94TAU/JOS
574.903	0.005	173 942.5	80		$5s^25p^4\ ^3P_2$	173 942(3)°	94TAU/JOS
574.938	0.005	173 931.8	80		$5s^25p^4\ ^1D_2$	194 686(1)°	94TAU/JOS
577.996	0.005	173 011.5	70		$5s^25p^4\ ^3P_1$	185 914(1)°	94TAU/JOS
578.619	0.005	172 825.3	65		$5s^25p^4\ ^3P_0$	182 573(1)°	94TAU/JOS
583.265	0.005	171 448.8	75		$5s^25p^4\ ^3P_2$	171 449(1)°	94TAU/JOS
586.848	0.005	170 401.8	45		$5s^25p^4\ ^3P_2$	170 402(2)°	94TAU/JOS
589.175	0.005	169 728.8	38		$5s^25p^4\ ^3P_0$	179 478(1)°	94TAU/JOS
589.373	0.005	169 671.8	70		$5s^25p^4\ ^3P_1$	182 573(1)°	94TAU/JOS
589.589	0.005	169 609.8	78	*	$5s^25p^4\ ^3P_1$	182 511(2)°	94TAU/JOS

TABLE 7. Observed spectral lines of Cs IV—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
589.589	0.005	169 609.8	78	*	$5s^25p^4\ ^1D_2$	190 365(3)°	94TAU/JOS
589.776	0.005	169 556.0	18		$5s^25p^4\ ^1D_2$	190 310(3)°	05TAU/JAB
591.568	0.005	169 042.4	75	b	$5s^25p^4\ ^3P_1$	181 945(2)°	94TAU/JOS
592.990	0.005	168 636.8	65		$5s^25p^4\ ^1D_2$	189 392(1)°	94TAU/JOS
593.605	0.005	168 462.3	75		$5s^25p^4\ ^1D_2$	189 218(2)°	94TAU/JOS
596.822	0.005	167 554.2	45		$5s^25p^4\ ^3P_2$	167 554(1)°	94TAU/JOS
600.327	0.005	166 575.8	43		$5s^25p^4\ ^3P_1$	179 478(1)°	94TAU/JOS
600.563	0.005	166 510.4	70		$5s^25p^4\ ^1D_2$	187 267(2)°	94TAU/JOS
600.702	0.005	166 471.9	53		$5s^25p^4\ ^3P_2$	166 472(2)°	94TAU/JOS
601.476	0.005	166 257.8	65		$5s^25p^4\ ^3P_1$	179 160(2)°	94TAU/JOS
605.252	0.005	165 220.5	15		$5s^25p^4\ ^1S_0$	208 500(1)°	94TAU/JOS
605.477	0.005	165 159.0	75		$5s^25p^4\ ^1D_2$	185 914(1)°	94TAU/JOS
606.193	0.005	164 963.9	75		$5s^25p^4\ ^1D_2$	185 719(3)°	94TAU/JOS
607.499	0.005	164 609.2	75		$5s^25p^4\ ^3P_2$	164 609(2)°	94TAU/JOS
615.668	0.005	162 425.2	58		$5s^25p^4\ ^3P_1$	162 426(1)°	94TAU/JOS
617.984	0.005	161 816.4	78	*	$5s^25p^4\ ^1D_2$	182 573(1)°	94TAU/JOS
617.984	0.005	161 816.4	78	*	$5s^25p^4\ ^3P_1$	174 719(2)°	94TAU/JOS
618.220	0.005	161 754.8	40		$5s^25p^4\ ^1D_2$	182 511(2)°	05TAU/JAB
618.431	0.005	161 699.5	75		$5s^25p^4\ ^3P_0$	171 449(1)°	94TAU/JOS
620.387	0.005	161 189.6	32		$5s^25p^4\ ^1D_2$	181 945(2)°	94TAU/JOS
625.852	0.005	159 782.1	80	b	$5s^25p^4\ ^1D_2$	180 538(3)°	94TAU/JOS
630.034	0.005	158 721.6	65		$5s^25p^4\ ^1D_2$	179 478(1)°	94TAU/JOS
630.720	0.005	158 549.0	82		$5s^25p^4\ ^3P_1$	171 449(1)°	94TAU/JOS
631.296	0.005	158 404.3	75		$5s^25p^4\ ^1D_2$	179 160(2)°	94TAU/JOS
633.700	0.005	157 803.5	65		$5s^25p^4\ ^3P_0$	167 554(1)°	94TAU/JOS
634.927	0.005	157 498.3	83		$5s^25p^4\ ^3P_1$	170 402(2)°	94TAU/JOS
637.180	0.005	156 941.6	76		$5s^25p^4\ ^3P_1$	169 844(0)°	94TAU/JOS
644.974	0.005	155 045.0	65		$5s^25p^4\ ^3P_2$	155 046(3)°	94TAU/JOS
646.615	0.005	154 651.6	68		$5s^25p^4\ ^3P_1$	167 554(1)°	94TAU/JOS
649.206	0.005	154 034.4	75		$5s^25p^4\ ^1D_2$	174 789(3)°	94TAU/JOS
649.505	0.005	153 963.4	150		$5s^25p^4\ ^1D_2$	174 719(2)°	05TAU/JAB
651.171	0.005	153 569.6	78		$5s^25p^4\ ^3P_1$	166 472(2)°	94TAU/JOS
652.795	0.005	153 187.5	80		$5s^25p^4\ ^1D_2$	173 942(3)°	94TAU/JOS
654.553	0.005	152 775.9	80		$5s^25p^4\ ^3P_2$	152 777(3)°	94TAU/JOS
654.982	0.005	152 675.9	78		$5s^25p^4\ ^3P_0$	162 426(1)°	94TAU/JOS
659.167	0.005	151 706.7	28		$5s^25p^4\ ^3P_1$	164 609(2)°	94TAU/JOS
660.478	0.005	151 405.5	52		$5s^25p^4\ ^1S_0$	194 686(1)°	94TAU/JOS
662.330	0.005	150 982.1	78		$5s^25p^4\ ^3P_2$	150 983(2)°	94TAU/JOS
663.596	0.005	150 694.0	70		$5s^25p^4\ ^1D_2$	171 449(1)°	94TAU/JOS
668.233	0.005	149 648.5	28		$5s^25p^4\ ^1D_2$	170 402(2)°	94TAU/JOS
668.789	0.005	149 524.0	70		$5s^25p^4\ ^3P_1$	162 426(1)°	94TAU/JOS
672.769	0.005	148 639.5	70		$5s^25p^4\ ^3P_2$	148 640(1)°	94TAU/JOS
677.069	0.005	147 695.5	80		$5s^25p^4\ ^3P_2$	147 696(3)°	94TAU/JOS
681.202	0.005	146 799.4	60		$5s^25p^4\ ^1D_2$	167 554(1)°	94TAU/JOS
684.407	0.005	146 111.8	30		$5s^25p^4\ ^1S_0$	189 392(1)°	94TAU/JOS
686.259	0.005	145 717.6	75		$5s^25p^4\ ^1D_2$	166 472(2)°	94TAU/JOS
695.142	0.005	143 855.4	25		$5s^25p^4\ ^1D_2$	164 609(2)°	94TAU/JOS
701.094	0.005	142 634.2	32		$5s^25p^4\ ^1S_0$	185 914(1)°	05TAU/JAB
703.395	0.005	142 167.7	83		$5s^25p^4\ ^3P_2$	142 167(2)°	94TAU/JOS
705.852	0.005	141 672.7	68		$5s^25p^4\ ^1D_2$	162 426(1)°	94TAU/JOS
707.199	0.005	141 402.9	60		$5s^25p^4\ ^3P_2$	141 403(1)°	94TAU/JOS
714.644	0.005	139 929.9	44		$5s^25p^4\ ^3P_1$	152 832(0)°	94TAU/JOS
717.906	0.005	139 294.0	35		$5s^25p^4\ ^1S_0$	182 573(1)°	05TAU/JAB
719.990	0.005	138 890.9	75		$5s^25p^4\ ^3P_0$	148 640(1)°	94TAU/JOS
724.212	0.005	138 081.2	25		$5s^25p^4\ ^3P_1$	150 983(2)°	94TAU/JOS
730.632	0.005	136 867.8	80		$5s^25p^4\ ^3P_2$	136 869(1)°	94TAU/JOS
734.228	0.005	136 197.5	30		$5s^25p^4\ ^1S_0$	179 478(1)°	05TAU/JAB

TABLE 7. Observed spectral lines of Cs IV—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
734.522	0.005	136 142.9	80		$5s^25p^4\ ^3P_2$	136 143(2)°	94TAU/JOS
735.403	0.005	135 979.9	80		$5s^25p^4\ ^3P_2$	135 980(3)°	94TAU/JOS
736.678	0.005	135 744.5	73	b	$5s^25p^4\ ^3P_1$	148 640(1)°	94TAU/JOS
744.650	0.005	134 291.2	74		$5s^25p^4\ ^1D_2$	155 046(3)°	94TAU/JOS
757.445	0.005	132 022.7	58		$5s^25p^4\ ^1D_2$	152 777(3)°	94TAU/JOS
759.565	0.005	131 654.3	60		$5s^25p^4\ ^3P_0$	141 403(1)°	94TAU/JOS
773.608	0.005	129 264.4	22		$5s^25p^4\ ^3P_1$	142 167(2)°	94TAU/JOS
778.207	0.005	128 500.5	5		$5s^25p^4\ ^3P_1$	141 403(1)°	94TAU/JOS
780.171	0.005	128 177.0	10	u	$5s^25p^4\ ^1S_0$	171 449(1)°	94TAU/JOS
781.948	0.005	127 885.7	40		$5s^25p^4\ ^1D_2$	148 640(1)°	05TAU/JAB
786.674	0.005	127 117.5	58		$5s^25p^4\ ^3P_0$	136 869(1)°	94TAU/JOS
804.676	0.005	124 273.6	10		$5s^25p^4\ ^1S_0$	167 554(1)°	05TAU/JAB
806.712	0.005	123 960.0	90	b	$5s^25p^4\ ^3P_1$	136 869(1)°	94TAU/JOS
808.254	0.005	123 723.5	80		$5s^25p^4\ ^3P_1$	136 626(0)°	94TAU/JOS
823.642	0.005	121 411.9	18		$5s^25p^4\ ^1D_2$	142 167(2)°	94TAU/JOS
824.793	0.005	121 242.6	88		$5s^25p^4\ ^3P_2$	121 243(1)°	94TAU/JOS
828.858	0.005	120 647.9	85		$5s^25p^4\ ^1D_2$	141 403(1)°	94TAU/JOS
839.308	0.005	119 145.8	16		$5s^25p^4\ ^1S_0$	162 426(1)°	94TAU/JOS
866.638	0.005	115 388.4	15		$5s^25p^4\ ^1D_2$	136 143(2)°	94TAU/JOS
868.175	0.005	115 184.1	56		$5s^25p^4\ ^3P_1$	128 086(0)°	94TAU/JOS
874.836	0.005	114 307.2	76		$5s^25p^4\ ^3P_2$	114 308(2)°	94TAU/JOS
896.916	0.005	111 493.1	61		$5s^25p^4\ ^3P_0$	121 243(1)°	94TAU/JOS
923.024	0.005	108 339.6	68		$5s^25p^4\ ^3P_1$	121 243(1)°	94TAU/JOS
949.116	0.005	105 361.2	11		$5s^25p^4\ ^1S_0$	148 640(1)°	05TAU/JAB
986.141	0.005	101 405.4	78		$5s^25p^4\ ^3P_1$	114 308(2)°	94TAU/JOS
995.141	0.005	100 488.3	60		$5s^25p^4\ ^1D_2$	121 243(1)°	94TAU/JOS
1 019.129	0.005	98 123.0	35		$5s^25p^4\ ^1S_0$	141 403(1)°	94TAU/JOS
1 068.473	0.005	93 591.5	42		$5s^25p^4\ ^1S_0$	136 869(1)°	94TAU/JOS
1 068.909	0.005	93 553.3	68		$5s^25p^4\ ^1D_2$	114 308(2)°	94TAU/JOS
1 282.659	0.005	77 963.0	68		$5s^25p^4\ ^1S_0$	121 242(1)°	83REA

TABLE 8. Energy levels of Cs IV

J	Designation	Energy (cm⁻¹)	Unc. (cm⁻¹)	Leading percentages	Ref.
0	$5s^25p^4\ ^3P_0$	9 749.4	1.	76% $5s^25p^4\ ^3P$+24% $5s^25p^4\ ^1S$	05TAU/JAB
	$5s^25p^4\ ^1S_0$	43 279.4	1.	76% $5s^25p^4\ ^1S$+24% $5s^25p^4\ ^3P$	05TAU/JAB
	128 086(0)°	128 086.3	1.	71% $5s5p^5\ ^3P$+16% $5s^25p^3(^2D)5d\ ^3P$+7% $5s^25p^3(^2P)5d\ ^3P$	05TAU/JAB
	136 626(0)°	136 625.7	1.	82% $5s^25p^3(^4S)5d\ ^4D$+6% $5s5p^5\ ^3P$+6% $5s^25p^3(^2P)5d\ ^3P$	05TAU/JAB
	152 832(0)°	152 832.1	1.	84% $5s^25p^3(^2D)5d\ ^1S$+8% $5s^25p^3(^2P)5d\ ^3P$+5% $5s^25p^3(^4S)5d\ ^5D$	05TAU/JAB
	169 844(0)°	169 843.8	1.	46% $5s^25p^3(^2P)5d\ ^3P$+33% $5s^25p^3(^2D)5d\ ^3P$+13% $5s^25p^3(^2D)5d\ ^1S$	05TAU/JAB
	192 952(0)°	192 952.0	2.	37% $5s^25p^3(^2D)5d\ ^3P$+32% $5s^25p^3(^2P)5d\ ^3P$+18% $5s5p^5\ ^3P$	05TAU/JAB
	198 135(0)°	198 135.3	2.	90% $5s^25p^3(^2P)6s\ ^3P$+7% $5s^25p^3(^2D)5d\ ^3P$	05TAU/JAB
	246 209(0)°	(246 209.0)	3.	83% $5s^25p^3(^4S)6d\ ^5D$+14% $5s^25p^3(^2P)6d\ ^3P$	05TAU/JAB
	262 537(0)°	262 537.0	3.	57% $5s^25p^3(^2D)6d\ ^1S$+19% $5s^25p^3(^2D)6d\ ^3P$+13% $5s^25p^3(^2P)6d\ ^3P$	05TAU/JAB
	268 328(0)°	268 328.0	4.	65% $5s^25p^3(^2D)6d\ ^3P$+32% $5s^25p^3(^2D)6d\ ^1S$	05TAU/JAB
	283 542(0)°	283 542.0	4.	99% $5s^25p^3(^2P)7s\ ^3P$	05TAU/JAB
	287 389(0)°	(287 389.0)	4.	47% $5s^25p^3(^4S)7d\ ^5D$+30% $5s^25p^3(^2P)6d\ ^3P$+8% $5s^25p^3(^2P)7d\ ^3P$	05TAU/JAB
	287 626(0)°	287 626.0	4.	41% $5s^25p^3(^2P)6d\ ^3P$+34% $5s^25p^3(^4S)7d\ ^5D$+7% $5s^25p^3(^2D)6d\ ^3P$	05TAU/JAB
1	$5s^25p^4\ ^3P_1$	12 902.0	1.	100% $5s^25p^4\ ^3P$	05TAU/JAB
	121 242(1)°	121 242.5	1.	67% $5s5p^5\ ^3P$+14% $5s^25p^3(^2D)5d\ ^3P$+6% $5s^25p^3(^2P)5d\ ^3P$	05TAU/JAB
	136 869(1)°	136 868.6	1.	87% $5s^25p^3(^4S)5d\ ^5D$	05TAU/JAB
	141 403(1)°	141 402.9	1.	42% $5s^25p^3(^2D)5d\ ^1P$+38% $5s5p^5\ ^1P$+7% $5s5p^5\ ^3P$	05TAU/JAB
	148 640(1)°	148 640.0	1.	51% $5s^25p^3(^4S)5d\ ^3D$+38% $5s^25p^3(^2D)5d\ ^3D$+5% $5s^25p^3(^2P)5d\ ^3D$	05TAU/JAB
	162 426(1)°	162 425.9	1.	43% $5s^25p^3(^2D)5d\ ^3D$+34% $5s^25p^3(^2P)5d\ ^3D$+10% $5s^25p^3(^4S)5d\ ^3D$	05TAU/JAB

TABLE 8. Energy levels of Cs IV—Continued

J	Designation	Energy (cm^{-1})	Unc. (cm^{-1})	Leading percentages	Ref.
	167 554(1)°	167 553.8	1.	31% $5s^25p^3(^4S)6s\ ^3S$ + 21% $5s^25p^3(^2D)5d\ ^3S$ + 20% $5s^25p^3(^2P)5d\ ^3P$	05TAU/JAB
	171 450(1)°	171 449.5	1.	39% $5s^25p^3(^4S)6s\ ^3S$ + 26% $5s^25p^3(^2P)5d\ ^3P$ + 9% $5s^25p^3(^2D)5d\ ^3P$	05TAU/JAB
	179 478(1)°	179 477.8	2.	50% $5s^25p^3(^2D)5d\ ^3S$ + 22% $5s^25p^3(^2D)5d\ ^3P$ + 11% $5s^25p^3(^2D)6s\ ^3D$	05TAU/JAB
	182 573(1)°	182 573.3	2.	59% $5s^25p^3(^2D)6s\ ^3D$ + 20% $5s^25p^3(^4S)6s\ ^3S$ + 8% $5s^25p^3(^2D)5d\ ^3S$	05TAU/JAB
	185 914(1)°	185 913.9	2.	22% $5s^25p^3(^2D)5d\ ^3P$ + 20% $5s5p^5\ ^1P$ + 16% $5s^25p^3(^2D)5d\ ^1P$	05TAU/JAB
	189 392(1)°	189 391.7	2.	39% $5s^25p^3(^2P)5d\ ^3D$ + 16% $5s^25p^3(^4S)5d\ ^3D$ + 16% $5s^25p^3(^2P)5d\ ^1P$	05TAU/JAB
	194 686(1)°	194 685.9	2.	24% $5s^25p^3(^2D)5d\ ^1P$ + 22% $5s5p^5\ ^1P$ + 13% $5s^25p^3(^2P)5d\ ^3P$	05TAU/JAB
	198 514(1)°	198 514.1	2.	65% $5s^25p^3(^2P)6s\ ^3P$ + 21% $5s^25p^3(^2P)6s\ ^1P$	05TAU/JAB
	208 500(1)°	208 500.0	2.	48% $5s^25p^3(^2P)6s\ ^1P$ + 18% $5s^25p^3(^2D)6s\ ^3D$ + 16% $5s^25p^3(^2P)6s\ ^3P$	05TAU/JAB
	213 044(1)°	(213 044.0)	2.	64% $5s^25p^3(^2P)5d\ ^1P$ + 8% $5s^25p^3(^2P)6s\ ^1P$ + 6% $5s^25p^3(^4S)5d\ ^3D$	05TAU/JAB
	246 233(1)°	246 233.0	3.	82% $5s^25p^3(^4S)6d\ ^5D$ + 10% $5s^25p^3(^2P)6d\ ^3P$	05TAU/JAB
	250 634(1)°	250 634.2	3.	78% $5s^25p^3(^4S)6d\ ^3D$ + 8% $5s^25p^3(^2P)6d\ ^1P$ + 5% $5s^25p^3(^2P)6d\ ^3D$	05TAU/JAB
	253 194(1)°	253 194.4	3.	75% $5s^25p^3(^4S)7s\ ^3S$ + 11% $5s^25p^3(^2P)7s\ ^1P$ + 7% $5s^25p^3(^2D)7s\ ^2D$	05TAU/JAB
	261 868(1)°	261 868.3	3.	53% $5s^25p^3(^2D)6d\ ^3D$ + 18% $5s^25p^3(^2D)6d\ ^1P$ + 8% $5s^25p^3(^4S)6d\ ^5D$	05TAU/JAB
	265 107(1)°	265 107.3	4.	34% $5s^25p^3(^2D)6d\ ^3S$ + 24% $5s^25p^3(^2D)6d\ ^3P$ + 13% $5s^25p^3(^2D)6d\ ^1P$	05TAU/JAB
	267 211(1)°	267 211.0	4.	69% $5s^25p^3(^2D)7s\ ^3D$ + 17% $5s^25p^3(^4S)7s\ ^3S$ + 7% $5s^25p^3(^2P)7s\ ^1P$	05TAU/JAB
	268 521(1)°	268 521.1	4.	37% $5s^25p^3(^2D)6d\ ^1P$ + 31% $5s^25p^3(^2D)6d\ ^3P$ + 27% $5s^25p^3(^2D)6d\ ^3D$	05TAU/JAB
	269 478(1)°	269 477.7	4.	52% $5s^25p^3(^2D)6d\ ^3S$ + 29% $5s^25p^3(^2D)6d\ ^3P$ + 17% $5s^25p^3(^2D)6d\ ^1P$	05TAU/JAB
	280 242(1)°	280 241.9	4.	59% $5s^25p^3(^2P)6d\ ^3D$ + 20% $5s^25p^3(^2P)6d\ ^1P$ + 15% $5s^25p^3(^2P)6d\ ^3P$	05TAU/JAB
	283 908(1)°	283 908.0	4.	68% $5s^25p^3(^2P)7s\ ^3P$ + 31% $5s^25p^3(^2P)7s\ ^1P$	05TAU/JAB
	287 447(1)°	(287 447.0)	4.	79% $5s^25p^3(^4S)7d\ ^5D$ + 10% $5s^25p^3(^2P)7d\ ^3P$ + 4% $5s^25p^3(^2P)7d\ ^3D$	05TAU/JAB
	288 142(1)°	288 142.0	4.	54% $5s^25p^3(^3P)6d\ ^3P$ + 9% $5s^25p^3(^2D)6d\ ^1P$ + 8% $5s^25p^3(^4S)7d\ ^3D$	05TAU/JAB
	289 789(1)°	(289 789.0)	4.	67% $5s^25p^3(^4S)7d\ ^3D$ + 7% $5s^25p^3(^2P)7d\ ^1P$ + 6% $5s^25p^3(^2P)6d\ ^1P$	05TAU/JAB
	290 524(1)°	(290 524.0)	4.	75% $5s^25p^3(^4S)8s\ ^3S$ + 12% $5s^25p^3(^2P)8s\ ^1P$ + 7% $5s^25p^3(^2D)8s\ ^3D$	05TAU/JAB
	292 768(1)°	292 768.2	4.	53% $5s^25p^3(^2P)6d\ ^1P$ + 15% $5s^25p^3(^2P)6d\ ^3D$ + 8% $5s^25p^3(^2D)6d\ ^3D$	05TAU/JAB
	294 402(1)°	294 402.4	4.	50% $5s^25p^3(^2P)7s\ ^1P$ + 22% $5s^25p^3(^2D)7s\ ^3D$ + 21% $5s^25p^3(^2P)7s\ ^3P$	05TAU/JAB
2	$5s^25p^4\ ^3P_2$	0.0		86% $5s^25p^4\ ^3P$ + 14% $5s^25p^4\ ^1D$	05TAU/JAB
	$5s^25p^4\ ^1D_2$	20 754.0	1.	86% $5s^25p^4\ ^1D$ + 14% $5s^25p^4\ ^3P$	05TAU/JAB
	114 308(2)°	114 307.7	1.	78% $5s5p^5\ ^3P$ + 14% $5s^25p^3(^2D)5d\ ^3P$ + 7% $5s^25p^3(^2P)5d\ ^3P$	05TAU/JAB
	136 143(2)°	136 143.1	1.	75% $5s^25p^3(^4S)5d\ ^5D$ + 7% $5s^25p^3(^2P)5d\ ^3D$ + 5% $5s^25p^3(^2D)5d\ ^3F$	05TAU/JAB
	142 167(2)°	142 167.0	1.	23% $5s^25p^3(^4S)5d\ ^3D$ + 19% $5s^25p^3(^2D)5d\ ^3D$ + 18% $5s^25p^3(^2D)5d\ ^3F$	05TAU/JAB
	150 983(2)°	150 982.7	1.	49% $5s^25p^3(^2D)5d\ ^3F$ + 23% $5s^25p^3(^2D)5d\ ^3D$ + 15% $5s^25p^3(^4S)5d\ ^3D$	05TAU/JAB
	164 610(2)°	164 609.5	1.	76% $5s^25p^3(^4S)6s\ ^5S$ + 13% $5s^25p^3(^2P)6s\ ^3P$	05TAU/JAB
	166 472(2)°	166 472.1	1.	28% $5s^25p^3(^2P)5d\ ^1D$ + 22% $5s^25p^3(^2D)5d\ ^1D$ + 16% $5s^25p^3(^2P)5d\ ^3F$	05TAU/JAB
	170 402(2)°	170 401.9	1.	32% $5s^25p^3(^2P)5d\ ^3D$ + 20% $5s^25p^3(^4S)5d\ ^3D$ + 20% $5s^25p^3(^2D)5d\ ^3D$	05TAU/JAB
	174 719(2)°	174 718.7	2.	58% $5s^25p^3(^2P)5d\ ^3F$ + 20% $5s^25p^3(^2D)5d\ ^3F$ + 11% $5s^25p^3(^2P)5d\ ^3P$	05TAU/JAB
	179 160(2)°	179 159.8	2.	30% $5s^25p^3(^2P)5d\ ^3P$ + 27% $5s^25p^3(^2D)5d\ ^3P$ + 14% $5s^25p^3(^2D)5d\ ^3D$	05TAU/JAB
	181 945(2)°	181 944.8	2.	46% $5s^25p^3(^2D)6s\ ^3D$ + 13% $5s^25p^3(^2P)6s\ ^3P$ + 9% $5s^25p^3(^4S)6s\ ^5S$	05TAU/JAB
	182 511(2)°	182 511.0	2.	28% $5s^25p^3(^2P)5d\ ^3P$ + 27% $5s^25p^3(^2D)5d\ ^3P$ + 10% $5s^25p^3(^2D)6s\ ^3D$	05TAU/JAB
	187 267(2)°	187 266.6	2.	21% $5s^25p^3(^2P)5d\ ^3D$ + 20% $5s^25p^3(^2D)5d\ ^3P$ + 14% $5s^25p^3(^2P)5d\ ^1D$	05TAU/JAB
	189 218(2)°	189 217.8	2.	61% $5s^25p^3(^2D)6s\ ^1D$ + 19% $5s^25p^3(^2D)6s\ ^3D$ + 7% $5s^25p^3(^2P)5d\ ^3D$	05TAU/JAB
	197 381(2)°	197 380.8	2.	40% $5s^25p^3(^2D)5d\ ^1D$ + 20% $5s^25p^3(^2P)5d\ ^1D$ + 20% $5s^25p^3(^2P)5d\ ^3D$	05TAU/JAB
	207 938(2)°	207 937.6	2.	69% $5s^25p^3(^2P)6s\ ^3P$ + 13% $5s^25p^3(^2D)6s\ ^3D$ + 12% $5s^25p^3(^2D)6s\ ^1D$	05TAU/JAB
	246 061(2)°	246 061.0	3.	74% $5s^25p^3(^4S)6d\ ^5D$ + 9% $5s^25p^3(^2P)6d\ ^3D$ + 5% $5s^25p^3(^4S)6d\ ^3D$	05TAU/JAB
	248 688(2)°	248 688.0	3.	59% $5s^25p^3(^4S)6d\ ^3D$ + 12% $5s^25p^3(^2P)6d\ ^1D$ + 8% $5s^25p^3(^2D)6d\ ^3D$	05TAU/JAB
	251 552(2)°	251 551.7	3.	79% $5s^25p^3(^4S)7s\ ^5S$ + 16% $5s^25p^3(^2P)7s\ ^3P$	05TAU/JAB
	261 178(2)°	261 177.8	3.	58% $5s^25p^3(^2D)6d\ ^3F$ + 11% $5s^25p^3(^4S)6d\ ^3D$ + 8% $5s^25p^3(^2D)6d\ ^1D$	05TAU/JAB
	264 176(2)°	264 175.5	3.	29% $5s^25p^3(^2D)6d\ ^3D$ + 26% $5s^25p^3(^2D)6d\ ^3P$ + 14% $5s^25p^3(^4S)6d\ ^3D$	05TAU/JAB
	267 056(2)°	267 056.1	4.	47% $5s^25p^3(^2D)7s\ ^3G$ + 22% $5s^25p^3(^2D)7s\ ^1D$ + 14% $5s^25p^3(^4S)7s\ ^5S$	05TAU/JAB
	268 007(2)°	268 007.3	4.	49% $5s^25p^3(^2D)6d\ ^3D$ + 27% $5s^25p^3(^2D)6d\ ^3P$ + 12% $5s^25p^3(^2D)6d\ ^1D$	05TAU/JAB
	270 016(2)°	270 015.6	4.	56% $5s^25p^3(^2D)6d\ ^1D$ + 31% $5s^25p^3(^2D)6d\ ^3P$ + 6% $5s^25p^3(^2D)6d\ ^3F$	05TAU/JAB
	272 805(2)°	272 805.3	4.	65% $5s^25p^3(^2D)7s\ ^1D$ + 34% $5s^25p^3(^2D)7s\ ^3D$	05TAU/JAB
	278 200(2)°	278 199.8	4.	72% $5s^25p^3(^2P)6d\ ^3F$ + 19% $5s^25p^3(^2P)6d\ ^1D$	05TAU/JAB
	279 262(2)°	279 262.5	4.	40% $5s^25p^3(^2P)6d\ ^3D$ + 39% $5s^25p^3(^2P)6d\ ^3P$ + 18% $5s^25p^3(^2P)6d\ ^1D$	05TAU/JAB
	287 385(2)°	(287 385.0)	4.	74% $5s^25p^3(^4S)7d\ ^5D$ + 9% $5s^25p^3(^2P)7d\ ^3D$ + 5% $5s^25p^3(^4S)7d\ ^3D$	05TAU/JAB
	288 230(2)°	(288 230.0)	4.	33% $5s^25p^3(^4S)7d\ ^3D$ + 24% $5s^25p^3(^2P)6d\ ^3P$ + 9% $5s^25p^3(^2P)6d\ ^3D$	05TAU/JAB

TABLE 8. Energy levels of Cs IV—Continued

J	Designation	Energy (cm^{-1})	Unc. (cm^{-1})	Leading percentages	Ref.
	288 588(2)°	288 587.6	4.	26% $5s^25p^3(^4S)7d\ ^3D$+23% $5s^25p^3(^2P)6d\ ^1D$+14% $5s^25p^3(^2P)6d\ ^3P$	05TAU/JAB
	289 723(2)°	(289 723.0)	4.	77% $5s^25p^3(^4S)8s\ ^5S$+17% $5s^25p^3(^2P)8s\ ^3P$	05TAU/JAB
	290 521(2)°	290 521.3	4.	30% $5s^25p^3(^2P)6d\ ^3D$+17% $5s^25p^3(^2P)6d\ ^1D$+12% $5s^25p^3(^2D)6d\ ^3F$	05TAU/JAB
	293 926(2)°	293 926.5	4.	70% $5s^25p^3(^2P)7s\ ^3P$+13% $5s^25p^3(^2D)7s\ ^3D$+10% $5s^25p^3(^2D)7s\ ^1D$	05TAU/JAB
3	135 980(3)°	135 979.9	1.	77% $5s^25p^3(^4S)5d\ ^5D$+7% $5s^25p^3(^2P)5d\ ^3F$+6% $5s^25p^3(^2P)5d\ ^3D$	05TAU/JAB
	147 696(3)°	147 695.5	1.	31% $5s^25p^3(^4S)5d\ ^3D$+26% $5s^25p^3(^2D)5d\ ^3D$+17% $5s^25p^3(^4S)5d\ ^5D$	05TAU/JAB
	152 777(3)°	152 776.7	1.	61% $5s^25p^3(^2D)5d\ ^3F$+13% $5s^25p^3(^2D)5d\ ^3D$+11% $5s^25p^3(^4S)5d\ ^3D$	05TAU/JAB
	155 046(3)°	155 045.5	1.	65% $5s^25p^3(^2D)5d\ ^3G$+16% $5s^25p^3(^2D)5d\ ^3F$+6% $5s^25p^3(^2P)5d\ ^1F$	05TAU/JAB
	173 942(3)°	173 942.4	2.	39% $5s^25p^3(^2D)5d\ ^3D$+21% $5s^25p^3(^4S)5d\ ^3D$+12% $5s^25p^3(^2P)5d\ ^3F$	05TAU/JAB
	174 789(3)°	174 789.4	2.	55% $5s^25p^3(^2P)5d\ ^3F$+21% $5s^25p^3(^2P)5d\ ^3D$+6% $5s^25p^3(^2P)5d\ ^1F$	05TAU/JAB
	180 538(3)°	180 538.2	2.	34% $5s^25p^3(^2P)5d\ ^3D$+31% $5s^25p^3(^2D)5d\ ^1F$+18% $5s^25p^3(^4S)5d\ ^3D$	05TAU/JAB
	185 719(3)°	185 718.8	2.	80% $5s^25p^3(^2D)6s\ ^3D$+9% $5s^25p^3(^2P)5d\ ^1F$+8% $5s^25p^3(^2D)5d\ ^1F$	05TAU/JAB
	190 310(3)°	190 309.8	2.	27% $5s^25p^3(^2P)5d\ ^3D$+26% $5s^25p^3(^2P)5d\ ^1F$+16% $5s^25p^3(^2D)6s\ ^3D$	05TAU/JAB
	199 392(3)°	199 392.1	2.	40% $5s^25p^3(^2P)5d\ ^1F$+39% $5s^25p^3(^2D)5d\ ^1F$+7% $5s^25p^3(^2P)5d\ ^3D$	05TAU/JAB
	246 089(3)°	246 089.4	3.	75% $5s^25p^3(^4S)6d\ ^5D$+8% $5s^25p^3(^2P)6d\ ^3D$+7% $5s^25p^3(^2P)6d\ ^3F$	05TAU/JAB
	250 415(3)°	250 415.4	3.	70% $5s^25p^3(^4S)6d\ ^3D$+11% $5s^25p^3(^2P)6d\ ^1F$+6% $5s^25p^3(^2D)6d\ ^3G$	05TAU/JAB
	261 648(3)°	261 647.7	3.	46% $5s^25p^3(^2D)6d\ ^3F$+18% $5s^25p^3(^2D)6d\ ^3D$+9% $5s^25p^3(^2P)6d\ ^3D$	05TAU/JAB
	262 150(3)°	262 150.2	3.	63% $5s^25p^3(^2D)6d\ ^3G$+13% $5s^25p^3(^4S)6d\ ^3D$+8% $5s^25p^3(^2P)6d\ ^3F$	05TAU/JAB
	267 199(3)°	267 199.4	4.	63% $5s^25p^3(^2D)6d\ ^3D$+31% $5s^25p^3(^2D)6d\ ^3F$	05TAU/JAB
	270 688(3)°	270 688.4	4.	74% $5s^25p^3(^2D)6d\ ^1F$+11% $5s^25p^3(^2D)6d\ ^3D$+5% $5s^25p^3(^2D)6d\ ^3F$	05TAU/JAB
	272 134(3)°	272 133.7	4.	99% $5s^25p^3(^2D)7s\ ^3D$	05TAU/JAB
	279 540(3)°	279 539.7	4.	51% $5s^25p^3(^2P)6d\ ^3F$+24% $5s^25p^3(^2P)6d\ ^3D$+23% $5s^25p^3(^2P)6d\ ^1F$	05TAU/JAB
	287 402(3)°	(287 402.0)	4.	75% $5s^25p^3(^4S)7d\ ^5D$+8% $5s^25p^3(^2P)7d\ ^3D$+7% $5s^25p^3(^3P)7d\ ^3F$	05TAU/JAB
	289 119(3)°	289 119.0	4.	29% $5s^25p^3(^4S)7d\ ^3D$+21% $5s^25p^3(^2P)6d\ ^1F$+18% $5s^25p^3(^2P)6d\ ^3F$	05TAU/JAB
	289 400(3)°	289 400.1	4.	33% $5s^25p^3(^2P)6d\ ^1F$+29% $5s^25p^3(^4S)7d\ ^3D$+8% $5s^25p^3(^2D)6d\ ^3G$	05TAU/JAB
	290 157(3)°	290 157.0	4.	44% $5s^25p^3(^2P)6d\ ^3D$+14% $5s^25p^3(^4S)7d\ ^3D$+9% $5s^25p^3(^2P)6d\ ^3F$	05TAU/JAB
4	136 858(4)°	(136 858.0)	1.	85% $5s^25p^3(^4S)5d\ ^5D$+12% $5s^25p^3(^2P)5d\ ^3F$	05TAU/JAB
	154 789(4)°	(154 789.0)	1.	44% $5s^25p^3(^2D)5d\ ^3G$+25% $5s^25p^3(^2D)5d\ ^3F$+15% $5s^25p^3(^2P)5d\ ^3F$	05TAU/JAB
	157 759(4)°	(157 759.0)	1.	74% $5s^25p^3(^2D)5d\ ^3F$+18% $5s^25p^3(^2D)5d\ ^3G$+5% $5s^25p^3(^2D)5d\ ^1G$	05TAU/JAB
	160 985(4)°	(160 985.0)	1.	73% $5s^25p^3(^2D)5d\ ^1G$+25% $5s^25p^3(^2D)5d\ ^3G$	05TAU/JAB
	179 872(4)°	(179 872.0)	2.	68% $5s^25p^3(^2P)5d\ ^3F$+14% $5s^25p^3(^2D)5d\ ^1G$+12% $5s^25p^3(^2D)5d\ ^3G$	05TAU/JAB
	246 466(4)°	(246 466.0)	3.	81% $5s^25p^3(^4S)6d\ ^5D$+15% $5s^25p^3(^2P)6d\ ^3F$	05TAU/JAB
	262 124(4)°	(262 124.0)	3.	43% $5s^25p^3(^2D)6d\ ^3G$+28% $5s^25p^3(^2D)6d\ ^1G$+14% $5s^25p^3(^2P)6d\ ^3F$	05TAU/JAB
	266 485(4)°	(266 485.0)	4.	77% $5s^25p^3(^2D)6d\ ^3F$+17% $5s^25p^3(^2D)6d\ ^3G$+6% $5s^25p^3(^2D)6d\ ^1G$	05TAU/JAB
	266 926(4)°	(266 926.0)	4.	54% $5s^25p^3(^2D)6d\ ^1G$+26% $5s^25p^3(^2D)6d\ ^3G$+20% $5s^25p^3(^2D)6d\ ^3F$	05TAU/JAB
	287 576(4)°	(287 576.0)	4.	75% $5s^25p^3(^4S)7d\ ^5D$+14% $5s^25p^3(^2P)7d\ ^3F$+4% $5s^25p^3(^2P)6d\ ^3F$	05TAU/JAB
	287 804(4)°	(287 804.0)	4.	67% $5s^25p^3(^2P)6d\ ^3F$+11% $5s^25p^3(^2D)6d\ ^3G$+9% $5s^25p^3(^2D)6d\ ^1G$	05TAU/JAB
5	160 328(5)°	(160 328.0)	1.	100% $5s^25p^3(^2D)5d\ ^3G$	05TAU/JAB
	267 005(5)°	(267 005.0)	4.	100% $5s^25p^3(^2D)6d\ ^3G$	05TAU/JAB
	Cs V ($5p^3\ ^4S^\circ_{3/2}$)	(343 000)	*Limit*		76FRA/KAR

References for Cs IV

69GRU P. F. Gruzdev, Opt. Spectrosc. **27**, 479 (1969).

76FRA/KAR S. Fraga, J. Karwowski, and K. M. S. Saxena, *Handbook of Atomic Data* (Elsevier Scientific, Amsterdam, 1976).

83REA J. Reader, J. Opt. Soc. Am. **73**, 349 (1983).

94TAU/JOS A. Tauheed and Y. N. Joshi, J. Phys. B **27**, 405 (1994).

05TAU/JAB A. Tauheed, S. Jabeen, and Y. N. Joshi, Phys. Scr. **71**, 193 (2005).

6.5. Cs V

Sb isoelectronic sequence

Ground state:

$$1s^22s^22p^63s^23p^63d^{10}4s^24p^64d^{10}5s^25p^3\ ^4S^\circ_{3/2}$$

Ionization energy: (457 000 cm^{-1}); (56.6 eV)

The Cs V spectrum has only been measured by Tauheed and Joshi [93TAU/JOS], who photographed the 300–1240 Å region using a triggered spark as the source. All values reported in Tables 9 and 10 are from [93TAU/JOS], except the calculated ionization energy, which is quoted from Fraga *et al.* [76FRA/KAR].

TABLE 9. Observed spectral lines of Cs V

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
446.429	0.005	223 999.8	13		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2F_{5/2}$	93TAU/JOS
449.919	0.005	222 262.0	30		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^1D)6s\ ^2D_{3/2}$	93TAU/JOS
450.585	0.005	221 933.9	17		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)6s\ ^2P_{3/2}$	93TAU/JOS
453.200	0.005	220 652.9	36		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^1S)6s\ ^2S_{1/2}$	93TAU/JOS
454.308	0.005	220 114.9	63		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^1D)6s\ ^2D_{5/2}$	93TAU/JOS
459.232	0.005	217 755.0	78		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)6s\ ^4P_{5/2}$	93TAU/JOS
460.900	0.005	216 966.7	48		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^1D)6s\ ^2D_{3/2}$	93TAU/JOS
461.608	0.005	216 634.2	10		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)6s\ ^2P_{1/2}$	93TAU/JOS
465.508	0.005	214 818.9	70		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^1D)6s\ ^2D_{5/2}$	93TAU/JOS
466.935	0.005	214 162.5	25		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2P_{3/2}$	93TAU/JOS
472.870	0.005	211 474.4	72		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)6s\ ^4P_{3/2}$	93TAU/JOS
473.747	0.005	211 083.0	23		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^1S)5d\ ^2D_{5/2}$	93TAU/JOS
475.446	0.005	210 328.9	30		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^1S)6s\ ^2S_{1/2}$	93TAU/JOS
478.645	0.005	208 923.0	55		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2F_{5/2}$	93TAU/JOS
479.011	0.005	208 763.4	6		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^1S)5d\ ^2D_{3/2}$	93TAU/JOS
483.428	0.005	206 856.0	58		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^1P)6s\ ^2P_{3/2}$	93TAU/JOS
483.765	0.005	206 712.0	38		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2D_{5/2}$	93TAU/JOS
484.554	0.005	206 375.5	5		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2D_{3/2}$	93TAU/JOS
486.881	0.005	205 389.0	10		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^1D)6s\ ^2D_{3/2}$	93TAU/JOS
487.323	0.005	205 202.8	15		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2P_{1/2}$	93TAU/JOS
487.960	0.005	204 935.0	58		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2S_{1/2}$	93TAU/JOS
491.093	0.005	203 627.3	25		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)5d\ ^2F_{5/2}$	93TAU/JOS
491.480	0.005	203 467.0	2		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^1S)5d\ ^2D_{3/2}$	93TAU/JOS
496.134	0.005	201 558.6	72		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)6s\ ^2P_{3/2}$	93TAU/JOS
496.135	0.005	201 557.9	72		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)6s\ ^2P_{1/2}$	93TAU/JOS
497.163	0.005	201 141.2	25		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2P_{1/2}$	93TAU/JOS
499.691	0.005	200 123.8	70		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)6s\ ^4P_{1/2}$	93TAU/JOS
501.494	0.005	199 404.1	72		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2D_{5/2}$	93TAU/JOS
502.298	0.005	199 085.0	50		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2P_{3/2}$	93TAU/JOS
506.633	0.005	197 381.5	52	b	$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)6s\ ^4P_{5/2}$	93TAU/JOS
509.164	0.005	196 400.3	15		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)6s\ ^4P_{3/2}$	93TAU/JOS
510.189	0.005	196 005.8	15		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^1S)5d\ ^2D_{5/2}$	93TAU/JOS
511.960	0.005	195 327.9	72		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2D_{3/2}$	93TAU/JOS
512.645	0.005	195 066.9	65		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^1D)6s\ ^2D_{3/2}$	93TAU/JOS
516.024	0.005	193 789.3	55		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^1D)5d\ ^2P_{3/2}$	93TAU/JOS
518.351	0.005	192 919.6	54		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^1D)6s\ ^2D_{5/2}$	93TAU/JOS
521.141	0.005	191 886.5	70		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^1S)5d\ ^2D_{3/2}$	93TAU/JOS
521.828	0.005	191 634.1	72		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2D_{5/2}$	93TAU/JOS
522.741	0.005	191 299.3	71		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2D_{3/2}$	93TAU/JOS
522.912	0.005	191 236.7	73		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^1P)5d\ ^4P_{1/2}$	93TAU/JOS
523.280	0.005	191 102.3	55		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)6s\ ^4P_{3/2}$	93TAU/JOS
524.350	0.005	190 712.2	70		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^1S)5d\ ^2D_{5/2}$	93TAU/JOS
525.967	0.005	190 126.0	5		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2P_{1/2}$	93TAU/JOS
526.034	0.005	190 101.8	75		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)5d\ ^2F_{7/2}$	93TAU/JOS
526.341	0.005	189 990.8	76		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4P_{3/2}$	93TAU/JOS
526.359	0.005	189 984.4	65		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^3P)6s\ ^2P_{3/2}$	93TAU/JOS
531.222	0.005	188 245.3	71		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s(^2S)5p^4(^1P)^2P_{3/2}$	93TAU/JOS
532.992	0.005	187 620.1	80		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4P_{5/2}$	93TAU/JOS
536.658	0.005	186 338.5	74		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^1D)5d\ ^2D_{5/2}$	93TAU/JOS
537.446	0.005	186 065.2	66		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2P_{1/2}$	93TAU/JOS
537.630	0.005	186 001.6	52		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^1D)5d\ ^2D_{3/2}$	93TAU/JOS
541.467	0.005	184 683.6	60		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^1P)6s\ ^2P_{1/2}$	93TAU/JOS
542.517	0.005	184 326.0	75		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^1P)5d\ ^2D_{5/2}$	93TAU/JOS
548.810	0.005	182 212.5	55		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^1D)5d\ ^2P_{3/2}$	93TAU/JOS
550.274	0.005	181 727.8	75		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2F_{5/2}$	93TAU/JOS
550.766	0.005	181 565.2	55		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^1S)5d\ ^2D_{3/2}$	93TAU/JOS
554.783	0.005	180 250.6	10		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2D_{3/2}$	93TAU/JOS

TABLE 9. Observed spectral lines of Cs V—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
556.605	0.005	179 660.5	72		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^3P)6s\ ^2P_{3/2}$	93TAU/JOS
557.025	0.005	179 525.2	5		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^3P)6s\ ^4P_{3/2}$	93TAU/JOS
558.565	0.005	179 030.1	75		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)5d\ ^2D_{5/2}$	93TAU/JOS
562.619	0.005	177 740.3	66		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2S_{1/2}$	93TAU/JOS
569.549	0.005	175 577.4	20		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2P_{1/2}$	93TAU/JOS
569.865	0.005	175 480.1	5		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^3P)6s\ ^4P_{5/2}$	93TAU/JOS
570.108	0.005	175 405.3	75		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^1P)5d\ ^4D_{5/2}$	93TAU/JOS
571.576	0.005	174 955.0	55		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)5d\ ^2D_{3/2}$	93TAU/JOS
571.705	0.005	174 915.5	62		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4P_{3/2}$	93TAU/JOS
573.313	0.005	174 424.9	50		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^1D)5d\ ^2D_{3/2}$	93TAU/JOS
573.515	0.005	174 363.5	78		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^3P)6s\ ^2P_{1/2}$	93TAU/JOS
577.193	0.005	173 252.4	68		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^1D)5d\ ^2P_{1/2}$	93TAU/JOS
577.472	0.005	173 168.7	72		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s(^2S)5p^4(^3P)^2P_{3/2}$	93TAU/JOS
579.566	0.005	172 542.9	65		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4P_{5/2}$	93TAU/JOS
581.605	0.005	171 938.0	68		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4D_{3/2}$	93TAU/JOS
581.767	0.005	171 890.2	65		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2P_{3/2}$	93TAU/JOS
589.558	0.005	169 618.7	75		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)5d\ ^4P_{3/2}$	93TAU/JOS
591.042	0.005	169 192.7	65		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^3P)5d\ ^2P_{1/2}$	93TAU/JOS
591.568	0.005	169 042.4	75		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^1D)5d\ ^2G_{7/2}$	93TAU/JOS
592.375	0.005	168 812.0	55		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^1S)5d\ ^2D_{5/2}$	93TAU/JOS
594.628	0.005	168 172.3	35		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^3P)6s\ ^4P_{1/2}$	93TAU/JOS
595.690	0.005	167 872.6	75		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s(^2S)5p^4(^1P)^2P_{3/2}$	93TAU/JOS
597.923	0.005	167 245.6	75		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)5d\ ^4P_{5/2}$	93TAU/JOS
599.520	0.005	166 800.0	75		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2F_{5/2}$	93TAU/JOS
608.131	0.005	164 438.3	40		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2D_{5/2}$	93TAU/JOS
610.236	0.005	163 871.0	78		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)5d\ ^4D_{7/2}$	93TAU/JOS
612.078	0.005	163 377.8	70		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^3P)5d\ ^2D_{3/2}$	93TAU/JOS
613.765	0.005	162 928.9	35		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2P_{1/2}$	93TAU/JOS
623.059	0.005	160 498.4	32		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2P_{1/2}$	93TAU/JOS
623.726	0.005	160 326.8	80	*	$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^1P)5d\ ^4F_{5/2}$	93TAU/JOS
623.726	0.005	160 326.8	80	*	$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4D_{5/2}$	93TAU/JOS
629.458	0.005	158 866.8	65		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2P_{1/2}$	93TAU/JOS
631.918	0.005	158 248.4	63		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s(^2S)5p^4(^1P)^2P_{1/2}$	93TAU/JOS
633.304	0.005	157 902.1	75		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4F_{3/2}$	93TAU/JOS
636.419	0.005	157 129.3	30		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2D_{5/2}$	93TAU/JOS
637.519	0.005	156 858.0	68		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4D_{3/2}$	93TAU/JOS
639.819	0.005	156 294.1	62		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s(^2S)5p^4(^3P)^2P_{3/2}$	93TAU/JOS
645.031	0.005	155 031.4	82		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)5d\ ^4D_{5/2}$	93TAU/JOS
645.282	0.005	154 970.9	55		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2P_{3/2}$	93TAU/JOS
647.335	0.005	154 479.5	74		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4D_{1/2}$	93TAU/JOS
659.098	0.005	151 722.6	5		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^1D)5d\ ^2F_{5/2}$	93TAU/JOS
659.792	0.005	151 562.9	76		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)5d\ ^4D_{3/2}$	93TAU/JOS
665.056	0.005	150 363.2	53		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^1D)5d\ ^2F_{7/2}$	93TAU/JOS
671.308	0.005	148 963.0	12		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4P_{1/2}$	93TAU/JOS
676.962	0.005	147 718.7	50		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4P_{3/2}$	93TAU/JOS
680.932	0.005	146 857.6	72		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)5d\ ^4F_{7/2}$	93TAU/JOS
682.933	0.005	146 427.2	25		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^1D)5d\ ^2F_{5/2}$	93TAU/JOS
685.060	0.005	145 972.7	45		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s(^2S)5p^4(^3P)^2P_{3/2}$	93TAU/JOS
688.471	0.005	145 249.4	70		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4F_{5/2}$	93TAU/JOS
692.841	0.005	144 333.3	55		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s(^2S)5p^4(^1D)^2D_{5/2}$	93TAU/JOS
696.248	0.005	143 626.9	45		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^1P)5d\ ^2P_{1/2}$	93TAU/JOS
698.459	0.005	143 172.4	80		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s(^2S)5p^4(^1P)^2P_{1/2}$	93TAU/JOS
700.153	0.005	142 826.0	76		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4F_{3/2}$	93TAU/JOS
714.360	0.005	139 985.4	12		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^3P)5d\ ^4D_{3/2}$	93TAU/JOS
714.501	0.005	139 957.9	76		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s(^2S)5p^4(^1D)^2D_{3/2}$	93TAU/JOS
714.510	0.005	139 956.0	76		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)5d\ ^4F_{5/2}$	93TAU/JOS
714.828	0.005	139 893.8	70		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2P_{3/2}$	93TAU/JOS

TABLE 9. Observed spectral lines of Cs V—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
726.705	0.005	137 607.4	65		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^3P)5d\ ^4D_{1/2}$	93TAU/JOS
727.115	0.005	137 529.9	80		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)5d\ ^4F_{3/2}$	93TAU/JOS
742.953	0.005	134 598.0	80		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s^25p^2(^3P)5d\ ^2P_{3/2}$	93TAU/JOS
750.173	0.005	133 302.5	75		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^2P_{1/2}$	93TAU/JOS
751.135	0.005	133 131.9	70		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^1P)5d\ ^4D_{5/2}$	93TAU/JOS
771.227	0.005	129 663.5	18		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4D_{3/2}$	93TAU/JOS
785.643	0.005	127 284.3	18		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4D_{1/2}$	93TAU/JOS
791.779	0.005	126 297.8	80		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s(^2S)5p^4(^3P)^2P_{1/2}$	93TAU/JOS
794.535	0.005	125 859.8	85		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s(^2S)5p^4(^3P)^4P_{1/2}$	93TAU/JOS
800.747	0.005	124 883.4	90		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s(^2S)5p^4(^1D)^2D_{3/2}$	93TAU/JOS
806.712	0.005	123 960.0	90		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s(^2S)5p^4(^1D)^2D_{5/2}$	93TAU/JOS
811.744	0.005	123 191.5	92		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s(^2S)5p^4(^3P)^4P_{3/2}$	93TAU/JOS
812.878	0.005	123 019.7	85		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s^25p^2(^3P)5d\ ^2P_{3/2}$	93TAU/JOS
836.220	0.005	119 585.8	80		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s(^2S)5p^4(^1D)^2D_{3/2}$	93TAU/JOS
847.061	0.005	118 055.3	7		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4F_{5/2}$	93TAU/JOS
862.260	0.005	115 974.3	21		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s(^2S)5p^4(^3P)^2P_{1/2}$	93TAU/JOS
864.833	0.005	115 629.3	30		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^3P)5d\ ^4F_{3/2}$	93TAU/JOS
877.950	0.005	113 901.7	98		$5s^25p^3\ ^4S^\circ_{3/2}$	$5s(^2S)5p^4(^3P)^4P_{5/2}$	93TAU/JOS
887.333	0.005	112 697.2	80		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s^25p^2(^1P)5d\ ^2P_{3/2}$	93TAU/JOS
902.689	0.005	110 780.1	21		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s(^2S)5p^4(^1P)^4P_{1/2}$	93TAU/JOS
924.943	0.005	108 114.8	20		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s(^2S)5p^4(^3P)^4P_{3/2}$	93TAU/JOS
925.859	0.005	108 007.8	39		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s(^2S)5p^4(^1D)^2D_{3/2}$	93TAU/JOS
972.581	0.005	102 819.2	80		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s(^2S)5p^4(^3P)^4P_{3/2}$	93TAU/JOS
979.830	0.005	102 058.5	72		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s(^2S)5p^4(^1D)^2D_{5/2}$	93TAU/JOS
1 011.899	0.005	98 824.1	78		$5s^25p^3\ ^2D^\circ_{3/2}$	$5s(^2S)5p^4(^1P)^4P_{5/2}$	93TAU/JOS
1 064.899	0.005	93 906.5	46		$5s^25p^3\ ^2P^\circ_{1/2}$	$5s(^2S)5p^4(^3P)^4P_{1/2}$	93TAU/JOS
1 069.193	0.005	93 528.5	69		$5s^25p^3\ ^2D^\circ_{5/2}$	$5s(^2S)5p^4(^1P)^4P_{5/2}$	93TAU/JOS
1 196.390	0.005	83 584.8	9		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s(^2S)5p^4(^3P)^4P_{1/2}$	93TAU/JOS
1 235.795	0.005	80 919.6	51		$5s^25p^3\ ^2P^\circ_{3/2}$	$5s(^2S)5p^4(^3P)^4P_{3/2}$	93TAU/JOS

TABLE 10. Energy levels of Cs V

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading percentages	Reference
$5s^25p^3$	$^4S^\circ$	3/2	0.0	1.	78%+16% $5s^25p^3\ ^2P^\circ$	93TAU/JOS
	$^2D^\circ$	3/2	15 077.4	1.	71%+16% $5s^25p^3\ ^4S^\circ$+13% $5s^25p^3 2P^\circ$	93TAU/JOS
	$^2D^\circ$	5/2	20 373.5	1.	100%	93TAU/JOS
	$^2P^\circ$	1/2	31 951.1	1.	100%	93TAU/JOS
	$^2P^\circ$	3/2	42 273.7	1.	71%+23% $5s^25p^3\ ^2D^\circ$	93TAU/JOS
$5s(^2S)5p^4(^3P)$	^4P	5/2	113 901.7	1.	86%+8% $5s^25p^2(^3P)5d\ ^4P$	93TAU/JOS
	^4P	3/2	123 192.4	1.	84%+9% $5s^25p^2(^3P)5d\ ^4P$	93TAU/JOS
	^4P	1/2	125 858.3	1.	83%+9% $5s^25p^2(^3P)5d^4P$	93TAU/JOS
	^2P	1/2	158 248.8	1.	31%+32% $5s(^2S)5p^4(^3P)^2P$+22% $5s(^2S)5p^4(^2S)\ ^2S$	93TAU/JOS
	^2P	3/2	188 245.8	1.	41%+21% $5s^25p^2(^3P)5d\ ^2P$+10% $5s^25p^2(^3P)5d\ ^2D$	93TAU/JOS
$5s(^2S)5p^4(^1D)$	^2D	3/2	139 959.2	1.	60%+14% $5s^25p^2(^1D)5d\ ^2D$	93TAU/JOS
	^2D	5/2	144 333.0	1.	73%+17% $5s^25p^2(^1D)5d\ ^2D$	93TAU/JOS
$5s^25p^2(^3P)5d$	^2P	3/2	154 971.2	1.	31%+17% $5s^25p^2(^3P)5d\ ^4F$+17% $5s(^2S)5p^4(^3P)\ ^2P$	93TAU/JOS
	^4F	3/2	157 903.0	1.	63%+16% $5s(^2S)5p^4(^3P)\ ^2P$+13% $5s^25p^2(^3P)5d\ ^2P$	93TAU/JOS
	^4F	5/2	160 327.9	1.	65%+22% $5s^25p^2(^3P)5d\ ^4D$	93TAU/JOS
	^4F	7/2	167 231.1	1.	83%+13% $5s^25p^2(^3P)5d^4D$	93TAU/JOS
	^4D	1/2	169 557.9	1.	70%+18% $5s(^2S)5p^4(^1S)\ ^2S$	93TAU/JOS
	^4D	3/2	171 936.7	1.	79%+10% $5s^25p^2(^3P)5d\ ^4F$	93TAU/JOS
	^4F	9/2	(172 717.1)	1.	81%+19% $5s^25p^2(^1D)5d\ ^2G$	93TAU/JOS
	^4D	5/2	175 405.0	1.	52%+14% $5s^25p^2(^3P)5d\ ^2F$+12% $5s^25p^2(^3P)5d\ ^4F$	93TAU/JOS
	^4D	7/2	184 244.5	1.	35%+35% $5s^25p^2(^1D)5d^2G$+16% $5s^25p^2(^3P)5d^2F$	93TAU/JOS
	^4P	5/2	187 619.8	1.	71%+10% $5s^25p^2(^3P)5d\ ^4D$	93TAU/JOS

TABLE 10. Energy levels of Cs V—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading percentages	Reference
	^{4}P	3/2	189 992.1	1.	60%+24% 5s^{2}5p^2(^{1}D)5d^{2}P	93TAU/JOS
	^{4}P	1/2	191 236.7	1.	65%+16% 5s^{2}5p^2(^{1}D)5d ^{2}P	93TAU/JOS
	^{2}D	3/2	195 328.4	1.	43%+18% 5s^{2}5p^2(^{2}S)5d ^{2}D+11% 5s^{2}5p^2(^{3}P)5d ^{4}P	93TAU/JOS
	^{2}D	5/2	199 403.5	1.	54%+16% 5s^{2}5p^2(^{3}P)5d ^{2}F+13% 5s^{2}5p^2(^{1}D)5d ^{2}D	93TAU/JOS
	^{2}P	1/2	201 141.6	1.	30%+25% 5s^{2}5p^2(^{1}D)5d ^{2}P+18% 5s^{2}5p^2(^{3}P)5d ^{2}P	93TAU/JOS
	^{2}F	7/2	210 475.3	1.	61%+31% 5s^{2}5p^2(^{1}D)5d ^{2}F	93TAU/JOS
	^{2}F	5/2	224 000.6	1.	16%+34% 5s^{2}5p^2(^{1}S)5d ^{2}D+27% 5s^{2}5p^2(^{3}P)5d ^{2}D	93TAU/JOS
5s^{2}5p^2(^{1}D)5d	^{2}F	5/2	166 800.2	1.	40%+30% 5s^{2}5p^2(^{3}P)5d ^{2}F+19% 5s^{2}5p^2(^{3}P)5d ^{4}F	93TAU/JOS
	^{4}F	7/2	170 736.7	1.	35%+38% 5s^{2}5p^2(^{3}P)5d ^{4}D+18% 5s^{2}5p^2(^{3}P)5d ^{2}F	93TAU/JOS
	^{4}G	7/2	189 415.9	1.	51%+31% 5s^{2}5p^2(^{1}D)5d ^{2}F+14% 5s^{2}5p^2(^{3}P)5d ^{4}D	93TAU/JOS
	^{2}G	9/2	(192 876.3)	1.	81%+19% 5s^{2}5p^2(^{3}P)5d ^{4}F	93TAU/JOS
	^{4}P	1/2	205 203.2	1.	33%+20% 5s^{2}5p^2(^{3}P)6s ^{4}P+17% 5s^{2}5p^2(^{3}P)5d ^{2}P	93TAU/JOS
	^{2}D	3/2	206 375.9	1.	59%+13% 5s(^{2}S)5p^4(^{1}D) ^{2}D +12% 5s^{2}5p^2(^{1}D)5d ^{2}P	93TAU/JOS
	^{2}G	5/2	206 712.0	1.	24%+25% 5s^{2}5p^2(^{1}D)5d ^{2}F+19% 5s^{2}5p^2(^{3}P)5d ^{2}F	93TAU/JOS
	^{2}P	3/2	214 163.1	1.	32%+18% 5s^{2}5p^2(^{3}P)5d ^{2}P+17% 5s^{2}5p^2(^{3}P)6s ^{4}P	93TAU/JOS
	^{2}S	1/2	220 013.2	1.	51%+17% 5s5p^4(^{1}S) ^{2}S	93TAU/JOS
5s(^{2}S)5p^4(^{1}S)	^{2}S	1/2	175 576.8	1.	32%+22% 5s^{2}5p^2(^{3}P)5d ^{2}P+21% 5s^{2}5p^2(^{3}P)5d ^{4}G	93TAU/JOS
5s^{2}5p^2(^{3}P)6s	^{4}P	1/2	200 123.6	1.	54%+19% 5s^{2}5p^2(^{1}D)5d ^{2}P+16% 5s^{2}5p^2(^{3}P)6s ^{2}P	93TAU/JOS
	^{4}P	3/2	211 476.1	1.	76%+9% 5s^{2}5p^2(^{3}P)6s ^{2}P	93TAU/JOS
	^{2}P	1/2	216 635.5	1.	74%+14% 5s^{2}5p^2(^{3}P)6s ^{4}P	93TAU/JOS
	^{4}P	5/2	217 754.6	1.	67%+25% 5s^{2}5p^2(^{1}D)6s ^{2}D	93TAU/JOS
	^{2}P	3/2	221 933.8	1.	44%+42% 5s^{2}5p^2(^{1}D)6s ^{2}D	93TAU/JOS
5s^{2}5p^2(^{1}S)5d	^{2}D	5/2	211 084.4	1.	39%+30% 5s^{2}5p^2(^{1}D)5d ^{2}D +14% 5s^{2}5p^2(^{3}P)5d ^{2}D	93TAU/JOS
	^{2}D	3/2	223 839.4	1.	53%+38% 5s^{2}5p^2(^{3}P)5d ^{2}D	93TAU/JOS
5s^{2}5p^2(^{1}D)6s	^{2}D	5/2	235 192.8	1.	69%+29% 5s^{2}5p^2(^{3}P)6s^{4}P	93TAU/JOS
	^{2}D	3/2	237 340.0	1.	52%+41% 5s^{2}5p^2(^{3}P)6s ^{3}P	93TAU/JOS
5s^{2}5p^2(^{1}S)6*s*	^{2}S	1/2	252603.3	1	87%+7% 5s^{2}5p^2(^{3}P)6s ^{4}P	93TAU/JOS
Cs VI (5p^2 ^{3}P$^\circ_0$)		*Limit*	(457 000)			76FRA/KAR

References for Cs V

76FRA/KAR S. Fraga, J. Karwowski, and K. M. S. Saxena, *Handbook of Atomic Data* (Elsevier Scientific, Amsterdam, 1976).

93TAU/JOS A. Tauheed and Y. N. Joshi, Phys. Scr. **47**, 550 (1993).

6.6. Cs VI

Sn isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^63d^{10}4s^24p^64d^{10}5s^25p^2\ ^3P_0$
Ionization energy: (553 000 cm^{-1}); (68.6 eV)

Tauheed *et al.* [91TAU/JOS] are the only group so far to measure the Cs VI spectrum. They used a triggered-spark source to measure 67 lines in the 325–1400 Å region. All values reported in Tables 11 and 12 come from their measurements and analysis, except the calculated ionization energy, which is quoted from Fraga *et al.* [76FRA/KAR].

TABLE 11. Observed spectral lines of Cs VI

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
396.746	0.005	252 050.6	22		5s^{2}5p^2 ^{3}P$_1$	5s^{2}5p6s ^{1}P$^\circ_1$	91TAU/JOS
401.968	0.005	248 776.3	38		5s^{2}5p^2 ^{3}P$_1$	5s^{2}5p6s ^{3}P$^\circ_2$	91TAU/JOS
405.518	0.005	246 598.3	15		5s^{2}5p^2 ^{3}P$_2$	5s^{2}5p6s ^{1}P$^\circ_1$	91TAU/JOS
410.312	0.005	243 717.2	40		5s^{2}5p^2 ^{3}P$_0$	5s^{2}5p6s ^{3}P$^\circ_1$	91TAU/JOS
410.976	0.005	243 323.4	45		5s^{2}5p^2 ^{3}P$_2$	5s^{2}5p6s ^{3}P$^\circ_2$	91TAU/JOS

TABLE 11. Observed spectral lines of Cs VI—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
431.883	0.005	231 544.3	38		$5s^25p^2\ ^3P_1$	$5s^25p6s\ ^3P^\circ_1$	91TAU/JOS
434.712	0.005	230 037.3	50		$5s^25p^2\ ^3P_1$	$5s^25p5d\ ^3P^\circ_0$	91TAU/JOS
436.365	0.005	229 166.2	52		$5s^25p^2\ ^1D_2$	$5s^25p6s\ ^1P^\circ_1$	91TAU/JOS
442.298	0.005	226 092.0	57		$5s^25p^2\ ^3P_2$	$5s^25p6s\ ^3P^\circ_1$	91TAU/JOS
442.693	0.005	225 890.4	47		$5s^25p^2\ ^1D_2$	$5s^25p6s\ ^3P^\circ_2$	91TAU/JOS
466.447	0.005	214 386.5	25		$5s^25p^2\ ^3P_2$	$5s^25p5d\ ^1P^\circ_1$	91TAU/JOS
472.107	0.005	211 816.3	38		$5s^25p^2\ ^1S_0$	$5s^25p6s\ ^1P^\circ_1$	91TAU/JOS
478.711	0.005	208 894.3	55		$5s^25p^2\ ^3P_2$	$5s^25p5d\ ^1F^\circ_3$	91TAU/JOS
490.613	0.005	203 826.6	38		$5s^25p^2\ ^3P_1$	$5s^25p5d\ ^3D^\circ_2$	91TAU/JOS
495.028	0.005	202 008.9	65		$5s^25p^2\ ^3P_1$	$5s^25p5d\ ^3P^\circ_1$	91TAU/JOS
498.127	0.005	200 752.1	55		$5s^25p^2\ ^3P_1$	$5s^25p6s\ ^3P^\circ_0$	91TAU/JOS
500.502	0.005	199 799.3	70		$5s^25p^2\ ^3P_0$	$5s^25p5d\ ^3D^\circ_1$	91TAU/JOS
504.097	0.005	198 374.7	58		$5s^25p^2\ ^3P_2$	$5s^25p5d\ ^3D^\circ_2$	91TAU/JOS
506.020	0.005	197 620.5	66		$5s^25p^2\ ^3P_1$	$5s^25p5d\ ^1D^\circ_2$	91TAU/JOS
508.757	0.005	196 557.4	48		$5s^25p^2\ ^3P_2$	$5s^25p5d\ ^3P^\circ_1$	91TAU/JOS
514.093	0.005	194 517.4	75		$5s^25p^2\ ^3P_2$	$5s^25p5d\ ^3D^\circ_3$	91TAU/JOS
514.241	0.005	194 461.3	50		$5s^25p^2\ ^3P_0$	$5s5p^3\ ^1P^\circ_1$	91TAU/JOS
520.375	0.005	192 169.0	65		$5s^25p^2\ ^3P_2$	$5s^25p5d\ ^1D^\circ_2$	91TAU/JOS
522.294	0.005	191 462.9	70		$5s^25p^2\ ^1D_2$	$5s^25p5d\ ^1F^\circ_3$	91TAU/JOS
532.992	0.005	187 620.1	78	p	$5s^25p^2\ ^3P_1$	$5s^25p5d\ ^3D^\circ_1$	91TAU/JOS
539.366	0.005	185 402.9	70		$5s^25p^2\ ^3P_1$	$5s^25p5d\ ^3P^\circ_2$	91TAU/JOS
548.591	0.005	182 285.1	45		$5s^25p^2\ ^3P_1$	$5s5p^3\ ^1P^\circ_1$	91TAU/JOS
552.665	0.005	180 941.3	64		$5s^25p^2\ ^1D_2$	$5s^25p5d\ ^3D^\circ_2$	91TAU/JOS
555.703	0.005	179 952.3	63		$5s^25p^2\ ^3P_2$	$5s^25p5d\ ^3P^\circ_2$	91TAU/JOS
556.777	0.005	179 605.0	55		$5s^25p^2\ ^1S_0$	$5s^25p5d\ ^1P^\circ_1$	91TAU/JOS
558.268	0.005	179 125.5	45		$5s^25p^2\ ^1D_2$	$5s^25p5d\ ^3P^\circ_1$	91TAU/JOS
564.697	0.005	177 086.2	52		$5s^25p^2\ ^1D_2$	$5s^25p5d\ ^3D^\circ_3$	91TAU/JOS
565.503	0.005	176 833.8	8		$5s^25p^2\ ^3P_2$	$5s5p^3\ ^1P^\circ_1$	91TAU/JOS
569.332	0.005	175 644.4	52		$5s^25p^2\ ^3P_0$	$5s5p^3\ ^3S^\circ_1$	91TAU/JOS
572.310	0.005	174 730.4	50		$5s^25p^2\ ^1D_2$	$5s^25p5d\ ^1D^\circ_2$	91TAU/JOS
589.477	0.005	169 641.8	72		$5s^25p^2\ ^3P_2$	$5s^25p5d\ ^3F^\circ_3$	91TAU/JOS
589.691	0.005	169 580.4	40		$5s^25p^2\ ^3P_1$	$5s^25p5d\ ^3F^\circ_2$	91TAU/JOS
607.020	0.005	164 739.1	42		$5s^25p^2\ ^1D_2$	$5s^25p5d\ ^3D^\circ_1$	91TAU/JOS
609.285	0.005	164 126.9	65		$5s^25p^2\ ^3P_2$	$5s^25p5d\ ^3F^\circ_2$	91TAU/JOS
611.735	0.005	163 469.5	72		$5s^25p^2\ ^3P_1$	$5s5p^3\ ^3S^\circ_1$	91TAU/JOS
615.320	0.005	162 517.0	55		$5s^25p^2\ ^1D_2$	$5s^25p5d\ ^3P^\circ_2$	91TAU/JOS
627.360	0.005	159 398.1	75		$5s^25p^2\ ^1D_2$	$5s5p^3\ ^1P^\circ_1$	91TAU/JOS
632.846	0.005	158 016.3	82		$5s^25p^2\ ^3P_2$	$5s5p^3\ ^3S^\circ_1$	91TAU/JOS
638.762	0.005	156 552.8	32		$5s^25p^2\ ^3P_1$	$5s5p^3\ ^1D^\circ_2$	91TAU/JOS
648.526	0.005	154 195.8	68		$5s^25p^2\ ^3P_0$	$5s5p^3\ ^3P^\circ_1$	91TAU/JOS
678.479	0.005	147 388.6	4		$5s^25p^2\ ^1S_0$	$5s^25p5d\ ^3D^\circ_1$	91TAU/JOS
681.699	0.005	146 692.4	62		$5s^25p^2\ ^1D_2$	$5s^25p5d\ ^3F^\circ_2$	91TAU/JOS
703.973	0.005	142 050.9	60		$5s^25p^2\ ^1S_0$	$5s5p^3\ ^1P^\circ_1$	91TAU/JOS
704.104	0.005	142 024.4	80		$5s^25p^2\ ^3P_1$	$5s5p^3\ ^1P^\circ_1$	91TAU/JOS
711.313	0.005	140 585.0	25		$5s^25p^2\ ^1D_2$	$5s5p^3\ ^3S^\circ_1$	91TAU/JOS
711.953	0.005	140 458.7	75	p	$5s^25p^2\ ^3P_1$	$5s5p^3\ ^3P^\circ_0$	91TAU/JOS
729.141	0.005	137 147.6	80		$5s^25p^2\ ^3P_2$	$5s5p^3\ ^3P^\circ_2$	91TAU/JOS
732.217	0.005	136 571.5	25		$5s^25p^2\ ^3P_2$	$5s5p^3\ ^3P^\circ_1$	91TAU/JOS
748.109	0.005	133 670.3	78		$5s^25p^2\ ^1D_2$	$5s5p^3\ ^1D^\circ_2$	91TAU/JOS
758.917	0.005	131 766.7	80		$5s^25p^2\ ^3P_0$	$5s5p^3\ ^3D^\circ_1$	91TAU/JOS
827.035	0.005	120 913.8	88		$5s^25p^2\ ^3P_1$	$5s5p^3\ ^3D^\circ_2$	91TAU/JOS
830.465	0.005	120 414.4	72		$5s^25p^2\ ^3P_2$	$5s5p^3\ ^3D^\circ_3$	91TAU/JOS
836.190	0.005	119 590.1	52		$5s^25p^2\ ^3P_1$	$5s5p^3\ ^3D^\circ_1$	91TAU/JOS
866.096	0.005	115 460.7	22		$5s^25p^2\ ^3P_2$	$5s5p^3\ ^3D^\circ_2$	91TAU/JOS
876.127	0.005	114 138.7	50		$5s^25p^2\ ^3P_2$	$5s5p^3\ ^3D^\circ_1$	91TAU/JOS
971.046	0.005	102 981.7	61		$5s^25p^2\ ^1D_2$	$5s5p^3\ ^3D^\circ_3$	91TAU/JOS
982.444	0.005	101 787.0	30		$5s^25p^2\ ^1S_0$	$5s5p^3\ ^3P^\circ_1$	91TAU/JOS

TABLE 11. Observed spectral lines of Cs VI—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
1 020.118	0.005	98 027.9	34		$5s^25p^2\ ^1D_2$	$5s5p^3\ ^3D^\circ_2$	91TAU/JOS
1 034.060	0.005	96 706.2	54		$5s^25p^2\ ^1D_2$	$5s5p^3\ ^3D^\circ_1$	91TAU/JOS
1 055.929	0.005	94 703.3	75		$5s^25p^2\ ^3P_1$	$5s5p^3\ ^5S^\circ_2$	91TAU/JOS
1 120.452	0.005	89 249.7	73		$5s^25p^2\ ^3P_2$	$5s5p^3\ ^5S^\circ_2$	91TAU/JOS
1 392.432	0.005	71 816.8	5		$5s^25p^2\ ^1D_2$	$5s5p^3\ ^5S^\circ_2$	91TAU/JOS

TABLE 12. Energy levels of Cs VI

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading percentages	Reference
$5s^25p^2$	^3P	0	0.0	1.	88%+12% $5s^25p^2\ ^1S$	91TAU/JOS
	^3P	1	12 176.0	1.	100%	91TAU/JOS
	^3P	2	17 628.2	1.	63%+37% $5s^25p^2\ ^1D$	91TAU/JOS
	^1D	2	35 061.4	1.	63%+37% $5s^25p^2\ ^3P$	91TAU/JOS
	^1S	0	52 410.3	1.	88%+12% $5s^25p^2\ ^3P$	91TAU/JOS
$5s5p^3$	$^5S^\circ$	2	106 878.6	1.	91%+8% $5s5p^3\ ^3P^\circ$	91TAU/JOS
	$^3D^\circ$	1	131 766.8	1.	74%+13% $5s5p^3\ ^3P^\circ$	91TAU/JOS
	$^3D^\circ$	2	133 089.4	1.	72%+15% $5s5p^3\ ^3P^\circ$	91TAU/JOS
	$^3D^\circ$	3	138 042.8	1.	92%+8% $5s^25p5d\ ^3D^\circ$	91TAU/JOS
	$^3P^\circ$	0	152 634.7	1.	93%+7% $5s^25p5d\ ^3P^\circ$	91TAU/JOS
	$^3P^\circ$	1	154 198.2	1.	75%+13% $5s5p^3\ ^3D^\circ$	91TAU/JOS
	$^3P^\circ$	2	154 775.8	1.	41%+24% $5s5p^3\ ^1D^\circ$+15% $5s5p^3\ ^3D^\circ$	91TAU/JOS
	$^1D^\circ$	2	168 730.2	1.	32%+28% $5s^25p5d\ ^1D^\circ$+28% $5s5p^3\ ^3P^\circ$	91TAU/JOS
	$^3S^\circ$	1	175 645.3	1.	61%+31% $5s5p^3\ ^1P^\circ$	91TAU/JOS
	$^1P^\circ$	1	194 461.0	1.	41%+28% $5s5p^3\ ^3S^\circ$+18% $5s^25p5d^1P^\circ$	91TAU/JOS
$5s^25p5d$	$^3F^\circ$	2	181 755.2	1.	88%+9% $5s5p^3\ ^1D^\circ$	91TAU/JOS
	$^3F^\circ$	3	187 270.0	1.	92%+4% $5s^25p5d\ ^3D^\circ$	91TAU/JOS
	$^3P^\circ$	2	197 579.4	1.	47%+23% $5s^25p5d\ ^3D^\circ$+14% $5s^25p5d\ ^1D^\circ$	91TAU/JOS
	$^3F^\circ$	4	(198916)		100%	91TAU/JOS
	$^3D^\circ$	1	199 798.6	1.	62%+15% $5s^25p5d\ ^3P^\circ$	91TAU/JOS
	$^1D^\circ$	2	209 795.3	1.	35%+39% $5s^25p5d\ ^3D^\circ$+16% $5s5p^3\ ^1D^\circ$	91TAU/JOS
	$^3D^\circ$	3	212 146.6	1.	79%+7% $5s^25p5d\ ^3F^\circ$	91TAU/JOS
	$^3P^\circ$	0	212 928.1	1.	93%+7% $5s5p^3\ ^3P^\circ$	91TAU/JOS
	$^3P^\circ$	1	214 185.9	1.	69%+20% $5s^25p5d\ ^3D^\circ$	91TAU/JOS
	$^3D^\circ$	2	216 002.8	1.	27%+45% $5s^25p5d\ ^3P^\circ$+12% $5s^25p5d\ ^1D^\circ$	91TAU/JOS
	$^1F^\circ$	3	226 523.4	1.	90%+8% $5s^25p5d\ ^3D^\circ$	91TAU/JOS
	$^1P^\circ$	1	232 014.9	1.	73%+13% $5s5p^3\ ^1P^\circ$	91TAU/JOS
$5s^25p6s$	$^3P^\circ$	0	242 213.3	1.	100%	91TAU/JOS
	$^3P^\circ$	1	243 719.2	1.	75%+22% $5s^25p6s\ ^1P^\circ$	91TAU/JOS
	$^3P^\circ$	2	260 952.0	1.	100%	91TAU/JOS
	$^1P^\circ$	1	264 226.7	1.	75%+24% $5s^25p6s\ ^3P^\circ$	91TAU/JOS
Cs VII ($5p\ ^2P^\circ_{1/2}$)	*Limit*		(553 000)			76FRA/KAR

References for Cs VI

76FRA/KAR S. Fraga, J. Karwowski, and K. M. S. Saxena, *Handbook of Atomic Data* (Elsevier Scientific, Amsterdam, 1976).

91TAU/JOS A. Tauheed, Y. N. Joshi, and V. Kaufman, Phys. Scr. **44**, 579 (1991).

6.7. Cs VII

In isoelectronic sequence

Ground state:

$1s^22s^22p^63s^23p^63d^{10}4s^24p^64d^{10}5s^25p\ ^2P^\circ_{1/2}$

Ionization energy: 687 300 ± 500 cm^{-1}; 85.2 ± 0.06 eV

The Cs VII spectrum was first observed by Kaufman and Sugar [87KAU/SUGa], who classified 14 lines between 350 and 825 Å. Tauheed *et al.* [92TAU/JOS] located the $5s5p^2\ ^4P$ levels. Gayasov and Joshi [99GAY/JOSa] remeasured the spectrum, extending the range to 300–1200 Å. They did a complete reanalysis and reported 184 classified lines and 71 levels. All the wavelength and energy level data in Tables 13 and 14 are taken from [99GAY/JOSa]. The ionization energy reported above was determined by Gayasov and Joshi [99GAY/JOSa] from their values for the $5s^24f$ and $5s^25f$ energy levels by assuming the change in effective quantum number (Δn^*) between consecutive series members to be 1.00.

Multiplet transition probabilities have been calculated by Marcinek and Migdalek [94MAR/MIG]; however, they did not report values for specific transitions.

TABLE 13. Observed spectral lines of Cs VII

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
327.034	0.005	305 778.8	3		$5s^25p\ ^2P^\circ_{3/2}$	$5s5p(^1P)4f\ ^2D_{5/2}$	99GAY/JOSa
351.660	0.005	284 365.8	7		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s5p(^3P)6s\ ^4P^\circ_{5/2}$	99GAY/JOSa
353.582	0.005	282 819.7	10		$5s^25p\ ^2P^\circ_{3/2}$	$5s5p(^3P)4f\ ^2D_{3/2}$	99GAY/JOSa
357.588	0.005	279 651.2	9		$5s(^2S)5p^2(^3P)\ ^4P_{1/2}$	$5s5p(^3P)6s\ ^4P^\circ_{3/2}$	99GAY/JOSa
361.679	0.005	276 488.1	18		$5s^25p\ ^2P^\circ_{3/2}$	$5s5p(^3P)4f\ ^2D_{5/2}$	99GAY/JOSa
361.848	0.005	276 358.8	28		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s5p(^3P)6s\ ^4P^\circ_{5/2}$	99GAY/JOSa
363.812	0.005	274 867.2	3		$5s(^2S)5p^2(^3P)\ ^4P_{1/2}$	$5s5p(^3P)6s\ ^4P^\circ_{1/2}$	99GAY/JOSa
365.834	0.005	273 348.3	110		$5s^25p\ ^2P^\circ_{1/2}$	$5s^26s\ ^2S_{1/2}$	99GAY/JOSa
370.890	0.005	269 622.1	4		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s5p(^3P)6s\ ^4P^\circ_{3/2}$	99GAY/JOSa
372.902	0.005	268 166.9	11		$5s^25p\ ^2P^\circ_{1/2}$	$5s5p(^3P)4f\ ^4F_{3/2}$	99GAY/JOSa
373.923	0.005	267 435.0	5		$5s^25p\ ^2P^\circ_{3/2}$	$5s5p(^3P)4f\ ^4D_{5/2}$	99GAY/JOSa
377.584	0.005	264 842.0	37		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s5p(^3P)6s\ ^4P^\circ_{1/2}$	99GAY/JOSa
382.240	0.005	261 615.9	52		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s5p(^3P)6s\ ^4P^\circ_{3/2}$	99GAY/JOSa
385.751	0.005	259 234.5	54		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5s5p(^3P)6s\ ^2P^\circ_{3/2}$	99GAY/JOSa
391.278	0.005	255 572.5	11		$5s^25p\ ^2P^\circ_{3/2}$	$5s5p(^3P)4f\ ^2F_{5/2}$	99GAY/JOSa
393.745	0.005	253 971.6	267		$5s^25p\ ^2P^\circ_{3/2}$	$5s^26s\ ^2S_{1/2}$	99GAY/JOSa
397.713	0.005	251 437.4	15		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5s5p(^3P)6s\ ^4P^\circ_{5/2}$	99GAY/JOSa
400.272	0.005	249 829.8	48		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5s5p(^3P)6s\ ^2P^\circ_{1/2}$	99GAY/JOSa
401.179	0.005	249 265.5	27		$5s^25p\ ^2P^\circ_{3/2}$	$5s5p(^3P)4f\ ^4F_{5/2}$	99GAY/JOSa
427.650	0.005	233 836.1	37		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s5p(^1P)5d\ ^2F^\circ_{7/2}$	99GAY/JOSa
429.356	0.005	232 906.8	31		$5s(^2S)5p^2(^3P)\ ^2P_{1/2}$	$5s5p(^3P)6s\ ^2P^\circ_{1/2}$	99GAY/JOSa
438.161	0.005	228 226.8	29		$5s(^2S)5p^2(^1S)\ ^2S_{1/2}$	$5s5p(^3P)6s\ ^2P^\circ_{3/2}$	99GAY/JOSa
438.462	0.005	228 070.2	8		$5s^25d\ ^2D_{3/2}$	$5s5p(^1P)6s\ ^2P^\circ_{1/2}$	99GAY/JOSa
440.344	0.005	227 095.3	4		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5s5p(^1P)5d\ ^2P^\circ_{3/2}$	99GAY/JOSa
440.376	0.005	227 078.7	8		$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	$5s5p(^3P)6s\ ^2P^\circ_{3/2}$	99GAY/JOSa
446.716	0.005	223 855.8	6		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5s5p(^1P)5d\ ^2D^\circ_{3/2}$	99GAY/JOSa
446.762	0.005	223 833.0	5		$5s(^2S)5p^2(^3P)\ ^4P_{1/2}$	$5s^26p\ ^2P^\circ_{3/2}$	99GAY/JOSa
449.474	0.005	222 482.1	13		$5s(^2S)5p^2(^3P)\ ^4P_{1/2}$	$5s5p(^3P)5d\ ^4P^\circ_{3/2}$	99GAY/JOSa
452.315	0.005	221 085.0	1		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5s5p(^1P)5d\ ^2P^\circ_{3/2}$	99GAY/JOSa
453.845	0.005	220 339.6	80		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s5p(^3P)5d\ ^2F^\circ_{7/2}$	99GAY/JOSa
454.743	0.005	219 904.6	25		$5s(^2S)5p^2(^3P)\ ^4P_{1/2}$	$5s5p(^3P)5d\ ^2D^\circ_{3/2}$	99GAY/JOSa
458.392	0.005	218 154.1	10		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s5p(^3P)5d\ ^2D^\circ_{5/2}$	99GAY/JOSa
462.472	0.005	216 229.3	256		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5s5p(^1P)5d\ ^2F^\circ_{5/2}$	99GAY/JOSa
467.723	0.005	213 801.6	14		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s^26p\ ^2P^\circ_{3/2}$	99GAY/JOSa
470.682	0.005	212 457.6	251		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s5p(^3P)5d\ ^4P^\circ_{3/2}$	99GAY/JOSa
471.470	0.005	212 102.6	282		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s5p(^3P)5d\ ^4P^\circ_{1/2}$	99GAY/JOSa
472.201	0.005	211 774.2	204		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s5p(^3P)5d\ ^4D^\circ_{5/2}$	99GAY/JOSa
475.699	0.005	210 217.0	15		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5s5p(^1P)5d\ ^2F^\circ_{5/2}$	99GAY/JOSa
475.792	0.005	210 175.8	1		$5s(^2S)5p^2(^3P)\ ^2P_{1/2}$	$5s5p(^1P)5d\ ^2P^\circ_{3/2}$	99GAY/JOSa
476.483	0.005	209 871.0	163		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s5p(^3P)5d\ ^2D^\circ_{3/2}$	99GAY/JOSa
478.664	0.005	208 915.0	367	b	$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5s5p(^1P)5d\ ^2F^\circ_{7/2}$	99GAY/JOSa
479.398	0.005	208 595.1	182		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s5p(^3P)5d\ ^2F^\circ_{5/2}$	99GAY/JOSa
479.846	0.005	208 400.2	332		$5s(^2S)5p^2(^3P)\ ^4P_{1/2}$	$5s5p(^3P)5d\ ^4D^\circ_{1/2}$	99GAY/JOSa
480.812	0.005	207 981.6	340		$5s(^2S)5p^2(^3P)\ ^4P_{1/2}$	$5s5p(^3P)5d\ ^4D^\circ_{3/2}$	99GAY/JOSa
482.993	0.005	207 042.3	11		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5s5p(^3P)5d\ ^2P^\circ_{3/2}$	99GAY/JOSa
483.247	0.005	206 933.6	29		$5s(^2S)5p^2(^3P)\ ^2P_{1/2}$	$5s5p(^1P)5d\ ^2D^\circ_{3/2}$	99GAY/JOSa
483.330	0.005	206 898.0	53		$5s(^2S)5p^2(^3P)\ ^2P_{1/2}$	$5s5p(^1P)5d\ ^2P^\circ_{1/2}$	99GAY/JOSa
485.449	0.005	205 994.9	432		$5s^25p\ ^2P^\circ_{1/2}$	$5s^25d\ ^2D_{3/2}$	99GAY/JOSa
485.915	0.005	205 797.1	27		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s^26p\ ^2P^\circ_{3/2}$	99GAY/JOSa
489.114	0.005	204 451.4	125		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s5p(^3P)5d\ ^4P^\circ_{3/2}$	99GAY/JOSa

TABLE 13. Observed spectral lines of Cs VII—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
490.754	0.005	203 768.3	294		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s5p(^3P)5d\ ^4D^\circ_{5/2}$	99GAY/JOSa
493.922	0.005	202 461.3	369		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s5p(^3P)5d\ ^4D^\circ_{7/2}$	99GAY/JOSa
495.368	0.005	201 870.0	31		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s5p(^3P)5d\ ^2D^\circ_{3/2}$	99GAY/JOSa
498.531	0.005	200 589.2	102		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s5p(^3P)5d\ ^2F^\circ_{5/2}$	99GAY/JOSa
504.100	0.005	198 373.1	306	b	$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s5p(^3P)5d\ ^4D^\circ_{1/2}$	99GAY/JOSa
504.296	0.005	198 296.2	24		$5s(^2S)5p^2(^3P)\ ^4P_{1/2}$	$5p^3\ ^2P^\circ_{3/2}$	99GAY/JOSa
505.175	0.005	197 951.0	151		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s5p(^3P)5d\ ^4D^\circ_{3/2}$	99GAY/JOSa
505.235	0.005	197 927.8	5		$5s(^2S)5p^2(^3P)\ ^2P_{1/2}$	$5s5p(^3P)5d\ ^2P^\circ_{1/2}$	99GAY/JOSa
509.068	0.005	196 437.4	345		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s5p(^3P)5d\ ^4P^\circ_{5/2}$	99GAY/JOSa
511.722	0.005	195 418.6	238		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5s5p(^3P)5d\ ^2F^\circ_{7/2}$	99GAY/JOSa
522.913	0.005	191 236.4	404	b	$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5s5p(^3P)5d\ ^2D^\circ_{5/2}$	99GAY/JOSa
525.990	0.005	190 117.5	226		$5s(^2S)5p^2(^3P)\ ^2P_{1/2}$	$5s5p(^3P)5d\ ^2P^\circ_{3/2}$	99GAY/JOSa
526.470	0.005	189 944.3	32		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s5p(^3P)5d\ ^4D^\circ_{3/2}$	99GAY/JOSa
527.958	0.005	189 409.0	369		$5s^25p\ ^2P^\circ_{3/2}$	$5s^25d\ ^2D_{5/2}$	99GAY/JOSa
529.306	0.005	188 926.6	35		$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	$5s5p(^1P)5d\ ^2P^\circ_{3/2}$	99GAY/JOSa
530.696	0.005	188 431.7	61		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s5p(^3P)5d\ ^4P^\circ_{5/2}$	99GAY/JOSa
533.987	0.005	187 270.4	211	b	$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	$5s5p(^1P)5d\ ^2D^\circ_{5/2}$	99GAY/JOSa
535.075	0.005	186 889.8	42		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5s^26p\ ^2P^\circ_{3/2}$	99GAY/JOSa
535.235	0.005	186 833.7	61		$5s(^2S)5p^2(^1S)\ ^2S_{1/2}$	$5s5p(^1P)5d\ ^2D^\circ_{3/2}$	99GAY/JOSa
535.860	0.005	186 615.9	337		$5s^25p\ ^2P^\circ_{3/2}$	$5s^25d\ ^2D_{3/2}$	99GAY/JOSa
538.543	0.005	185 686.3	24		$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	$5s5p(^1P)5d\ ^2D^\circ_{3/2}$	99GAY/JOSa
538.646	0.005	185 650.7	10		$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	$5s5p(^1P)5d\ ^2P^\circ_{1/2}$	99GAY/JOSa
538.959	0.005	185 542.9	8		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5s5p(^3P)5d\ ^4P^\circ_{3/2}$	99GAY/JOSa
539.870	0.005	185 229.9	295	b	$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5s5p(^3P)5d\ ^2D^\circ_{5/2}$	99GAY/JOSa
540.947	0.005	184 861.0	23		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5s5p(^3P)5d\ ^4D^\circ_{5/2}$	99GAY/JOSa
546.560	0.005	182 962.5	109		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5s5p(^3P)5d\ ^2D^\circ_{3/2}$	99GAY/JOSa
547.000	0.005	182 815.4	28		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5s5p(^3P)5d\ ^4F^\circ_{5/2}$	99GAY/JOSa
550.411	0.005	181 682.5	147		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5s5p(^3P)5d\ ^2F^\circ_{5/2}$	99GAY/JOSa
553.719	0.005	180 597.2	146		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s5p(^3P)5d\ ^4F^\circ_{7/2}$	99GAY/JOSa
556.548	0.005	179 678.9	19		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5s^26p\ ^2P^\circ_{1/2}$	99GAY/JOSa
557.020	0.005	179 526.7	64	b	$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5s5p(^3P)5d\ ^4P^\circ_{3/2}$	99GAY/JOSa
557.599	0.005	179 340.4	424		$5s^25p\ ^2P^\circ_{1/2}$	$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	99GAY/JOSa
558.964	0.005	178 902.3	35		$5s^25d\ ^2D_{3/2}$	$5s^25f\ ^2F^\circ_{5/2}$	99GAY/JOSa
559.135	0.005	178 847.7	4		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5s5p(^3P)5d\ ^4D^\circ_{5/2}$	99GAY/JOSa
561.197	0.005	178 190.6	154		$5s^25p\ ^2P^\circ_{1/2}$	$5s(^2S)5p^2(^1S)\ ^2S_{1/2}$	99GAY/JOSa
562.343	0.005	177 827.5	163		$5s(^2S)5p^2(^1S)\ ^2S_{1/2}$	$5s5p(^3P)5d\ ^2P^\circ_{1/2}$	99GAY/JOSa
563.252	0.005	177 540.4	25		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5s5p(^3P)5d\ ^4D^\circ_{7/2}$	99GAY/JOSa
565.132	0.005	176 949.8	2		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5s5p(^3P)5d\ ^2D^\circ_{3/2}$	99GAY/JOSa
567.328	0.005	176 265.0	36		$5s^25d\ ^2D_{5/2}$	$5s^25f\ ^2F^\circ_{7/2}$	99GAY/JOSa
567.825	0.005	176 110.7	4		$5s^25d\ ^2D_{5/2}$	$5s^25f\ ^2F^\circ_{5/2}$	99GAY/JOSa
569.257	0.005	175 667.5	30		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5s5p(^3P)5d\ ^2F^\circ_{5/2}$	99GAY/JOSa
572.050	0.005	174 809.8	7		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5s5p(^3P)5d\ ^4F^\circ_{5/2}$	99GAY/JOSa
584.666	0.005	171 037.9	19		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5s5p(^3P)5d\ ^4D^\circ_{3/2}$	99GAY/JOSa
588.155	0.005	170 023.1	1		$5s(^2S)5p^2(^1S)\ ^2S_{1/2}$	$5s5p(^3P)5d\ ^2P^\circ_{3/2}$	99GAY/JOSa
592.170	0.005	168 870.3	16		$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	$5s5p(^3P)5d\ ^2P^\circ_{3/2}$	99GAY/JOSa
600.083	0.005	166 643.6	108		$5s(^2S)5p^2(^3P)\ ^4P_{1/2}$	$5p^3\ ^4S^\circ_{3/2}$	99GAY/JOSa
602.267	0.005	166 039.2	39		$5s(^2S)5p^2(^3P)\ ^2P_{1/2}$	$5s5p(^3P)5d\ ^2D^\circ_{3/2}$	99GAY/JOSa
611.580	0.005	163 510.8	47		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5s5p(^3P)5d\ ^4P^\circ_{5/2}$	99GAY/JOSa
616.257	0.005	162 269.9	49		$5s^25d\ ^2D_{3/2}$	$5s5p(^1P)5d\ ^2P^\circ_{3/2}$	99GAY/JOSa
616.948	0.005	162 088.2	433		$5s^26s\ ^2S_{1/2}$	$5s5p(^1P)6s\ ^2P^\circ_{3/2}$	99GAY/JOSa
619.757	0.005	161 353.5	13		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5p^3\ ^2P^\circ_{3/2}$	99GAY/JOSa
622.233	0.005	160 711.4	101		$5s^26s\ ^2S_{1/2}$	$5s5p(^1P)6s\ ^2P^\circ_{1/2}$	99GAY/JOSa
625.146	0.005	159 962.7	456	b	$5s^25p\ ^2P^\circ_{3/2}$	$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	99GAY/JOSa
627.045	0.005	159 478.1	63		$5s^25d\ ^2D_{5/2}$	$5s5p(^1P)5d\ ^2P^\circ_{3/2}$	99GAY/JOSa
628.810	0.005	159 030.5	39		$5s^25d\ ^2D_{3/2}$	$5s5p(^1P)5d\ ^2D^\circ_{3/2}$	99GAY/JOSa
628.948	0.005	158 995.6	37		$5s^25d\ ^2D_{3/2}$	$5s5p(^1P)5d\ ^2P^\circ_{1/2}$	99GAY/JOSa
629.679	0.005	158 811.2	442		$5s^25p\ ^2P^\circ_{3/2}$	$5s(^2S)5p^2(^1S)\ ^2S_{1/2}$	99GAY/JOSa

TABLE 13. Observed spectral lines of Cs VII—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
630.435	0.005	158 620.6	21		$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^1P)4f\ ^2D_{5/2}$	99GAY/JOSa
632.544	0.005	158 091.8	400		$5s^25p\ ^2P^\circ_{1/2}$	$5s(^2S)5p^2(^3P)\ ^2P_{1/2}$	99GAY/JOSa
633.470	0.005	157 860.6	353		$5s^24f\ ^2F^\circ_{7/2}$	$5s5p(^1P)4f\ ^2D_{5/2}$	99GAY/JOSa
633.620	0.005	157 823.4	104		$5s^25d\ ^2D_{5/2}$	$5s5p(^1P)5d\ ^2D^\circ_{5/2}$	99GAY/JOSa
635.337	0.005	157 396.9	381		$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^1P)4f\ ^2D_{3/2}$	99GAY/JOSa
638.508	0.005	156 615.1	396		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5p^3\ ^4S^\circ_{3/2}$	99GAY/JOSa
639.341	0.005	156 411.2	339		$5s(^2S)5p^2(^3P)\ ^4P_{1/2}$	$5p^3\ ^4S^\circ_{3/2}$	99GAY/JOSa
640.049	0.005	156 238.0	5		$5s^25d\ ^2D_{5/2}$	$5s5p(^1P)5d\ ^2D^\circ_{3/2}$	99GAY/JOSa
643.747	0.005	155 340.4	226		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5p^3\ ^2P^\circ_{3/2}$	99GAY/JOSa
653.295	0.005	153 070.3	5		$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	$5s5p(^3P)5d\ ^2D^\circ_{5/2}$	99GAY/JOSa
657.713	0.005	152 041.9	244		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5p^3\ ^2P^\circ_{1/2}$	99GAY/JOSa
660.483	0.005	151 404.3	201	b	$5s^25d\ ^2D_{3/2}$	$5s5p(^1P)5d\ ^2F^\circ_{5/2}$	99GAY/JOSa
661.419	0.005	151 190.1	346		$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^1P)4f2G_{7/2}$	99GAY/JOSa
664.761	0.005	150 430.0	103		$5s^24f\ ^2F^\circ_{7/2}$	$5s5p(^1P)4f2G_{7/2}$	99GAY/JOSa
666.046	0.005	150 139.8	127		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5p^3\ ^2D^\circ_{5/2}$	99GAY/JOSa
666.549	0.005	150 026.4	45		$5s^25d\ ^2D_{3/2}$	$5s5p(^3P)5d\ ^2P^\circ_{1/2}$	99GAY/JOSa
666.874	0.005	149 953.3	402		$5s^24f\ ^2F^\circ_{7/2}$	$5s5p(^1P)4f2G_{9/2}$	99GAY/JOSa
672.926	0.005	148 604.7	384	b	$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5p^3\ ^4S^\circ_{3/2}$	99GAY/JOSa
678.837	0.005	147 310.8	244	*	$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^1P)4f\ ^2F_{7/2}$	99GAY/JOSa
678.837	0.005	147 310.8	244	*	$5s^25d\ ^2D_{5/2}$	$5s5p(^1P)5d\ ^2F^\circ_{7/2}$	99GAY/JOSa
681.982	0.005	146 631.5	426		$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^1P)4f\ ^2F_{5/2}$	99GAY/JOSa
682.349	0.005	146 552.5	442		$5s^24f\ ^2F^\circ_{7/2}$	$5s5p(^1P)4f\ ^2F_{7/2}$	99GAY/JOSa
683.137	0.005	146 383.4	335		$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	$5p^3\ ^4S^\circ_{3/2}$	99GAY/JOSa
685.225	0.005	145 937.5	11		$5s(^2S)5p^2(^1S)\ ^2S_{1/2}$	$5s5p(^3P)5d\ ^2D^\circ_{3/2}$	99GAY/JOSa
685.533	0.005	145 871.9	25		$5s^24f\ ^2F^\circ_{7/2}$	$5s5p(^1P)4f\ ^2F_{5/2}$	99GAY/JOSa
692.370	0.005	144 431.5	33		$5s(^2S)5p^2(^3P)\ ^2P_{1/2}$	$5p^3\ ^2P^\circ_{3/2}$	99GAY/JOSa
696.810	0.005	143 511.1	7		$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	$5s5p(^3P)5d\ ^2F^\circ_{5/2}$	99GAY/JOSa
703.155	0.005	142 216.2	21		$5s^25d\ ^2D_{3/2}$	$5s5p(^3P)5d\ ^2P^\circ_{3/2}$	99GAY/JOSa
708.370	0.005	141 169.2	384		$5s^25p\ ^2P^\circ_{1/2}$	$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	99GAY/JOSa
717.239	0.005	139 423.5	14		$5s^25d\ ^2D_{5/2}$	$5s5p(^3P)5d\ ^2P^\circ_{3/2}$	99GAY/JOSa
720.916	0.005	138 712.4	312		$5s^25p\ ^2P^\circ_{3/2}$	$5s(^2S)5p^2(^3P)\ ^2P_{1/2}$	99GAY/JOSa
722.661	0.005	138 377.5	349		$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	$5p^3\ ^4S^\circ_{3/2}$	99GAY/JOSa
740.087	0.005	135 119.3	14		$5s(^2S)5p^2(^3P)\ ^2P_{1/2}$	$5p^3\ ^2P^\circ_{1/2}$	99GAY/JOSa
747.302	0.005	133 814.6	30		$5s^25d\ ^2D_{5/2}$	$5s5p(^3P)5d\ ^2F^\circ_{7/2}$	99GAY/JOSa
752.635	0.005	132 866.5	8		$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	$5s5p(^3P)5d\ ^4D^\circ_{3/2}$	99GAY/JOSa
770.996	0.005	129 702.3	146		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5p^3\ ^4S^\circ_{3/2}$	99GAY/JOSa
773.203	0.005	129 332.1	158		$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^3P)4f\ ^2D_{5/2}$	99GAY/JOSa
777.775	0.005	128 571.9	49		$5s^24f\ ^2F^\circ_{7/2}$	$5s5p(^3P)4f\ ^2D_{5/2}$	99GAY/JOSa
782.451	0.005	127 803.5	496		$5s^25p\ ^2P^\circ_{3/2}$	$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	99GAY/JOSa
798.601	0.005	125 218.9	468		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5p^3\ ^2D^\circ_{5/2}$	99GAY/JOSa
804.300	0.005	124 331.7	8		$5s(^2S)5p^2(^1S)\ ^2S_{1/2}$	$5p^3\ ^2P^\circ_{3/2}$	99GAY/JOSa
808.486	0.005	123 688.0	183		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5p^3\ ^4S^\circ_{3/2}$	99GAY/JOSa
808.913	0.005	123 622.6	8		$5s^25d\ ^2D_{5/2}$	$5s5p(^3P)5d\ ^2D^\circ_{5/2}$	99GAY/JOSa
811.795	0.005	123 183.8	339		$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	$5p^3\ ^2P^\circ_{3/2}$	99GAY/JOSa
813.447	0.005	122 933.7	45		$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^3P)4f2G_{7/2}$	99GAY/JOSa
818.505	0.005	122 173.9	122		$5s^24f\ ^2F^\circ_{7/2}$	$5s5p(^3P)4f2G_{7/2}$	99GAY/JOSa
819.245	0.005	122 063.6	11		$5s^25d\ ^2D_{3/2}$	$5s^26p\ ^2P^\circ_{3/2}$	99GAY/JOSa
821.094	0.005	121 788.8	171		$5s^25p\ ^2P^\circ_{3/2}$	$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	99GAY/JOSa
831.455	0.005	120 271.1	13		$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^3P)4f\ ^4D_{5/2}$	99GAY/JOSa
837.038	0.005	119 468.9	203		$5s(^2S)5p^2(^1D)\ ^2D_{3/2}$	$5p^3\ ^4S^\circ_{3/2}$	99GAY/JOSa
838.430	0.005	119 270.5	235		$5s^25d\ ^2D_{5/2}$	$5s^26p\ ^2P^\circ_{3/2}$	99GAY/JOSa
847.994	0.005	117 925.4	6		$5s^25d\ ^2D_{5/2}$	$5s5p(^3P)5d\ ^4P^\circ_{3/2}$	99GAY/JOSa
848.187	0.005	117 898.6	2		$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^3P)4f\ ^4D_{7/2}$	99GAY/JOSa
853.686	0.005	117 139.0	22		$5s^24f\ ^2F^\circ_{7/2}$	$5s5p(^3P)4f\ ^4D_{7/2}$	99GAY/JOSa
855.750	0.005	116 856.6	9		$5s^25d\ ^2D_{3/2}$	$5s5p(^3P)5d\ ^2F^\circ_{5/2}$	99GAY/JOSa
869.424	0.005	115 018.7	87	b	$5s(^2S)5p^2(^1S)\ ^2S_{1/2}$	$5p^3\ ^2P^\circ_{1/2}$	99GAY/JOSa
870.666	0.005	114 854.6	162		$5s^25d\ ^2D_{3/2}$	$5s^26p\ ^2P^\circ_{1/2}$	99GAY/JOSa

TABLE 13. Observed spectral lines of Cs VII—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
875.240	0.005	114 254.4	11		$5s^25p\ ^2P^\circ_{1/2}$	$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	99GAY/JOSa
878.197	0.005	113 869.6	8		$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	$5p^3\ ^2P^\circ_{1/2}$	99GAY/JOSa
881.404	0.005	113 455.3	24		$5s(^2S)5p^2(^1D)\ ^2D_{5/2}$	$5p^3\ ^4S^\circ_{3/2}$	99GAY/JOSa
886.696	0.005	112 778.2	71		$5s(^2S)5p^2(^3P)\ ^2P_{1/2}$	$5p^3\ ^4S^\circ_{3/2}$	99GAY/JOSa
905.507	0.005	110 435.3	12		$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^3P)4f\ ^2F_{7/2}$	99GAY/JOSa
911.780	0.005	109 675.6	22		$5s^24f\ ^2F^\circ_{7/2}$	$5s5p(^3P)4f\ ^2F_{7/2}$	99GAY/JOSa
922.398	0.005	108 413.1	5		$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^3P)4f\ ^2F_{5/2}$	99GAY/JOSa
928.894	0.005	107 655.0	4		$5s^24f\ ^2F^\circ_{7/2}$	$5s5p(^3P)4f\ ^2F_{5/2}$	99GAY/JOSa
959.452	0.005	104 226.1	321		$5s^25p\ ^2P^\circ_{1/2}$	$5s(^2S)5p^2(^3P)\ ^4P_{1/2}$	99GAY/JOSa
971.984	0.005	102 882.4	418		$5s^25p\ ^2P^\circ_{3/2}$	$5s(^2S)5p^2(^3P)\ ^4P_{5/2}$	99GAY/JOSa
975.163	0.005	102 547.0	130		$5s(^2S)5p^2(^3P)\ ^2P_{1/2}$	$5p^3\ ^4S^\circ_{3/2}$	99GAY/JOSa
975.744	0.005	102 485.9	58		$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^3P)4f\ ^4D_{7/2}$	99GAY/JOSa
979.304	0.005	102 113.3	36		$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^3P)4f\ ^4F_{5/2}$	99GAY/JOSa
983.031	0.005	101 726.2	51		$5s^24f\ ^2F^\circ_{7/2}$	$5s5p(^3P)4f\ ^4D_{7/2}$	99GAY/JOSa
983.965	0.005	101 629.7	9		$5s^24f\ ^2F^\circ_{5/2}$	$5s5p(^3P)4f\ ^4F_{3/2}$	99GAY/JOSa
984.383	0.005	101 586.5	41		$5s^24f\ ^2F^\circ_{7/2}$	$5s5p(^3P)4f\ ^4G_{9/2}$	99GAY/JOSa
986.647	0.005	101 353.4	13		$5s^24f\ ^2F^\circ_{7/2}$	$5s5p(^3P)4f\ ^4F_{5/2}$	99GAY/JOSa
1 054.015	0.005	94 875.3	152		$5s^25p\ ^2P^\circ_{3/2}$	$5s(^2S)5p^2(^3P)\ ^4P_{3/2}$	99GAY/JOSa
1 074.560	0.005	93 061.3	182		$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	$5p^3\ ^2D^\circ_{5/2}$	99GAY/JOSa
1 092.525	0.005	91 531.1	3		$5s(^2S)5p^2(^3P)\ ^2P_{3/2}$	$5p^3\ ^4S^\circ_{3/2}$	99GAY/JOSa
1 178.596	0.005	84 846.7	43		$5s^25p\ ^2P^\circ_{3/2}$	$5s(^2S)5p^2(^3P)\ ^4P_{1/2}$	99GAY/JOSa

TABLE 14. Energy levels of Cs VII

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading percentages	Reference
$5s^25p$	$^2P^\circ$	1/2	0.0		99%	99GAY/JOSa
	$^2P^\circ$	3/2	19 379.3	0.5	99%	99GAY/JOSa
$5s(^2S)5p^2(^3P)$	^4P	1/2	104 226.1	0.5	93%+6% $5s(^2S)5p^2(^1S)\ ^2S$	99GAY/JOSa
	^4P	3/2	114 254.6	0.7	98%+1% $5s(^2S)5p^2(^1D)\ ^2D$	99GAY/JOSa
	^4P	5/2	122 261.7	0.7	85%+14% $5s(^2S)5p^2(^1D)\ ^2D$	99GAY/JOSa
$5s(^2S)5p^2(^1D)$	^2D	3/2	141 168.7	1.0	86%+8% $5s^25d\ ^2D$	99GAY/JOSa
	^2D	5/2	147 182.9	1.1	77%+15% $5s(^2S)5p^2(^3P)\ ^4P$	99GAY/JOSa
$5s(^2S)5p^2(^3P)$	^2P	1/2	158 091.9	1.2	66%+30% $5s(^2S)5p^2(^1S)\ ^2S$	99GAY/JOSa
	^2P	3/2	179 340.4	1.6	93%+3% $5s(^2S)5p^2(^1D)\ ^2D$	99GAY/JOSa
$5s^24f$	$^2F^\circ$	5/2	166 537.8	1.4	98%+2% $5p^2(^1S)4f\ ^2F^\circ$	99GAY/JOSa
	$^2F^\circ$	7/2	167 297.3	1.4	98%+21% $5p^2(^1S)4f\ ^2F^\circ$	99GAY/JOSa
$5s(^2S)5p^2(^1S)$	^2S	1/2	178 190.6	1.6	64%+33% $5s(^2S)5p^2(^3P)\ ^2P$	99GAY/JOSa
$5s^25d$	^2D	3/2	205 995.0	2.1	88%+9% $5s(^2S)5p^2(^1D)\ ^2D$	99GAY/JOSa
	^2D	5/2	208 788.3	2.2	90%+7% $5s(^2S)5p^2(^1D)\ ^2D$	99GAY/JOSa
$5p^3$	$^4S^\circ$	3/2	260 638.4	3	38%+30% $5p^3\ ^2D^\circ$+23% $5p^3\ ^2P^\circ$	99GAY/JOSa
	$^4S^\circ$	3/2	270 870.5	4	51%+37% $5p^3\ ^2D^\circ$+11% $5s5p(^3P)5d\ ^2D^\circ$	99GAY/JOSa
	$^2D^\circ$	5/2	272 401.8	4	78%+20% $5s5p(^3P)5d\ ^2D^\circ$	99GAY/JOSa
	$^2P^\circ$	1/2	293 210.4	4	88%+9% $5s5p(^3P)5d\ ^2P^\circ$	99GAY/JOSa
	$^2P^\circ$	3/2	302 523.1	5	58%+11% $5s5p(^3P)5d\ ^2P^\circ$+10% $5p^3\ ^4S^\circ$	99GAY/JOSa
$5s5p(^3P)4f$	^4G	5/2	(261 937)		75%+14% $5s5p(^3P)4f\ ^4F$	99GAY/JOSa
	^4G	7/2	(264 418)		60%+33% $5s5p(^3P)4f\ ^4F$	99GAY/JOSa
	^4F	3/2	268 167.3	4	87%+7% $5s5p(^3P)4f\ ^4D$	99GAY/JOSa
	^4F	5/2	268 650.9	4	57%+19% $5s5p(^3P)4f\ ^4D$+10% $5s5p(^3P)4f\ ^2F$	99GAY/JOSa
	^4G	9/2	268 883.8	4	51%+43% $5s5p(^3P)4f\ ^4F$	99GAY/JOSa
	^4D	7/2	269 023.6	4	31%+23% $5s5p(^3P)4f\ ^2F$+17% $5s5p(^1P)4f\ ^2F$	99GAY/JOSa
	^2F	5/2	274 951.7	4	52%+15% $5s5p(^3P)4f\ ^4G$+15% $5s5p(^3P)4f\ ^2D$	99GAY/JOSa

TABLE 14. Energy levels of Cs VII—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading percentages	Reference
	^2F	7/2	276 973.0	4	29%+28% 5s5p(^3P)4f ^2G+15% 5s5p(^3P)4f ^4G	99GAY/JOSa
	^4F	9/2	(282 042)		54%+46% 5s5p(^3P)4f ^4G	99GAY/JOSa
	^4G	11/2	(282 776)	4	100%	99GAY/JOSa
	^4D	7/2	284 436.4	4	37%+36% 5s5p(^3P)4f ^4F+12% 5s5p(^3P)4f ^2G	99GAY/JOSa
	^4D	5/2	286 809.5	4	66%+25% 5s5p(^3P)4f ^4F	99GAY/JOSa
	^4D	3/2	(288 837)		89%+9% 5s5p(^3P)4f ^4F	99GAY/JOSa
	^2G	7/2	289 471.3	4	45%+18% 5s5p(^3P)4f ^4D+17% 5s5p(^3P)4f ^2F	99GAY/JOSa
	^4D	1/2	(289 979)		100%	99GAY/JOSa
	^2D	5/2	295 869.6	4	55%+18% 5s5p(^3P)4f ^2F+12% 5s5p(^3P)4f ^4D	99GAY/JOSa
	^2G	9/2	(298 702)		77%+20% 5s5p(^3P)4f ^2G	99GAY/JOSa
	^2D	3/2	302 199.0	5	64%+29% 5s5p(^1P)4f ^2D	99GAY/JOSa
$5s^26s$	^2S	1/2	273 349.6	4	100%	99GAY/JOSa
5s5p(^1P)4f	^2F	5/2	313 169.3	5	53%+35% 5s5p(^3P)4f ^2F	99GAY/JOSa
	^2F	7/2	313 849.3	5	50%+40% 5s5p(^3P)4f ^2F	99GAY/JOSa
	^2G	9/2	317 250.6	5	74%+22% 5s5p(^3P)4f ^2G	99GAY/JOSa
	^2G	7/2	317 727.6	5	91%+5% 5s5p(^3P)4f ^2G	99GAY/JOSa
	^2D	3/2	323 934.7	5	62%+34% 5s5p(^3P)4f ^2D	99GAY/JOSa
	^2D	5/2	325 158.1	5	79%+17% 5s5p(^3P)4f ^2D	99GAY/JOSa
5s5p(^3P)5d	$^4F^\circ$	3/2	(293 122)		92%+2% 5s5p(^3P)5d $^2D^\circ$	99GAY/JOSa
	$^4F^\circ$	5/2	297 070.8	5	91%+4% 5s5p(^3P)5d $^4D^\circ$	99GAY/JOSa
	$^4F^\circ$	7/2	302 858.9	5	90%+7% 5s5p(^3P)5d $^4D^\circ$	99GAY/JOSa
	$^4P^\circ$	5/2	310 692.9	5	54%+26% 5s5p(^3P)5d $^4D^\circ$	99GAY/JOSa
	$^4D^\circ$	3/2	312 206.2	5	60%+29% 5s5p(^3P)5d $^4P^\circ$	99GAY/JOSa
	$^4D^\circ$	1/2	312 626.3	5	85%+8% 5s5p(^3P)5d $^4P^\circ$	99GAY/JOSa
	$^4F^\circ$	9/2	(313 824)		99%+1% $5p^2$(^3P)4f $^4F^\circ$	99GAY/JOSa
	$^2F^\circ$	5/2	322 850.8	5	25%+22% 5s5p(^3P)5d $^2D^\circ$+20% 5s5p(^3P)5d $^4D^\circ$	99GAY/JOSa
	$^2D^\circ$	3/2	324 131.0	5	47%+12% 5s5p(^3P)5d $^4D^\circ$+11% $5p^3$ $^2D^\circ$	99GAY/JOSa
	$^4D^\circ$	7/2	324 723.1	5	89%+8% 5s5p(^3P)5d $^4F^\circ$	99GAY/JOSa
	$^4D^\circ$	5/2	326 029.7	5	46%+26% 5s5p(^3P)5d $^4P^\circ$+18% 5s5p(^3P)5d $^2F^\circ$	99GAY/JOSa
	$^4P^\circ$	1/2	326 357.2	5	90%+9% 5s5p(^3P)5d $^4D^\circ$	99GAY/JOSa
	$^4P^\circ$	3/2	326 711.8	5	59%+22% 5s5p(^3P)5d $^4D^\circ$	99GAY/JOSa
	$^2D^\circ$	5/2	332 410.0	6	30%+21% 5s5p(^3P)5d $^2F^\circ$+19% 5s5p(^3P)5d $^4P^\circ$	99GAY/JOSa
	$^2F^\circ$	7/2	342 601.4	6	63%+32% 5s5p(^1P)5d $^2F^\circ$	99GAY/JOSa
	$^2P^\circ$	3/2	348 210.8	6	55%+28% 5s5p(^1P)5d $^2D^\circ$	99GAY/JOSa
	$^2P^\circ$	1/2	356 018.6	6	74%+13% 5s5p(^1P)5d $^2P^\circ$	99GAY/JOSa
$5s^26p$	$^2P^\circ$	1/2	320 849.1	5	97%+1% 5s5p(^1P)6s $^2P^\circ$	99GAY/JOSa
	$^2P^\circ$	3/2	328 058.7	5	83%+6% 5s5p(^3P)5d $^2D^\circ$	99GAY/JOSa
5s5p(^1P)5d	$^2F^\circ$	7/2	356 097.8	6	48%+29% 5s5p(^3P)5d $^2F^\circ$+16% $5s^25f$ $^2F^\circ$	99GAY/JOSa
	$^2F^\circ$	5/2	357 399.0	6	50%+22% 5s5p(^3P)5d $^2F^\circ$+19% $5s^25f$ $^2F^\circ$	99GAY/JOSa
	$^2P^\circ$	1/2	364 990.5	7	77%+11% 5s5p(^3P)5d $^2P^\circ$	99GAY/JOSa
	$^2D^\circ$	3/2	365 025.5	7	45%+20% 5s5p(^3P)5d $^2P^\circ$+16% 5s5p(^1P)5d $^2P^\circ$	99GAY/JOSa
	$^2D^\circ$	5/2	366 611.3	7	66%+12% 5s5p(^3P)5d $^2D^\circ$	99GAY/JOSa
	$^2P^\circ$	3/2	368 266.0	7	73%+7% 5s5p(^1P)5d $^2D^\circ$	99GAY/JOSa
5s5p(^3P)6s	$^4P^\circ$	1/2	379 095.2	7	94%+4% 5s5p(^3P)6s $^2P^\circ$	99GAY/JOSa
	$^4P^\circ$	3/2	383 877.2	7	88%+7% 5s5p(^3P)6s $^2P^\circ$	99GAY/JOSa
	$^2P^\circ$	1/2	390 998.6	8	92%+4% 5s5p(^3P)6s $^4P^\circ$	99GAY/JOSa
	$^4P^\circ$	5/2	398 620.4	8	100%	99GAY/JOSa
	$^2P^\circ$	3/2	406 418.0	8	88%+9% 5s5p(^3P)6s $^4P^\circ$	99GAY/JOSa
$5s^25f$	$^2F^\circ$	5/2	384 898.1	7	79%+16% 5s5p(^1P)5d $^2F^\circ$	99GAY/JOSa
	$^2F^\circ$	7/2	385 053.3	7	82%+15% 5s5p(^1P)5d $^2F^\circ$	99GAY/JOSa
5s5p(^1P)6s	$^2P^\circ$	1/2	434 061.0	9	92%+2% 5s5p(^3P)6s $^2P^\circ$	99GAY/JOSa
	$^2P^\circ$	3/2	435 437.8	9	88%+3% 5s5p(^3P)6s $^2P^\circ$	99GAY/JOSa
Cs VIII ($5s^2$ $^1S^\circ_0$)	*Limit*		687 300	500		99GAY/JOSa

References for Cs VII

87KAU/SUGa V. Kaufman and J. Sugar, J. Opt. Soc. Am. B **4**, 1924 (1987).

92TAU/JOS A. Tauheed, Y. N. Joshi, and E. H. Pinnington, J. Phys. B **25**, L561 (1992).

94MAR/MIG R. Marcinek and J. Migdalek, J. Phys. B **27**, 5587 (1994).

99GAY/JOSa R. Gayasov and Y. N. Joshi, Phys. Scr. **60**, 312 (1999).

6.8. Cs VIII

Cd isoelectronic sequence

Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d^{10} 5s^2\ ^1S_0$

Ionization energy: 887 900 ± 4500 cm^{-1}; 110.1 ± 0.6 eV

The Cs VIII spectrum was first observed by Kaufman and Sugar [87KAU/SUGb], who classified 26 lines between 100 and 1000 Å. Gayasov and Joshi [99GAY/JOSb] remeasured the spectrum and did a complete reanalysis, also incorporating the earlier data, and reported 110 classified lines and 52 levels. All the wavelength and energy level data in Tables 15 and 16 are taken from [99GAY/JOSb]. Since Gayasov and Joshi did not calculate the ionization energy, the value reported above is from [87KAU/SUGb], who used values for the $5s5p$ and $5s6p$ levels and a value for the change in the effective quantum number ($\Delta n^* = 1.0667$) determined by relativistic Hartree-Fock calculations.

Transition probabilities have been calculated by several groups. The most recent values for the $5s^2\ ^1S_0 - 5s5p\ ^3P^\circ_1$ and $^1P^\circ_1$ transitions are from Curtis *et al.* [00CUR/MAT], who used multiconfiguration Dirac-Hartree-Fock calculations combined with isoelectronic fitting to produce semiempirical results and Glowacki and Migdalek [03GLO/MIG], who used a relativistic configuration—interaction technique. The values retained below are from Curtis *et al.* [00CUR/MAT]. Lavín and Martin [94LAV/MAR] reported values calculated by the relativistic quantum defect orbital (RQDO) method for the $5s5p\ ^3P^\circ - 5s5d\ ^3D$ and $5s6s\ ^3S_1$ transitions. Transition probabilities for the $5s^2\ ^1S_0 - 5s6p\ ^1P^\circ_1$ and $5s5p\ ^1P^\circ_1 - 5s5d\ ^1D_2$ lines are taken from Lavín *et al.* [93LAV/MAR], who also used the RQDO method.

TABLE 15. Observed spectral lines of Cs VIII

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
155.184	0.005	644 396	39			$5s^2\ ^1S_0$	$4d^9 5s^2 5p\ ^3D^\circ_1$	99GAY/JOSb	
158.573	0.005	630 624	56			$5s^2\ ^1S_0$	$4d^9 5s^2 5p\ ^1P^\circ_1$	99GAY/JOSb	
209.999	0.005	476 193	223		1.0E+09	$5s^2\ ^1S_0$	$5s6p\ ^1P^\circ_1$	99GAY/JOSb	93LAV/MAR
213.295	0.005	468 834	77			$5s^2\ ^1S_0$	$5s6p\ ^3P^\circ_1$	99GAY/JOSb	
322.590	0.005	309 991.0	1		2.4E+09	$5s5p\ ^3P^\circ_0$	$5s6s\ ^3S_1$	99GAY/JOSb	94LAV/MAR
327.941	0.005	304 932.6	5		7.2E+09	$5s5p\ ^3P^\circ_1$	$5s6s\ ^3S_1$	99GAY/JOSb	94LAV/MAR
346.586	0.005	288 528.4	15		1.2E+10	$5s5p\ ^3P^\circ_2$	$5s6s\ ^3S_1$	99GAY/JOSb	94LAV/MAR
377.132	0.005	265 159.5	14			$5s5p\ ^1P^\circ_1$	$5s6s\ ^1S_0$	99GAY/JOSb	
384.815	0.005	259 864.8	24			$5s5p\ ^1P^\circ_1$	$5p4f\ ^1D_2$	99GAY/JOSb	
430.883	0.005	232 081.7	23			$5s5p\ ^3P^\circ_1$	$5s5d\ ^1D_2$	99GAY/JOSb	
440.136	0.005	227 202.5	31			$5p^2\ ^1D_2$	$5p5d\ ^1F^\circ_3$	99GAY/JOSb	
444.977	0.005	224 730.5	20			$5s5p\ ^1P^\circ_1$	$5p4f\ ^3F_2$	99GAY/JOSb	
458.449	0.005	218 127.0	5			$5p^2\ ^3P_1$	$5p5d\ ^3P^\circ_1$	99GAY/JOSb	
460.626	0.005	217 095.8	16			$5p^2\ ^1D_2$	$5p5d\ ^3P^\circ_2$	99GAY/JOSb	
460.753	0.005	217 036.0	292		6.9E+09	$5s5p\ ^3P^\circ_0$	$5s5d\ ^3D_1$	99GAY/JOSb	94LAV/MAR
461.874	0.005	216 509.3	4			$5p^2\ ^3P_1$	$5p5d\ ^3P^\circ_0$	99GAY/JOSb	
462.252	0.005	216 332.2	3			$5p^2\ ^1D_2$	$5p5d\ ^3P^\circ_1$	99GAY/JOSb	
465.053	0.005	215 029.3	9			$5p^2\ ^3P_1$	$5s6p\ ^1P^\circ_1$	99GAY/JOSb	
467.798	0.005	213 767.7	14			$5p^2\ ^3P_1$	$5s6p\ ^3P^\circ_2$	99GAY/JOSb	
469.220	0.005	213 119.9	346		9.0E+09	$5s5p\ ^3P^\circ_1$	$5s5d\ ^3D_2$	99GAY/JOSb	94LAV/MAR
471.742	0.005	211 980.5	221		4.9E+09	$5s5p\ ^3P^\circ_1$	$5s5d\ ^3D_1$	99GAY/JOSb	94LAV/MAR
472.455	0.005	211 660.6	55			$5p^2\ ^1D_2$	$5p5d\ ^3D^\circ_3$	99GAY/JOSb	
473.174	0.005	211 338.6	36			$5p^2\ ^3P_0$	$5p5d\ ^3D^\circ_1$	99GAY/JOSb	
481.201	0.005	207 813.2	39			$5p^2\ ^3P_2$	$5p5d\ ^1F^\circ_3$	99GAY/JOSb	
481.527	0.005	207 672.7	3			$5p^2\ ^3P_1$	$5s6p\ ^3P^\circ_1$	99GAY/JOSb	
483.752	0.005	206 717.5	45	b		$5p^2\ ^3P_1$	$5p5d\ ^3D^\circ_2$	99GAY/JOSb	
485.724	0.005	205 878.2	2			$5p^2\ ^1D_2$	$5s6p\ ^3P^\circ_1$	99GAY/JOSb	
487.990	0.005	204 921.4	2			$5p^2\ ^1D_2$	$5p5d\ ^3D^\circ_2$	99GAY/JOSb	
497.222	0.005	201 117.3	16			$5s5d\ ^3D_1$	$5s5f\ ^3F^\circ_2$	99GAY/JOSb	
499.373	0.005	200 251.0	25			$5s5d\ ^3D_2$	$5s5f\ ^3F^\circ_3$	99GAY/JOSb	

TABLE 15. Observed spectral lines of Cs VIII—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
500.055	0.005	199 978.0	4			5s5d $^3D_2$	5s5f $^3F^\circ_2$	99GAY/JOSb	
502.994	0.005	198 809.6	339		1.0E+10	5s5p $^3P^\circ_2$	5s5d $^3D_3$	99GAY/JOSb	94LAV/MAR
503.692	0.005	198 533.9	31			5s5d $^3D_3$	5s5f $^3F^\circ_4$	99GAY/JOSb	
504.650	0.005	198 157.1	3			5s5d $^3D_3$	5s5f $^3F^\circ_3$	99GAY/JOSb	
505.805	0.005	197 704.6	11			5p^2 $^3P_2$	5p5d $^3P^\circ_2$	99GAY/JOSb	
506.904	0.005	197 276.0	3			5p^2 $^3P_1$	5p5d $^3D^\circ_1$	99GAY/JOSb	
508.345	0.005	196 716.8	111		2.5E+09	5s5p $^3P^\circ_2$	5s5d $^3D_2$	99GAY/JOSb	94LAV/MAR
511.308	0.005	195 577.0	7		2.6E+08	5s5p $^3P^\circ_2$	5s5d $^3D_1$	99GAY/JOSb	94LAV/MAR
515.868	0.005	193 848.1	14			5p^2 $^3P_2$	5s6p $^1P^\circ_1$	99GAY/JOSb	
519.259	0.005	192 582.1	8			5p^2 $^3P_2$	5s6p $^3P^\circ_2$	99GAY/JOSb	
519.758	0.005	192 397.3	20			5p^2 $^3P_1$	5p5d $^1D^\circ_2$	99GAY/JOSb	
520.097	0.005	192 271.9	14			5p^2 $^3P_2$	5p5d $^3D^\circ_3$	99GAY/JOSb	
524.661	0.005	190 599.1	21			5p^2 $^1D_2$	5p5d $^1D^\circ_2$	99GAY/JOSb	
533.377	0.005	187 484.6	18			5s5d $^1D_2$	5s5f $^1F^\circ_3$	99GAY/JOSb	
535.552	0.005	186 723.3	20			5p^2 $^1D_2$	5p5d $^3F^\circ_3$	99GAY/JOSb	
538.996	0.005	185 530.1	2			5p^2 $^3P_2$	5p5d $^3D^\circ_2$	99GAY/JOSb	
542.352	0.005	184 382.0	162		1.1E+10	5s5p $^1P^\circ_1$	5s5d $^1D_2$	99GAY/JOSb	93LAV/MAR
563.117	0.005	177 583.0	4			5p^2 $^1D_2$	5p5d $^3F^\circ_2$	99GAY/JOSb	
585.752	0.005	170 720.8	82			5s5p $^3P^\circ_1$	5p^2 $^3P_2$	99GAY/JOSb	
612.290	0.005	163 320.2	2			5s5d $^3D_3$	5p5d $^1F^\circ_3$	99GAY/JOSb	
626.989	0.005	159 492.5	6			5s4f $^3F^\circ_3$	5p4f $^1D_2$	99GAY/JOSb	
627.647	0.005	159 325.3	480		7.1E+09	5s^2 $^1S_0$	5s5p $^1P^\circ_1$	99GAY/JOSb	00CUR/MAT
642.348	0.005	155 678.9	3			5s5d $^3D_1$	5p5d $^3P^\circ_1$	99GAY/JOSb	
643.895	0.005	155 304.9	10			5s5d $^3D_2$	5p5d $^3P^\circ_2$	99GAY/JOSb	
646.877	0.005	154 588.9	199			5s5p $^3P^\circ_0$	5p^2 $^3P_1$	99GAY/JOSb	
647.074	0.005	154 541.9	7			5s5d $^3D_2$	5p5d $^3P^\circ_1$	99GAY/JOSb	
648.022	0.005	154 315.7	229			5s5p $^3P^\circ_2$	5p^2 $^3P_2$	99GAY/JOSb	
649.088	0.005	154 062.4	6			5s5d $^3D_1$	5p5d $^3P^\circ_0$	99GAY/JOSb	
652.695	0.005	153 211.0	35			5s5d $^3D_3$	5p5d $^3P^\circ_2$	99GAY/JOSb	
655.379	0.005	152 583.4	6			5s5d $^3D_1$	5s6p $^1P^\circ_1$	99GAY/JOSb	
656.710	0.005	152 274.2	77			5s4f $^1F^\circ_3$	5p4f $^1D_2$	99GAY/JOSb	
660.809	0.005	151 329.7	191			5s5p $^3P^\circ_1$	5p^2 $^1D_2$	99GAY/JOSb	
661.985	0.005	151 060.7	16			5s4f $^3F^\circ_3$	5p4f $^1G_4$	99GAY/JOSb	
664.275	0.005	150 540.1	20			5s4f $^3F^\circ_4$	5p4f $^1G_4$	99GAY/JOSb	
667.237	0.005	149 871.8	4			5s5d $^3D_2$	5p5d $^3D^\circ_3$	99GAY/JOSb	
668.741	0.005	149 534.7	229			5s5p $^3P^\circ_1$	5p^2 $^3P_1$	99GAY/JOSb	
669.300	0.005	149 409.8	33			5s4f $^3F^\circ_2$	5p4f $^3D_1$	99GAY/JOSb	
672.353	0.005	148 731.3	152			5s5p $^1P^\circ_1$	5p^2 $^1S_0$	99GAY/JOSb	
675.280	0.005	148 086.7	11			5s5d $^3D_3$	5s6p $^3P^\circ_2$	99GAY/JOSb	
676.684	0.005	147 779.5	9			5s5d $^3D_3$	5p5d $^3D^\circ_3$	99GAY/JOSb	
681.001	0.005	146 842.7	34			5s4f $^3F^\circ_2$	5p4f $^3D_2$	99GAY/JOSb	
682.579	0.005	146 503.2	34			5s4f $^3F^\circ_3$	5p4f $^3D_2$	99GAY/JOSb	
682.815	0.005	146 452.7	6			5s5d $^1D_2$	5p5d $^1F^\circ_3$	99GAY/JOSb	
690.185	0.005	144 888.6	37			5s4f $^3F^\circ_3$	5p4f $^3D_3$	99GAY/JOSb	
692.669	0.005	144 369.1	54			5s4f $^3F^\circ_4$	5p4f $^3D_3$	99GAY/JOSb	
693.145	0.005	144 270.0	2			5s5d $^3D_1$	5p5d $^3D^\circ_2$	99GAY/JOSb	
694.016	0.005	144 089.0	7			5s5d $^3D_2$	5s6p $^3P^\circ_1$	99GAY/JOSb	
695.217	0.005	143 840.1	75			5s4f $^1F^\circ_3$	5p4f $^1G_4$	99GAY/JOSb	
706.227	0.005	141 597.6	210	b		5s4f $^3F^\circ_4$	5p4f $^3G_5$	99GAY/JOSb	
715.573	0.005	139 748.1	90			5s4f $^3F^\circ_3$	5p4f $^3F_4$	99GAY/JOSb	
718.241	0.005	139 229.1	64			5s4f $^3F^\circ_4$	5p4f $^3F_4$	99GAY/JOSb	
723.924	0.005	138 136.0	51			5s4f $^3F^\circ_2$	5p4f $^1F_3$	99GAY/JOSb	
725.708	0.005	137 796.5	12			5s4f $^3F^\circ_3$	5p4f $^1F_3$	99GAY/JOSb	
726.376	0.005	137 669.7	13			5s4f $^1F^\circ_3$	5p4f $^3D_3$	99GAY/JOSb	
729.391	0.005	137 100.6	33			5s5d $^3D_3$	5p5d $^3F^\circ_4$	99GAY/JOSb	
738.152	0.005	135 473.4	269			5s5p $^3P^\circ_1$	5p^2 $^3P_0$	99GAY/JOSb	
741.133	0.005	134 928.5	285			5s5p $^3P^\circ_2$	5p^2 $^1D_2$	99GAY/JOSb	

TABLE 15. Observed spectral lines of Cs VIII—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
741.675	0.005	134 830.0	2			5s5d $^3D_1$	5p5d $^3D^\circ_1$	99GAY/JOSb	
747.993	0.005	133 691.1	2			5s5d $^3D_2$	5p5d $^3D^\circ_1$	99GAY/JOSb	
751.132	0.005	133 132.3	277	b		5s5p $^3P^\circ_2$	5p^2 $^3P_1$	99GAY/JOSb	
754.812	0.005	132 483.3	4			5s5d $^1D_2$	5s6p $^1P^\circ_1$	99GAY/JOSb	
765.835	0.005	130 576.5	33			5s4f $^1F^\circ_3$	5p4f $^1F_3$	99GAY/JOSb	
789.147	0.005	126 718.9	3			5s5d $^3D_3$	5p5d $^1D^\circ_2$	99GAY/JOSb	
800.421	0.005	124 934.3	10			5s5d $^3D_2$	5p5d $^3F^\circ_3$	99GAY/JOSb	
801.942	0.005	124 697.3	251	b		5s4f $^3F^\circ_2$	5p4f $^3F_2$	99GAY/JOSb	
804.122	0.005	124 359.2	44			5s4f $^3F^\circ_3$	5p4f $^3F_2$	99GAY/JOSb	
810.779	0.005	123 338.2	41			5s4f $^3F^\circ_3$	5p4f $^3G_4$	99GAY/JOSb	
812.873	0.005	123 020.4	445	b		5s5p $^1P^\circ_1$	5p^2 $^3P_2$	99GAY/JOSb	
814.058	0.005	122 841.4	2	u		5s5d $^3D_3$	5p5d $^3F^\circ_3$	99GAY/JOSb	
814.211	0.005	122 818.2	134			5s4f $^3F^\circ_4$	5p4f $^3G_4$	99GAY/JOSb	
817.059	0.005	122 390.1	38			5s4f $^3F^\circ_3$	5p4f $^3F_3$	99GAY/JOSb	
820.544	0.005	121 870.3	63			5s4f $^3F^\circ_4$	5p4f $^3F_3$	99GAY/JOSb	
838.974	0.005	119 193.2	59			5s4f $^3F^\circ_2$	5p4f $^3G_3$	99GAY/JOSb	
841.373	0.005	118 853.4	33			5s4f $^3F^\circ_3$	5p4f $^3G_3$	99GAY/JOSb	
855.185	0.005	116 933.7	4			5s5d $^3D_1$	5p5d $^3F^\circ_2$	99GAY/JOSb	
861.192	0.005	116 118.1	16			5s4f $^1F^\circ_3$	5p4f $^3G_4$	99GAY/JOSb	
863.595	0.005	115 795.0	3			5s5d $^3D_2$	5p5d $^3F^\circ_2$	99GAY/JOSb	
868.277	0.005	115 170.6	37			5s4f $^1F^\circ_3$	5p4f $^3F_3$	99GAY/JOSb	
895.828	0.005	111 628.5	364	*	1.0E+08	5s^2 $^1S_0$	5s5p $^3P^\circ_1$	99GAY/JOSb	00CUR/MAT
895.828	0.005	111 628.5	364	*		5s4f $^1F^\circ_3$	5p4f $^3G_3$	99GAY/JOSb	
964.951	0.005	103 632.2	277			5s5p $^1P^\circ_1$	5p^2 $^1D_2$	99GAY/JOSb	

TABLE 16. Energy levels of Cs VIII

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading percentages	Reference
5s^2	^1S	0	0.0		99% 5s^2 $^1S_0$+1% 5p^2 $^1S_0$	99GAY/JOSb
5s5p	$^3P^\circ$	0	106 573.8	0.6	100% 5s5p $^3P_0$	99GAY/JOSb
	$^3P^\circ$	1	111 628.0	0.6	95% 5s5p $^3P_1$+5% 5s5p $^1P_1$	99GAY/JOSb
	$^3P^\circ$	2	128 031.4	0.8	100% 5s5p $^3P_2$	99GAY/JOSb
5s5p	$^1P^\circ$	1	159 326.3	1.3	94% 5s5p $^1P_1$+5% 5s5p $^3P_1$	99GAY/JOSb
5p^2	^3P	0	247 101.3	3.	88% 5p^2 $^3P_0$+12% 5p^2 $^1S_0$	99GAY/JOSb
	^3P	1	261 162.7	3.	100% 5p^2 $^3P_1$	99GAY/JOSb
	^3P	2	282 347.8	4.	62% 5p^2 $^3P_2$+32% 5p^2 $^1D_2$	99GAY/JOSb
5s4f	$^3F^\circ$	2	259 357.9	3.	100% 5s4f $^3F_2$	99GAY/JOSb
	$^3F^\circ$	3	259 697.7	3.	100% 5s4f $^3F_3$	99GAY/JOSb
	$^3F^\circ$	4	260 217.7	3.	100% 5s4f $^3F_4$	99GAY/JOSb
5p^2	^1D	2	262 958.8	4.	57% 5p^2 $^1D_2$+37% 5p^2 $^3P_2$	99GAY/JOSb
5s4f	$^1F^\circ$	3	266 917.2	4.	99% 5s4f $^1F_3$+1% 5p5d $^1F_3$	99GAY/JOSb
5p^2	^1S	0	308 057.6	5.	87% 5p^2 $^1S_0$+12% 5p^2 $^3P_0$	99GAY/JOSb
5s5d	^3D	1	323 609.5	5.	99% 5s5d $^3D_1$+1% 5p4f $^3D_1$	99GAY/JOSb
	^3D	2	324 748.0	5.	98% 5s5d $^3D_2$+1% 5p4f $^3D_2$	99GAY/JOSb
	^3D	3	326 841.0	5.	99% 5s5d $^3D_3$+1% 5p4f $^3D_3$	99GAY/JOSb
5s5d	^1D	2	343 708.4	6.	80% 5s5d $^1D_2$+11% 5p4f $^1D_2$	99GAY/JOSb
5p4f	^3G	3	378 551.1	7.	59% 5p4f $^3G_3$+35% 5p4f $^1F_3$	99GAY/JOSb
	^3G	4	383 035.7	7.	47% 5p4f $^3G_4$+41% 5p4f $^3F_4$	99GAY/JOSb
	^3G	5	401 815.1	8.	100% 5p4f $^3G_5$	99GAY/JOSb

TABLE 16. Energy levels of Cs VIII—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading percentages	Reference
5p4f	^{3}F	3	382 087.8	7.	48% 5p4f $^3F_3$+25% 5p4f $^3D_3$	99GAY/JOSb
	^{3}F	2	384 056.9	7.	80% 5p4f $^3F_2$+11% 5p4f $^3D_2$	99GAY/JOSb
	^{3}F	4	399 446.2	8.	55% 5p4f $^3F_4$+45% 5p4f $^3G_4$	99GAY/JOSb
5p4f	^{1}F	3	397 493.9	8.	35% 5p4f $^1F_3$+35% 5p4f $^3G_3$	99GAY/JOSb
5p4f	^{3}D	3	404 586.6	8.	72% 5p4f $^3D_3$+18% 5p4f $^3F_3$	99GAY/JOSb
	^{3}D	2	406 200.8	8.	79% 5p4f $^3D_2$+16% 5p4f $^3F_2$	99GAY/JOSb
	^{3}D	1	408 767.7	8.	99% 5p4f $^3D_1$+1% 5s5d $^3D_1$	99GAY/JOSb
5p4f	^{1}G	4	410 757.8	8.	87% 5p4f $^1G_4$+9% 5p4f $^3G_4$	99GAY/JOSb
5s6s	^{3}S	1	416 560.2	9.	100% 5s6s $^3S_1$	99GAY/JOSb
5p4f	^{1}D	2	419 191.0	9.	80% 5p4f $^1D_2$+9% 5p4f $^3D_2$	99GAY/JOSb
5s6s	^{1}S	0	424 485.8	9.	100% 5s6s $^1S_0$	99GAY/JOSb
5p5d	^{3}F°	2	440 542.6	10.	80% 5p5d $^3F_2$+17% 5p5d $^1D_2$	99GAY/JOSb
	^{3}F°	3	449 682.2	10.	87% 5p5d $^3F_3$+8% 5p5d $^3D_3$	99GAY/JOSb
	^{3}F°	4	463 941.6	11.	98% 5p5d $^3F_4$+2% 5s5f $^3F_4$	99GAY/JOSb
5p5d	^{1}D°	2	453 560.0	10.	41% 5p5d $^1D_2$+30% 5p5d $^3P_2$	99GAY/JOSb
5p5d	^{3}D°	1	458 439.8	10.	66% 5p5d $^3D_1$+21% 5p5d $^3P_1$	99GAY/JOSb
	^{3}D°	2	467 880.2	11.	31% 5p5d $^3D_2$+38% 5p5d $^1D_2$	99GAY/JOSb
	^{3}D°	3	474 619.8	11.	82% 5p5d $^3D_3$+11% 5p5d $^3F_3$	99GAY/JOSb
5s6p	^{3}P°	0	(467 598)		86% 5s6p $^3P_0$+13% 5p5d $^3P_0$	99GAY/JOSb
	^{3}P°	1	468 837.0	11.	69% 5s6p $^3P_1$+19% 5s6p $^1P_1$	99GAY/JOSb
	^{3}P°	2	474 929.5	11.	43% 5s6p $^3P_2$+34% 5p5d $^3D_2$	99GAY/JOSb
5s6p	^{1}P°	1	476 192.5	11.	42% 5s6p $^1P_1$+39% 5p5d $^3P_1$	99GAY/JOSb
5p5d	^{3}P°	0	477 671.9	11.	86% 5p5d $^3P_0$+13% 5s6p $^3P_0$	99GAY/JOSb
	^{3}P°	1	479 289.3	12.	29% 5p5d $^3P_1$+35% 5s6p $^1P_1$	99GAY/JOSb
	^{3}P°	2	480 052.5	12.	53% 5s6p $^3P_2$+31% 5p5d $^3P_2$	99GAY/JOSb
5p5d	^{1}F°	3	490 161.1	12.	75% 5p5d $^1F_3$+13% 5s5f $^1F_3$	99GAY/JOSb
5p5d	^{1}P°	1	(495 505)		83% 5p5d $^1P_1$+6% 5p5d $^3D_1$	99GAY/JOSb
5s5f	^{3}F°	2	524 726.8	14.	99% 5s5f $^3F_2$+1% 5p5d $^3F_2$	99GAY/JOSb
	^{3}F°	3	524 999.0	14.	98% 5s5f $^3F_3$+1% 5p5d $^3F_3$	99GAY/JOSb
	^{3}F°	4	525 374.9	14.	98% 5s5f $^3F_4$+2% 5p5d $^3F_4$	99GAY/JOSb
5s5f	^{1}F°	3	531 193.0	14.	86% 5s5f $^1F_3$+12% 5p5d $^1F_3$	99GAY/JOSb
$4d^95s^25p$	^{1}P°	1	630 624	20.		99GAY/JOSb
$4d^95s^25p$	^{3}D°	1	644 396	21.		99GAY/JOSb
Cs IX (5s $^2S^\circ_{1/2}$)	*Limit*		887 900	500		87KAU/SUGb

References for Cs VIII

87KAU/SUGb V. Kaufman and J. Sugar, J. Opt. Soc. Am. B **4**, 1919 (1987).

93LAV/MAR C. Lavín, P. Martin, I. Martin, and J. Karwowski, Int. J. Quantum. Chem. **27**, 385 (1993).

94LAV/MAR C. Lavín and I. Martin, J. Quant. Spectrosc. Radiat. Transf. **52**, 21 (1994).

99GAY/JOSb R. Gayasov and Y. N. Joshi, J. Opt. Soc. Am. B **16**, 1280 (1999).

00CUR/MAT L. J. Curtis, R. Matulioniene, D. G. Ellis, and C. Froese Fischer, Phys. Rev. A **62**, 052513 (2000).

03GLO/MIG L. Glowacki and J. Migdalek, J. Phys. B **36**, 3629 (2003).

6.9. Cs IX

Ag isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d^{10} 5s\ ^2S_{1/2}$
Ionization energy: 1 003 000 ± 1000 cm^{-1}; 124.36 ± 0.12 eV

The Cs IX spectrum was first observed by Sugar [77SUG], who identified the $4d^{10}5p-5d$ and $4f-5g$ transitions. Additional measurements allowed Kaufman and Sugar to improve the level values reported in [77SUG], locate more levels of $4d^{10}nl$ [81KAU/SUG], and discover levels in the $4d^9 5s5p$ configuration [84KAU/SUG]. Gayasov and Joshi [98GAY/JOS] extended the analysis of the spectrum by locating the $4d^9 5s(^3D)4f\ ^2P^\circ$ levels. The spectrum between 100 and 1200 Å has been remeasured by Tauheed and Joshi [05TAU/JOS], resulting in the 59 classified lines and 44 levels shown in Tables 17 and 18. In addition Tauheed and Joshi [05TAU/JOS] calculated the leading percentages and theoretical values for energy levels included in Table 18 using the Hartree-Fock method of the Cowan code [81COW]. The ionization energy was calculated from the positions of the ng series for $5 \leqslant n \leqslant 9$.

As the leading percentages indicate, *LS* coupling produces many mixed eigenvectors, particularly in the $4d^9 5s4f$ and $4d^9 5s5p$ configurations. This makes it impossible to assign unique *LS* names using the component with the largest percentage for every level. For convenience in labeling the levels, the designations given in the tables are chosen to have unique names using the largest component whenever possible.

Transition probabilities for the Cs IX spectrum have been calculated by several groups. Most recently Safronova *et al.* [03SAF/SAV] used third-order relativistic many-body calculations to obtain oscillator strengths for the $5s-5p$, $5p-5d$, $4f-5d$, and $4f-5g$ transitions. Migdalek and Garmulewicz [00MIG/GAR] compared several methods of calculating oscillator strengths in the silver and gold isoelectronic sequences. Their values are used here for the $5p-6s$ transitions, for which they show a consistency of ±5% between the various methods of calculation. The $5p-7s$ values come from Lavín *et al.* [95LAV/ALM] and the $5s-6p$ values from [95MAR/ALM]. Their discussion indicates that their RQDO method without core polarization correction most closely agrees with available experimental data; hence those are the values reported here. However, it should be noted that there are differences as large as a factor of 2 between oscillator strengths obtained by Lavín *et al.* [95LAV/ALM, 95MAR/ALM] depending on how the core polarization is incorporated into their RQDO method.

TABLE 17. Observed spectral lines of Cs IX

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
111.429	0.005	897 435.	274			$4d^{10}5s\ ^2S_{1/2}$	$4d^95s4f(^3D)\ ^2P^\circ_{3/2}$	05TAU/JOS	
111.443	0.005	897 316.	254			$4d^{10}5s\ ^2S_{1/2}$	$4d^95s4f(^3D)\ ^2P^\circ_{1/2}$	05TAU/JOS	
127.052	0.005	787 078.	47			$4d^{10}5s\ ^2S_{1/2}$	$4d^{10}8p\ ^2P^\circ_{3/2}$	05TAU/JOS	
127.507	0.005	784 268.	35			$4d^{10}5s\ ^2S_{1/2}$	$4d^{10}8p\ ^2P^\circ_{1/2}$	05TAU/JOS	
141.339	0.005	707 521.	68			$4d^{10}5s\ ^2S_{1/2}$	$4d^95s5p(^3D)\ ^2D^\circ_{3/2}$	05TAU/JOS	
141.634	0.005	706 047.	33			$4d^{10}5p\ ^2P^\circ_{1/2}$	$4d^{10}9s\ ^2S_{1/2}$	05TAU/JOS	
143.561	0.005	696 570.	492			$4d^{10}5s\ ^2S_{1/2}$	$4d^95s5p(^3D)\ ^2P^\circ_{1/2}$	05TAU/JOS	
144.277	0.005	693 109.	253			$4d^{10}5s\ ^2S_{1/2}$	$4d^{10}7p\ ^2P^\circ_{3/2}$	05TAU/JOS	
145.307	0.005	688 199.	265			$4d^{10}5s\ ^2S_{1/2}$	$4d^{10}7p\ ^2P^\circ_{1/2}$	05TAU/JOS	
146.303	0.005	683 513.	37			$4d^{10}5p\ ^2P^\circ_{3/2}$	$4d^{10}9s\ ^2S_{1/2}$	05TAU/JOS	
147.112	0.005	679 753.	731			$4d^{10}5s\ ^2S_{1/2}$	$4d^95s5p(^3D)\ ^2P^\circ_{3/2}$	05TAU/JOS	
149.323	0.005	669 687.	433			$4d^{10}5s\ ^2S_{1/2}$	$4d^95s5p(^3D)\ ^4D^\circ_{3/2}$	05TAU/JOS	
150.797	0.005	663 143.	270			$4d^{10}5s\ ^2S_{1/2}$	$4d^95s5p(^3D)\ ^4D^\circ_{1/2}$	05TAU/JOS	
152.232	0.005	656 893.	670			$4d^{10}5s\ ^2S_{1/2}$	$4d^95s5p(^1D)\ ^2P^\circ_{1/2}$	05TAU/JOS	
152.573	0.005	655 422.	785			$4d^{10}5s\ ^2S_{1/2}$	$4d^95s5p(^1D)\ ^2P^\circ_{3/2}$	05TAU/JOS	
153.546	0.005	651 271.	24			$4d^{10}4f\ ^2F^\circ_{5/2}$	$4d^{10}9g\ ^2G_{7/2}$	05TAU/JOS	
153.778	0.005	650 288.	26			$4d^{10}4f\ ^2F^\circ_{7/2}$	$4d^{10}9g\ ^2G_{9/2}$	05TAU/JOS	
154.225	0.005	648 402.	576			$4d^{10}5s\ ^2S_{1/2}$	$4d^95s5p(^1D)\ ^2D^\circ_{3/2}$	05TAU/JOS	
154.365	0.005	647 814.	177			$4d^{10}5s\ ^2S_{1/2}$	$4d^95s5p(^3D)\ ^4P^\circ_{1/2}$	05TAU/JOS	
155.956	0.005	641 206.	196			$4d^{10}5s\ ^2S_{1/2}$	$4d^95s5p(^3D)\ ^4F^\circ_{3/2}$	05TAU/JOS	
156.140	0.005	640 449.	48			$4d^{10}5p\ ^2P^\circ_{1/2}$	$4d^{10}8s\ ^2S_{1/2}$	05TAU/JOS	
158.386	0.005	631 370.	325			$4d^{10}5s\ ^2S_{1/2}$	$4d^95s5p(^3D)\ ^4P^\circ_{3/2}$	05TAU/JOS	
160.529	0.005	622 941.	11			$4d^{10}4f\ ^2F^\circ_{5/2}$	$4d^{10}8g\ ^2G_{7/2}$	05TAU/JOS	
160.787	0.005	621 939.	15			$4d^{10}4f\ ^2F^\circ_{7/2}$	$4d^{10}8g\ ^2G_{9/2}$	05TAU/JOS	
161.839	0.005	617 898.	65			$4d^{10}5p\ ^2P^\circ_{3/2}$	$4d^{10}8s\ ^2S_{1/2}$	05TAU/JOS	
172.236	0.005	580 599.	30			$4d^{10}4f\ ^2F^\circ_{5/2}$	$4d^{10}7g\ ^2G_{7/2}$	05TAU/JOS	
172.529	0.005	579 612.	32			$4d^{10}4f\ ^2F^\circ_{7/2}$	$4d^{10}7g\ ^2G_{9/2}$	05TAU/JOS	
187.837	0.005	532 376.	39		6.92E+9	$4d^{10}5p\ ^2P^\circ_{1/2}$	$4d^{10}7s\ ^2S_{1/2}$	05TAU/JOS	95LAV/ALM
191.606	0.005	521 904.	75		5.70E+10	$4d^{10}5s\ ^2S_{1/2}$	$4d^{10}6p\ ^2P^\circ_{3/2}$	05TAU/JOS	95MAR/ALM

TABLE 17. Observed spectral lines of Cs IX—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
194.539	0.005	514 037.	55			$4d^{10}4f\ ^2F^\circ_{5/2}$	$4d^{10}6g\ ^2G_{7/2}$	05TAU/JOS	
194.915	0.005	513 043.	61			$4d^{10}4f\ ^2F^\circ_{7/2}$	$4d^{10}6g\ ^2G_{9/2}$	05TAU/JOS	
195.039	0.005	512 719.	70		1.77E+10	$4d^{10}5s\ ^2S_{1/2}$	$4d^{10}6p\ ^2P^\circ_{1/2}$	05TAU/JOS	95MAR/ALM
196.143	0.005	509 833.	53		1.33E+10	$4d^{10}5p\ ^2P^\circ_{3/2}$	$4d^{10}7s\ ^2S_{1/2}$	05TAU/JOS	95LAV/ALM
247.286	0.005	404 389.	72		2.72E+10	$4d^{10}4f\ ^2F^\circ_{5/2}$	$4d^{10}5g\ ^2G_{7/2}$	05TAU/JOS	03SAF/SAV
247.896	0.005	403 395.	75		2.85E+10	$4d^{10}4f\ ^2F^\circ_{7/2}$	$4d^{10}5g\ ^2G_{9/2}$	05TAU/JOS	03SAF/SAV
274.318	0.005	364 540.	13			$4d^{10}5d^2D_{3/2}$	$4d^{10}6f\ ^2F^\circ_{5/2}$	05TAU/JOS	
276.867	0.005	361 184.	19			$4d^{10}5d^2D_{5/2}$	$4d^{10}6f\ ^2F^\circ_{7/2}$	05TAU/JOS	
302.314	0.005	330 782.	13		1.12E+10	$4d^{10}5p\ ^2P^\circ_{1/2}$	$4d^{10}6s\ ^2S_{1/2}$	05TAU/JOS	00MIG/GAR
324.437	0.005	308 227.	10	b	2.34E+10	$4d^{10}5p\ ^2P^\circ_{3/2}$	$4d^{10}6s\ ^2S_{1/2}$	05TAU/JOS	00MIG/GAR
458.864	0.005	217 930.	395		1.53E+10	$4d^{10}5p\ ^2P^\circ_{1/2}$	$4d^{10}5d^2D_{3/2}$	05TAU/JOS	03SAF/SAV
469.500	0.005	212 993.	179			$4d^{10}5d^2D_{3/2}$	$4d^{10}5f\ ^2F^\circ_{5/2}$	05TAU/JOS	
476.513	0.005	209 858.	187			$4d^{10}5d^2D_{5/2}$	$4d^{10}5f\ ^2F^\circ_{7/2}$	05TAU/JOS	
477.806	0.005	209 290.	4			$4d^{10}5d^2D_{5/2}$	$4d^{10}5f\ ^2F^\circ_{5/2}$	05TAU/JOS	
502.370	0.005	199 056.	386		1.51E+10	$4d^{10}5p\ ^2P^\circ_{3/2}$	$4d^{10}5d^2D_{5/2}$	05TAU/JOS	03SAF/SAV
511.896	0.005	195 352.	200		2.37E+9	$4d^{10}5p\ ^2P^\circ_{3/2}$	$4d^{10}5d^2D_{3/2}$	05TAU/JOS	03SAF/SAV
664.454	0.005	150 499.	494		4.15E+9	$4d^{10}5s\ ^2S_{1/2}$	$4d^{10}5p\ ^2P^\circ_{3/2}$	05TAU/JOS	03SAF/SAV
781.714	0.005	127 924.0	550		2.51E+9	$4d^{10}5s\ ^2S_{1/2}$	$4d^{10}5p\ ^2P^\circ_{1/2}$	05TAU/JOS	03SAF/SAV
984.311	0.005	101 593.9	5		3.99E+7	$4d^{10}4f\ ^2F^\circ_{5/2}$	$4d^{10}5d^2D_{5/2}$	05TAU/JOS	03SAF/SAV
993.969	0.005	100 606.8	174		7.94E+8	$4d^{10}4f\ ^2F^\circ_{7/2}$	$4d^{10}5d^2D_{5/2}$	05TAU/JOS	03SAF/SAV
1 021.539	0.005	97 891.5	136		7.71E+8	$4d^{10}4f\ ^2F^\circ_{5/2}$	$4d^{10}5d^2D_{3/2}$	05TAU/JOS	03SAF/SAV

TABLE 18. Energy levels of Cs IX

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading percentages	Reference
$4d^{10}5s$	^2S	1/2	0		100%	
$4d^{10}5p$	$^2P^\circ$	1/2	127 922	1	100%	05TAU/JOS
	$^2P^\circ$	3/2	150 499	1	100%	05TAU/JOS
$4d^{10}4f$	$^2F^\circ$	5/2	247 961	3	100%	05TAU/JOS
	$^2F^\circ$	7/2	248 948	3	100%	05TAU/JOS
$4d^{10}5d$	^2D	3/2	345 853	6	100%	05TAU/JOS
	^2D	5/2	349 555	6	100%	05TAU/JOS
$4d^{10}6s$	^2S	1/2	458 717	10	100%	05TAU/JOS
$4d^{10}6p$	$^2P^\circ$	1/2	512 719	13	100%	05TAU/JOS
	$^2P^\circ$	3/2	521 904	14	100%	05TAU/JOS
$4d^95s^2$	^2D	5/2	(522 025)		100%	05TAU/JOS
	^2D	3/2	(540 284)		100%	05TAU/JOS
$4d^{10}5f$	$^2F^\circ$	5/2	558 845	16	100%	05TAU/JOS
	$^2F^\circ$	7/2	559 413	16	100%	05TAU/JOS
$4d^95s5p(^3D)$	$^4P^\circ$	5/2	(620 724)		73%+17% $4d^95s5p(^3D)\ ^4D^\circ$+5% $4d^95s5p(^3D)\ ^4F^\circ$	05TAU/JOS
	$^4P^\circ$	3/2	631 370	20	41%+23% $4d^95s5p(^3D)\ ^4D^\circ$16% $4d^95s5p(^1D)\ ^2P^\circ$	05TAU/JOS
	$^4P^\circ$	1/2	647 814	20	62%+27% $4d^95s5p(^3D)\ ^4D^\circ$+10% $4d^95s5p(^1D)\ ^2P^\circ$	05TAU/JOS
$4d^95s5p(^3D)$	$^4F^\circ$	5/2	(627 817)		40%+34% $4d^95s5p(^1D)\ ^2F^\circ$+12% $4d^95s5p(^3D)\ ^2F^\circ$	05TAU/JOS
	$^4F^\circ$	7/2	(628 683)		61%+18% $4d^95s5p(^3D)\ ^4D^\circ$+16% $4d^95s5p(^3D)\ ^2F^\circ$	05TAU/JOS
	$^4F^\circ$	3/2	641 206	20	84%+10% $4d^95s5p(^3D)\ ^4P^\circ$	05TAU/JOS
	$^4F^\circ$	9/2	(643 756)		100%	05TAU/JOS
$4d^95s5p(^1D)$	$^2D^\circ$	3/2	648 402	20	39%+33% $4d^95s5p(^3D)\ ^4P^\circ$+21% $4d^95s5p(^1D)\ ^2P^\circ$	05TAU/JOS
	$^2D^\circ$	5/2	(654 454)		31%+28% $4d^95s5p(^3D)\ ^4D^\circ$+20% $4d^95s5p(^3D)\ ^2D^\circ$	05TAU/JOS

TABLE 18. Energy levels of Cs IX—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading percentages	Reference
$4d^95s5p(^1D)$	$^2F^\circ$	5/2	(648 435)		45%+31% $4d^95s5p(^3D)$ $^4F^\circ$+15% $4d^95s5p(^3D)$ $^4D^\circ$	05TAU/JOS
	$^2F^\circ$	7/2	(667 872)		32%+33% $4d^95s5p(^3D)$ $^4F^\circ$+29% $4d^95s5p(^3D)$ $^2F^\circ$	05TAU/JOS
$4d^95s5p(^1D)$	$^2P^\circ$	3/2	655 422	20	41%+23% $4d^95s5p(^3D)$ $^4D^\circ$+13% $4d^95s5p(^3D)$ $^2P^\circ$	05TAU/JOS
	$^2P^\circ$	1/2	656 893	20	48%+30% $4d^95s5p(^3D)$ $^2P^\circ$+21% $4d^95s5p(^3D)$ $^4D^\circ$	05TAU/JOS
$4d^{10}5g$	^2G	7/2,9/2	652 347	20	100%	05TAU/JOS
$4d^95s5p(^3D)$	$^4D^\circ$	7/2	(653 082)		73%+17% $4d^95s5p(^1D)$ $^2F^\circ$+6% $4d^95s5p(^3D)$ $^4F^\circ$	05TAU/JOS
	$^4D^\circ$	1/2	663 143	20	45%+38% $4d^95s5p(^3D)$ $^4P^\circ$+17% $4d^95s5p(^1D)$ $^2P^\circ$	05TAU/JOS
	$^4D^\circ$	3/2	669 687	20	47%+18% $4d^95s5p(^1D)$ $^2D^\circ$+14% $4d^95s5p(^3D)$ $^4P^\circ$	05TAU/JOS
	$^4D^\circ$	5/2	(672 835)		38%+27% $4d^95s5p(^1D)$ $^2D^\circ$+17% $4d^95s5p(^3D)$ $^2D^\circ$	05TAU/JOS
$4d^{10}7s$	^2S	1/2	660 317	20	100%	05TAU/JOS
$4d^95s5p(^3D)$	$^2P^\circ$	3/2	679 753	25	85%+6% $4d^95s5p(^3D)$ $^4D^\circ$+5% $4d^95s5p(^1D)$ $^2P^\circ$	05TAU/JOS
	$^2P^\circ$	1/2	696 570	25	68%+24% $4d^95s5p(^1D)$ $^2P^\circ$+6% $4d^95s5p(^3D)$ $^4D^\circ$	05TAU/JOS
$4d^95s5p(^3D)$	$^2F^\circ$	7/2	(680 347)		50%+46% $4d^95s5p(^1D)$ $^2F^\circ$	05TAU/JOS
	$^2F^\circ$	5/2	(700 396)		55%+17% $4d^95s5p(^1D)$ $^2D^\circ$+15% $4d^95s5p(^1D)$ $^2F^\circ$	05TAU/JOS
$4d^95s5p(^3D)$	$^2D^\circ$	5/2	(687 873)		51%+25% $4d^95s5p(^3D)$ $^2F^\circ$+22% $4d^95s5p(^1D)$ $^2D^\circ$	05TAU/JOS
	$^2D^\circ$	3/2	707 521	25	66%+27% $4d^95s5p(^1D)$ $^2D^\circ$	05TAU/JOS
$4d^{10}7p$	$^2P^\circ$	1/2	688 199	25	98%	05TAU/JOS
	$^2P^\circ$	3/2	693 109	25	99%	05TAU/JOS
$4d^95s4f(^3D)$	$^4P^\circ$	1/2	(699 813)		97%	05TAU/JOS
	$^4P^\circ$	3/2	(702 750)		94%	05TAU/JOS
	$^4P^\circ$	5/2	(708 376)		91%+5% $4d^95s4f(^3D)$ $^4D^\circ$	05TAU/JOS
$4d^{10}6f$	$^2F^\circ$	5/2	710 392	25	99%	05TAU/JOS
	$^2F^\circ$	7/2	710 739	25	100%	05TAU/JOS
$4d^95s4f(^1D)$	$^2P^\circ$	1/2	(710 827)		70%+24% $4d^95s4f(^3D)$ $^2P^\circ$	05TAU/JOS
	$^2P^\circ$	3/2	(716 896)		66%+20% $4d^95s4f(^3D)$ $^2P^\circ$+7% $4d^95s4f(^3D)$ $^2D^\circ$	05TAU/JOS
$4d^95s4f(^3D)$	$^4F^\circ$	3/2	(729 363)		43%+23% $4d^95s4f(^3D)$ $^4D^\circ$+20% $4d^95s4f(^1D)$ $^2D^\circ$	05TAU/JOS
$4d^95s4f(^3D)$	$^4D^\circ$	1/2	(735 305)		95%	05TAU/JOS
	$^4D^\circ$	3/2	(737 550)		65%+22% $4d^95s4f(^1D)$ $^2D^\circ$+5% $4d^95s4f(^3D)$ $^4F^\circ$	05TAU/JOS
$4d^95s4f(^3D)$	$^2D^\circ$	3/2	(744 798)		73%+19% $4d^95s4f(^3D)$ $^4P^\circ$+5% $4d^95s4f(^1D)$ $^2P^\circ$	05TAU/JOS
$4d^95s4f(^1D)$	$^2D^\circ$	3/2	(748 382)		56%+32% $4d^95s4f(^3D)$ $^4P^\circ$+5% $4d^95s4f(^3D)$ $^4D^\circ$	05TAU/JOS
$4d^{10}6g$	^2G	7/2,9/2	761 995	30	100%	05TAU/JOS
$4d^{10}8s$	^2S	1/2	768 386	30	100%	05TAU/JOS
$4d^{10}8p$	$^2P^\circ$	1/2	784 268	30	100%	05TAU/JOS
	$^2P^\circ$	3/2	787 078	30	100%	05TAU/JOS
$4d^{10}7g$	^2G	7/2,9/2	828 560	35	100%	05TAU/JOS
$4d^{10}9s$	^2S	1/2	833 993	35	100%	05TAU/JOS
$4d^{10}8g$	^2G	7/2,9/2	870 895	40	100%	05TAU/JOS
$4d^95s4f(^3D)$	$^2P^\circ$	1/2	897 316	40	73%+26% $4d^95s4f(^1D)$ $^2P^\circ$	05TAU/JOS
	$^2P^\circ$	3/2	897 435	40	76%+23% $4d^95s4f(^1D)$ $^2P^\circ$	05TAU/JOS
$4d^{10}9g$	^2G	7/2,9/2	899 234	40	100%	05TAU/JOS
Cs X ($4d^{10}$ $^1S^\circ_0$)		*Limit*	1 003 000	1 000		05TAU/JOS

References for Cs IX

77SUG J. Sugar, J. Opt. Soc. Am. **67**, 1518 (1977).

81COW R. D. Cowan, *The Theory of Atomic Structure and Spectra* (University of California, Berkeley, CA, 1981).

81KAU/SUG V. Kaufman and J. Sugar, Phys. Scr. **24**, 738 (1981).

84KAU/SUG V. Kaufman and J. Sugar, J. Opt. Soc. Am. B **1**, 38 (1984).

95LAV/ALM C. Lavín, M. A. Almaraz, and I. Martin, Z. Phys. D: At. Mol. Clusters **34**, 143 (1995).

95MAR/ALM I. Martin, M. A. Almaraz, and C. Lavín, Z. Phys. D: At. Mol. Clusters **35**, 239 (1995).

98GAY/JOS R. Gayasov and Y. N. Joshi, J. Phys. B **31**, L705 (1998).

00MIG/GAR J. Migdalek and M. Garmulewicz, J. Phys. B **33**, 1735 (2000).

03SAF/SAV U. I. Safronova, I. M. Savukov, M. S. Safronova, and W. R. Johnson, Phys. Rev. A **68**, 062505 (2003).

05TAU/JOS A. Tauheed and Y. N. Joshi, Phys. Scr. **72**, 385 (2005).

6.10. Cs X

Pd isoelectronic sequence

Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d^{10}$ $^1S_0$

Ionization energy: 1 720 250 cm^{-1}; 213.284 eV

Transitions in the Cs X spectrum were first reported by Sugar [77SUG], who measured resonance lines in the 100–150 Å region. Sugar and Kaufman [82SUG/KAU] improved and extended the measurements. Joshi and Arcimowicz [91JOS/ARC] discovered and classified many new transitions between 400 and 850 Å and Churilov *et al.* [94CHU/JOS] extended the range further into the ultraviolet, to 88 Å. Recently Churilov *et al.* [02CHU/RYAa, 02CHU/RYAb] used a laser-produced plasma to record spectra between 300 and 800 Å and a vacuum spark to observe the region between 500 and 900 Å.

Incorporating most of the previously obtained data along with the newer information, [02CHU/RYAb] contains the most complete summary of Cs X spectroscopic data. The wavelengths and energy levels in Tables 19 and 20 are taken from [02CHU/RYAb], with the exception of the data involving the $4d^9 6p$ configuration, which are from [94CHU/JOS]. For the energy levels taken from [02CHU/RYAb], the leading percentages are obtained by interpolating between the reported values for Xe IX and Ba XI. Recent relativistic many-body perturbation theory calculations by Safronova *et al.* [08SAF/BIS] have also yielded transition probabilities for eight of the observed lines that differ significantly from the [02CHU/RYAb] results. Since the line intensities are more consistent with the [02CHU/RYAb] results, we have retained those values. The ionization energy is taken from [94CHU/JOS], who refrained from estimating the uncertainty because the value is calculated using only the first two members of the $4d^9 nf$ series.

TABLE 19. Observed spectral lines of Cs X

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
85.052	0.003	1 175 751	10		3.06E+11	$4d^{10}\ ^1S_0$	$4d^9 5f\ ^1P^\circ_1$	02CHU/RYAb	02CHU/RYAb
87.337	0.003	1 144 990	20	b	2.02E+10	$4d^{10}\ ^1S_0$	$4d^9 5f\ ^3D^\circ_1$	02CHU/RYAb	02CHU/RYAb
88.033	0.003	1 135 938	5		4.70E+9	$4d^{10}\ ^1S_0$	$4d^9 6p\ ^3D^\circ_1$	94CHU/JOS	94CHU/JOS
88.809	0.003	1 126 012	10		4.56E+10	$4d^{10}\ ^1S_0$	$4d^9 6p\ ^1P^\circ_1$	94CHU/JOS	94CHU/JOS
89.608	0.003	1 115 972	12		3.84E+10	$4d^{10}\ ^1S_0$	$4d^9 6p\ ^3P^\circ_1$	94CHU/JOS	94CHU/JOS
109.589	0.003	912 500	50		2.00E+12	$4d^{10}\ ^1S_0$	$4d^9 4f\ ^1P^\circ_1$	02CHU/RYAb	02CHU/RYAb
132.888	0.003	752 513	20		2.80E+9	$4d^{10}\ ^1S_0$	$4d^9 4f\ ^3D^\circ_1$	02CHU/RYAb	02CHU/RYAb
139.534	0.003	716 673	10	i	4.67E+8	$4d^{10}\ ^1S_0$	$4d^9 4f\ ^3P^\circ_1$	02CHU/RYAb	02CHU/RYAb
139.670	0.003	715 973	500		2.08E+10	$4d^{10}\ ^1S_0$	$4d^9 5p\ ^1D^\circ_1$	02CHU/RYAb	02CHU/RYAb
142.890	0.003	699 839	700		1.14E+11	$4d^{10}\ ^1S_0$	$4d^9 5p\ ^1P^\circ_1$	02CHU/RYAb	02CHU/RYAb
145.172	0.003	688 838	50		1.00E+9	$4d^{10}\ ^1S_0$	$4d^9 5p\ ^3P^\circ_1$	02CHU/RYAb	02CHU/RYAb
375.446	0.007	266 350	149		2.64E+10	$4d^9 5p\ ^1P^\circ_1$	$4d^9 5d\ ^1S_0$	02CHU/RYAb	02CHU/RYAb
414.186	0.007	241 438	437		8.31E+9	$4d^9 5p\ ^3P^\circ_2$	$4d^9 5d\ ^3D_3$	02CHU/RYAb	02CHU/RYAb
416.304	0.007	240 209	324		5.40E+9	$4d^9 5p\ ^3P^\circ_1$	$4d^9 5d\ ^1D_2$	02CHU/RYAb	02CHU/RYAb
418.899	0.007	238 721	488		1.72E+10	$4d^9 5p\ ^3P^\circ_2$	$4d^9 5d\ ^3D_2$	02CHU/RYAb	02CHU/RYAb
420.549	0.007	237 785	452		9.34E+9	$4d^9 5p\ ^3F^\circ_3$	$4d^9 5d\ ^3D_3$	02CHU/RYAb	02CHU/RYAb
422.601	0.007	236 630	203		2.16E+10	$4d^9 5d\ ^3S_1$	$4d^9 5f\ ^3P^\circ_1$	02CHU/RYAb	02CHU/RYAb
423.753	0.007	235 987	847		1.77E+10	$4d^9 5p\ ^3F^\circ_2$	$4d^9 5d\ ^3G_3$	02CHU/RYAb	02CHU/RYAb
425.407	0.007	235 069	126		3.48E+9	$4d^9 5p\ ^3F^\circ_3$	$4d^9 5d\ ^3D_2$	02CHU/RYAb	02CHU/RYAb
428.573	0.007	233 333	999		2.23E+10	$4d^9 5p\ ^3F^\circ_3$	$4d^9 5d\ ^3G_4$	02CHU/RYAb	02CHU/RYAb
428.930	0.007	233 138	176		1.38E+10	$4d^9 5d\ ^3D_2$	$4d^9 5f\ ^3F^\circ_3$	02CHU/RYAb	02CHU/RYAb
430.152	0.007	232 476	300		9.00E+9	$4d^9 5p\ ^3P^\circ_1$	$4d^9 5d\ ^3P_1$	02CHU/RYAb	02CHU/RYAb
430.368	0.007	232 359	410		3.27E+10	$4d^9 5d\ ^3G_4$	$4d^9 5f\ ^3H^\circ_5$	02CHU/RYAb	02CHU/RYAb

TABLE 19. Observed spectral lines of Cs X—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
430.706	0.007	232 177	324		3.22E+10	$4d^95d\ ^3G_3$	$4d^95f\ ^3H^{\circ}_4$	02CHU/RYAb	02CHU/RYAb
431.251	0.007	231 882	116		1.51E+10	$4d^95d\ ^3P_1$	$4d^95f\ ^3D^{\circ}_2$	02CHU/RYAb	02CHU/RYAb
431.772	0.007	231 604	148		1.46E+10	$4d^95d\ ^1P_1$	$4d^95f\ ^1D^{\circ}_2$	02CHU/RYAb	02CHU/RYAb
431.998	0.007	231 482	431		1.66E+10	$4d^95d\ ^3D_3$	$4d^95f\ ^3F^{\circ}_4$	02CHU/RYAb	02CHU/RYAb
432.063	0.007	231 448	385		2.01E+10	$4d^95d\ ^1D_2$	$4d^95f\ ^3G^{\circ}_3$	02CHU/RYAb	02CHU/RYAb
433.949	0.007	230 442	189		1.38E+10	$4d^95d\ ^3D_3$	$4d^95f\ ^3F^{\circ}_3$	02CHU/RYAb	02CHU/RYAb
435.971	0.007	229 373	229		2.15E+10	$4d^95d\ ^3P_2$	$4d^95f\ ^1F^{\circ}_3$	02CHU/RYAb	02CHU/RYAb
436.254	0.007	229 224	413		3.48E+9	$4d^95p\ ^1P^{\circ}_1$	$4d^95d\ ^1D_2$	02CHU/RYAb	02CHU/RYAb
436.627	0.007	229 028	544		3.26E+10	$4d^95d\ ^3G_5$	$4d^95f\ ^3H^{\circ}_6$	02CHU/RYAb	02CHU/RYAb
437.232	0.007	228 711	496		2.25E+10	$4d^95d\ ^1F_3$	$4d^95f\ ^1G^{\circ}_4$	02CHU/RYAb	02CHU/RYAb
437.595	0.007	228 522	361		1.86E+10	$4d^95p\ ^3P^{\circ}_2$	$4d^95d\ ^3S_1$	02CHU/RYAb	02CHU/RYAb
437.763	0.007	228 434	392		3.22E+10	$4d^95d\ ^1G_4$	$4d^95f\ ^1H^{\circ}_5$	02CHU/RYAb	02CHU/RYAb
438.471	0.007	228 065	379		2.45E+10	$4d^95d\ ^3F_2$	$4d^95f\ ^3D^{\circ}_3$	02CHU/RYAb	02CHU/RYAb
439.360	0.007	227 604	566		2.71E+10	$4d^95d\ ^3F_4$	$4d^95f\ ^3G^{\circ}_5$	02CHU/RYAb	02CHU/RYAb
439.595	0.007	227 482	566		2.77E+10	$4d^95d\ ^3F_3$	$4d^95f\ ^3G^{\circ}_4$	02CHU/RYAb	02CHU/RYAb
441.297	0.007	226 605	304		2.16E+10	$4d^95p\ ^3P^{\circ}_1$	$4d^95d\ ^3P_0$	02CHU/RYAb	02CHU/RYAb
441.655	0.007	226 421	311	?	9.60E+9	$4d^95d\ ^3D_2$	$4d^95f\ ^3P^{\circ}_1$	02CHU/RYAb	02CHU/RYAb
442.472	0.007	226 003	270		9.73E+9	$4d^95d\ ^3F_4$	$4d^95f\ ^3F^{\circ}_4$	02CHU/RYAb	02CHU/RYAb
447.630	0.007	223 399	188		3.24E+9	$4d^95p\ ^3P^{\circ}_1$	$4d^95d\ ^3P_2$	02CHU/RYAb	02CHU/RYAb
451.429	0.007	221 519	403		5.93E+9	$4d^95p\ ^3F^{\circ}_4$	$4d^95d\ ^3F_4$	02CHU/RYAb	02CHU/RYAb
453.210	0.007	220 648	109		9.60E+9	$4d^95p\ ^3P^{\circ}_0$	$4d^95d\ ^3D_1$	02CHU/RYAb	02CHU/RYAb
466.277	0.007	214 465	818	*	1.98E+10	$4d^95p\ ^3F^{\circ}_4$	$4d^95d\ ^3G_5$	02CHU/RYAb	02CHU/RYAb
466.277	0.007	214 465	818	*	1.01E+10	$4d^95p\ ^1D^{\circ}_2$	$4d^95d\ ^3P_2$	02CHU/RYAb	02CHU/RYAb
466.773	0.007	214 237	465		1.26E+10	$4d^95p\ ^3D^{\circ}_1$	$4d^95d\ ^3F_2$	02CHU/RYAb	02CHU/RYAb
467.769	0.007	213 781	715		1.95E+10	$4d^95p\ ^1F^{\circ}_3$	$4d^95d\ ^1G_4$	02CHU/RYAb	02CHU/RYAb
468.105	0.007	213 627	447		9.34E+9	$4d^95p\ ^1D^{\circ}_2$	$4d^95d\ ^1F_3$	02CHU/RYAb	02CHU/RYAb
468.810	0.007	213 306	467		1.44E+10	$4d^95p\ ^3D^{\circ}_2$	$4d^95d\ ^3F_3$	02CHU/RYAb	02CHU/RYAb
470.756	0.007	212 424	241		3.62E+9	$4d^95p\ ^1P^{\circ}_1$	$4d^95d\ ^3P_2$	02CHU/RYAb	02CHU/RYAb
471.009	0.007	212 310	634		1.37E+10	$4d^95p\ ^3D^{\circ}_3$	$4d^95d\ ^3F_4$	02CHU/RYAb	02CHU/RYAb
475.513	0.007	210 299	218		5.10E+9	$4d^95p\ ^3D^{\circ}_3$	$4d^95d\ ^1F_3$	02CHU/RYAb	02CHU/RYAb
476.580	0.007	209 828	300	u	6.24E+9	$4d^95p\ ^3D^{\circ}_2$	$4d^95d\ ^1D_2$	02CHU/RYAb	02CHU/RYAb
483.516	0.007	206 818	110		4.26E+9	$4d^95p\ ^3D^{\circ}_3$	$4d^95d\ ^3D_3$	02CHU/RYAb	02CHU/RYAb
484.070	0.007	206 582	100		7.43E+9	$4d^95p\ ^1P^{\circ}_1$	$4d^95d\ ^1P_1$	02CHU/RYAb	02CHU/RYAb
486.978	0.007	205 349	127		2.80E+9	$4d^95p\ ^3D^{\circ}_1$	$4d^95d\ ^3P_1$	02CHU/RYAb	02CHU/RYAb
489.918	0.007	204 116	149		3.58E+9	$4d^95p\ ^3D^{\circ}_3$	$4d^95d\ ^3D_2$	02CHU/RYAb	02CHU/RYAb
507.017	0.007	197 232	145		1.80E+9	$4d^95p\ ^1D^{\circ}_2$	$4d^95d\ ^3S_1$	02CHU/RYAb	02CHU/RYAb
558.961	0.005	178 903	474	b	4.00E+8	$4d^95s\ ^3D_2$	$4d^95p\ ^3D^{\circ}_1$	02CHU/RYAb	02CHU/RYAb
565.433	0.005	176 856	354		2.14E+8	$4d^95s\ ^3D_2$	$4d^95p\ ^1F^{\circ}_3$	02CHU/RYAb	02CHU/RYAb
596.056	0.005	167 769	448		4.03E+9	$4d^95s\ ^3D_3$	$4d^95p\ ^3D^{\circ}_3$	02CHU/RYAb	02CHU/RYAb
599.580	0.005	166 783	560		2.52E+9	$4d^95s\ ^3D_1$	$4d^95p\ ^3D^{\circ}_2$	02CHU/RYAb	02CHU/RYAb
608.130	0.005	164 439	200	u	3.60E+8	$4d^95s\ ^3D_3$	$4d^95p\ ^1D^{\circ}_2$	02CHU/RYAb	02CHU/RYAb
609.586	0.005	164 046	384		2.06E+9	$4d^95s\ ^3D_2$	$4d^95p\ ^3D^{\circ}_3$	02CHU/RYAb	02CHU/RYAb
611.505	0.005	163 531	475		4.90E+9	$4d^95s\ ^3D_1$	$4d^95p\ ^3D^{\circ}_1$	02CHU/RYAb	02CHU/RYAb
612.640	0.005	163 228	643		3.66E+9	$4d^95s\ ^1D_2$	$4d^95p\ ^3D^{\circ}_2$	02CHU/RYAb	02CHU/RYAb
614.383	0.005	162 765	429		2.83E+9	$4d^95s\ ^3D_2$	$4d^95p\ ^1P^{\circ}_1$	02CHU/RYAb	02CHU/RYAb
622.216	0.005	160 716	454		4.56E+9	$4d^95s\ ^3D_2$	$4d^95p\ ^1D^{\circ}_2$	02CHU/RYAb	02CHU/RYAb
625.085	0.005	159 978	194		6.33E+8	$4d^95s\ ^1D_2$	$4d^95p\ ^3D^{\circ}_1$	02CHU/RYAb	02CHU/RYAb
630.686	0.005	158 557	645		5.80E+9	$4d^95s\ ^3D_3$	$4d^95p\ ^3F^{\circ}_4$	02CHU/RYAb	02CHU/RYAb
633.205	0.005	157 927	663		5.40E+9	$4d^95s\ ^1D_2$	$4d^95p\ ^1F^{\circ}_3$	02CHU/RYAb	02CHU/RYAb
655.297	0.005	152 603	328		4.80E+9	$4d^95s\ ^3D_1$	$4d^95p\ ^3P^{\circ}_0$	02CHU/RYAb	02CHU/RYAb
658.865	0.005	151 776	434		2.60E+9	$4d^95s\ ^3D_2$	$4d^95p\ ^3P^{\circ}_1$	02CHU/RYAb	02CHU/RYAb
668.480	0.005	149 593	154		7.20E+8	$4d^95s\ ^3D_2$	$4d^95p\ ^3F^{\circ}_2$	02CHU/RYAb	02CHU/RYAb
678.460	0.005	147 393	231	u	8.00E+8	$4d^95s\ ^3D_1$	$4d^95p\ ^1P^{\circ}_1$	02CHU/RYAb	02CHU/RYAb
688.040	0.005	145 340	113		2.60E+8	$4d^95s\ ^3D_1$	$4d^95p\ ^1D^{\circ}_2$	02CHU/RYAb	02CHU/RYAb
689.103	0.005	145 116	91		1.57E+8	$4d^95s\ ^1D_2$	$4d^95p\ ^3D^{\circ}_3$	02CHU/RYAb	02CHU/RYAb
695.216	0.005	143 840	485	b	6.33E+8	$4d^95s\ ^1D_2$	$4d^95p\ ^1P^{\circ}_1$	02CHU/RYAb	02CHU/RYAb
705.280	0.005	141 788	107		3.40E+8	$4d^95s\ ^1D_2$	$4d^95p\ ^1D^{\circ}_2$	02CHU/RYAb	02CHU/RYAb

TABLE 19. Observed spectral lines of Cs X—Continued

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
730.944	0.005	136 809	323		1.31E+9	$4d^95s\ ^3D_3$	$4d^95p\ ^3F^\circ_3$	02CHU/RYAb	02CHU/RYAb
745.033	0.005	134 222	447		1.92E+9	$4d^95s\ ^3D_1$	$4d^95p\ ^3F^\circ_2$	02CHU/RYAb	02CHU/RYAb
750.993	0.005	133 157	622		3.24E+9	$4d^95s\ ^3D_3$	$4d^95p\ ^3P^\circ_2$	02CHU/RYAb	02CHU/RYAb
751.405	0.005	133 084	598		2.11E+9	$4d^95s\ ^3D_2$	$4d^95p\ ^3F^\circ_3$	02CHU/RYAb	02CHU/RYAb
752.726	0.005	132 850	265		1.63E+9	$4d^95s\ ^1D_2$	$4d^95p\ ^3P^\circ_1$	02CHU/RYAb	02CHU/RYAb
765.296	0.005	130 668	158		9.40E+8	$4d^95s\ ^1D_2$	$4d^95p\ ^3F^\circ_2$	02CHU/RYAb	02CHU/RYAb

TABLE 20. Energy levels of Cs X

Configuration	Term	J	Energy (cm⁻¹)	Uncertainty (cm⁻¹)	Leading percentages	Reference
$4d^{10}$	^1S	0	0	20	100%	02CHU/RYAb
$4d^95s$	^3D	1	552 441	5	100%	02CHU/RYAb
	^3D	2	537 068	5	58%+41% $4d^95s\ ^1D_2$	02CHU/RYAb
	^3D	3	533 342	5	100%	02CHU/RYAb
	^1D	2	555 995	5	59%+41% $4d^95s\ ^3D_2$	02CHU/RYAb
$4d^95p$	$^3P^\circ$	2	666 498	5	74%+19% $4d^95p\ ^3D^\circ_2$	02CHU/RYAb
	$^3F^\circ$	3	670 152	5	52%+34% $4d^95p\ ^1F^\circ_3$	02CHU/RYAb
	$^3F^\circ$	2	686 663	5	86%+6% $4d^95p\ ^3D^\circ_2$	02CHU/RYAb
	$^3P^\circ$	1	688 845	5	72%+27% $4d^95p\ ^3D^\circ_1$	02CHU/RYAb
	$^3F^\circ$	4	691 899	5	98%+2% $4d^94f\ ^3F^\circ_4$	02CHU/RYAb
	$^1D^\circ$	2	697 782	5	53%+16% $4d^95p\ ^3D^\circ_2$	02CHU/RYAb
	$^1P^\circ$	1	699 833	5	82%+12% $4d^95p\ ^3D^\circ_1$	02CHU/RYAb
	$^3D^\circ$	3	701 112	5	72%+25% $4d^95p\ ^1F^\circ_3$	02CHU/RYAb
	$^3P^\circ$	0	705 043	5	100%	02CHU/RYAb
	$^1F^\circ$	3	713 923	5	40%+46% $4d^95p\ ^3F^\circ_3$	02CHU/RYAb
	$^3D^\circ$	1	715 972	5	64%+19% $4d^95p\ ^3P^\circ_1$	02CHU/RYAb
	$^3D^\circ$	2	719 223	5	57%+27% $4d^95p\ ^1D^\circ_2$	02CHU/RYAb
$4d^94f$	$^3P^\circ$	0	(714 373)	5	100%	02CHU/RYAb
	$^3P^\circ$	1	716 673	5	97%+2% $4d^94f\ ^3D^\circ_1$	02CHU/RYAb
	$^3P^\circ$	2	(723 780)	5	90%+6% $4d^94f\ ^3D^\circ_2$	02CHU/RYAb
	$^3H^\circ$	6	(733 387)	5	100%	02CHU/RYAb
	$^3H^\circ$	5	(736 683)	5	79%+20% $4d^94f\ ^1F^\circ_5$	02CHU/RYAb
	$^1D^\circ$	2	(744 755)	5	38%+34% $4d^94f\ ^3F^\circ_2$	02CHU/RYAb
	$^3F^\circ$	3	(745 343)	5	52%+44% $4d^94f\ ^3D^\circ_3$	02CHU/RYAb
	$^3H^\circ$	4	(745 424)	5	77%+12% $4d^94f\ ^3G^\circ_4$	02CHU/RYAb
	$^3F^\circ$	4	(747 568)	5	84%+7% $4d^94f\ ^1G^\circ_4$	02CHU/RYAb
	$^3D^\circ$	1	752 513	5	97%+2% $4d^94f\ ^3P^\circ_1$	02CHU/RYAb
	$^1H^\circ$	5	(753 200)	5	47%+46% $4d^94f\ ^3G^\circ_5$	02CHU/RYAb
	$^3D^\circ$	2	(755 830)	5	50%+42% $4d^94f\ ^1D^\circ_2$	02CHU/RYAb
	$^3D^\circ$	3	(755 913)	5	45%+26% $4d^94f\ ^3F^\circ_3$	02CHU/RYAb
	$^1G^\circ$	4	(760 750)	5	46%+34% $4d^94f\ ^3G^\circ_4$	02CHU/RYAb
	$^3F^\circ$	2	(763 070)	5	58%+22% $4d^94f\ ^1D^\circ_2$	02CHU/RYAb
	$^3G^\circ$	5	(764 317)	5	52%+33% $4d^94f\ ^1H^\circ_5$	02CHU/RYAb
	$^3G^\circ$	3	(770 637)	5	69%+18% $4d^94f\ ^3F^\circ_3$	02CHU/RYAb
	$^3G^\circ$	4	(773 465)	5	50%+39% $4d^94f\ ^1G^\circ_4$	02CHU/RYAb
	$^1F^\circ$	3	(781 868)	5	81%+14% $4d^94f\ ^3G^\circ_3$	02CHU/RYAb
	$^1P^\circ$	1	912 500	5	92%+6% $4d^95f\ ^1P^\circ_1$	02CHU/RYAb
$4d^95d$	^3S	1	895 017	5	80%+18% $4d^95d\ ^3P_1$	02CHU/RYAb
	^3G	4	903 485	5	56%+42% $4d^95d\ ^1G_4$	02CHU/RYAb
	^3D	2	905 223	5	42%+52% $4d^95d\ ^3P_2$	02CHU/RYAb
	^3G	5	906 364	5	100%	02CHU/RYAb
	^1P	1	906 425	5	51%+25% $4d^95d\ ^3D_1$	02CHU/RYAb
	^3D	3	907 934	5	49%+36% $4d^95d\ ^3F_3$	02CHU/RYAb

TABLE 20. Energy levels of Cs X—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Leading percentages	Reference
	^1F	3	911 410	5	40%+38% $4d^95d\ ^3D_3$	02CHU/RYAb
	^3P	2	912 250	5	28%+46% $4d^95d\ ^1D_2$	02CHU/RYAb
	^3F	4	913 420	5	78%+19% $4d^95d\ ^1G_4$	02CHU/RYAb
	^3P	0	915 450	5	98%+2% $4d^95d\ ^1S_0$	02CHU/RYAb
	^3P	1	921 320	5	38%+46% $4d^95d\ ^1P_1$	02CHU/RYAb
	^3G	3	922 650	5	74%+21% $4d^95d\ ^1F_3$	02CHU/RYAb
	^3D	1	925 691	5	60%+34% $4d^95d\ ^3P_1$	02CHU/RYAb
	^1G	4	927 704	5	39%+40% $4d^95d\ ^3G_4$	02CHU/RYAb
	^1D	2	929 055	5	52%+27% $4d^95d\ ^3F_2$	02CHU/RYAb
	^3F	2	930 209	5	58%+30% $4d^95d\ ^3D_2$	02CHU/RYAb
	^3F	3	932 529	5	52%+33% $4d^95d\ ^1F_3$	02CHU/RYAb
	^1S	0	966 183	5	96%+2% $4d^95d\ ^3P_0$	02CHU/RYAb
$4d^95f$	$^3P^\circ$	0	(1 130 216)	5	100%	02CHU/RYAb
	$^3P^\circ$	1	1 131 646	5	80%+10% $4d^95f\ ^3D^\circ_1$	02CHU/RYAb
	$^3P^\circ$	2	(1 134 446)	5	58%+26% $4d^95f\ ^3D^\circ_2$	02CHU/RYAb
	$^3H^\circ$	6	1 135 392	5	100%	02CHU/RYAb
	$^3H^\circ$	5	1 135 844	5	55%+44% $4d^95f\ ^1H^\circ_5$	02CHU/RYAb
	$^1D^\circ$	2	1 138 029	5	40%+38% $4d^95f\ ^3F^\circ_2$	02CHU/RYAb
	$^3F^\circ$	3	1 138 369	5	48%+48% $4d^95f\ ^3D^\circ_3$	02CHU/RYAb
	$^3F^\circ$	4	1 139 419	5	72%+24% $4d^95f\ ^3G^\circ_4$	02CHU/RYAb
	$^1G^\circ$	4	1 140 121	5	50%+22% $4d^95f\ ^3G^\circ_4$	02CHU/RYAb
	$^3G^\circ$	5	1 141 024	5	78%+16% $4d^95f\ ^1H^\circ_5$	02CHU/RYAb
	$^1F^\circ$	3	1 141 623	5	50%+20% $4d^95f\ ^3G^\circ_3$	02CHU/RYAb
	$^3D^\circ$	1	1 144 990	5	78%+12% $4d^95f\ ^3P^\circ_1$	02CHU/RYAb
	$^3D^\circ$	2	1 153 202	5	32%+35% $4d^95f\ ^3P^\circ_2$	02CHU/RYAb
	$^3H^\circ$	4	1 154 827	5	76%+14% $4d^95f\ ^1G^\circ_4$	02CHU/RYAb
	$^1H^\circ$	5	1 156 138	5	40%+39% $4d^95f\ ^3H^\circ_5$	02CHU/RYAb
	$^3F^\circ$	2	(1 157 038)	5	62%+21% $4d^95f\ ^1D^\circ_2$	02CHU/RYAb
	$^3D^\circ$	3	1 158 274	5	28%+41% $4d^95f\ ^3F^\circ_3$	02CHU/RYAb
	$^3G^\circ$	4	1 160 011	5	45%+34% $4d^95f\ ^1G^\circ_4$	02CHU/RYAb
	$^3G^\circ$	3	(1 160 140)	5	60%+34% $4d^95f\ ^1F^\circ_3$	02CHU/RYAb
	$^1P^\circ$	1	1 175 751	5	82%	02CHU/RYAb
$4d^96p$	$^3P^\circ$	1	1 115 972	60	47%+44% $4d^96p\ ^1P^\circ_1$	94CHU/JOS
	$^1P^\circ$	1	1 126 012	60	52%+26% $4d^96p\ ^3D^\circ_1$	94CHU/JOS
	$^3D^\circ$	1	1 135 938	60	63%+31% $4d^96p\ ^3P^\circ_1$	94CHU/JOS
Cs XI ($4d^9\ ^2D^\circ_{5/2}$)		*Limit*	1 720 250	–		94CHU/JOS

References for Cs X

77SUG J. Sugar, J. Opt. Soc. Am. **67**, 1518 (1977).

82SUG/KAU J. Sugar and V. Kaufman, Phys. Scr. **26**, 419 (1982).

91JOS/ARC Y. N. Joshi and B. Arcimowicz, Can. J. Phys. **69**, 24 (1991).

94CHU/JOS S. S. Churilov, Y. N. Joshi, and A. N. Ryabtsev, J. Phys. B **27**, 5485 (1994).

02CHU/RYAa S. S. Churilov, A. N. Ryabtsev, W.-Ü. L. Tchang-Brillet, and J.-F. Wyart, Phys. Scr., T **T100**, 98 (2002).

02CHU/RYAb S. S. Churilov, A. N. Ryabtsev, W.-Ü. L. Tchang-Brillet, and J.-F. Wyart, Phys. Scr. **66**, 293 (2002).

08SAF/BIS U. I. Safronova, R. Bista, R. Bruch, and H. Merabet, Can. J. Phys. **86**, 131 (2008).

6.11. Cs XI

Rh isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^63d^{10}4s^24p^64d^9\ ^2D_{5/2}$
Ionization energy: (1 880 000 cm^{-1}); (233 eV)

There are three papers reporting measurements of the Cs XI spectrum. Using a triggered spark to excite the spectrum, van Kleef and Joshi [81KLE/JOS] photographed transitions involving the $4p^64d^9$ ground configuration and levels of the $4p^64d^85p$ configuration on a grazing-incidence spectrograph. The wavelengths observed ranged from 117 to 139 Å. After reanalyzing some of the spectral observations of [81KLE/JOS], Gayasov and Joshi [98GAY/JOS] extended the measurements down to 103 Å and identified several transitions to levels of the $4p^64d^84f$ configuration. [81KLE/JOS] identified three transitions as involving the $4p^54d^{10}$ configuration; however, Gayasov and Joshi [98GAY/JOS] rejected these identifications. The spectrum was remeasured, with the wavelength range increased to include lines up to 150 Å, by Churilov *et al.* [05CHU/JOS]. They also reoptimized the energy levels and discovered two transitions to the $4p^5(^2P)4d^{10}\ ^2P^\circ_{3/2}$ level (see Tables 21 and 22).

Churilov *et al.* [05CHU/JOS] provided a theoretical analysis of the Cs XI spectrum using the Hartree-Fock method as implemented in the Cowan code [81COW]. They gave leading percentages for the energy levels as well as transition probabilities for the observed lines. Because neither *LS* nor *jj* coupling describes the levels well in this spectrum, Churilov *et al.* [05CHU/JOS] gave designations specifying the level value, the *J* value, and the predominant character of each level (which usually, but not always, corresponds to the component with the largest percentage). We retain this system of notation in Tables 21 and 22 below. The [05CHU/JOS] results indicate that the $J=1/2$ level at 986 618 cm^{-1} has a lot of mixing of the $4p^5(^2P)4d^{10}\ ^2P^\circ$ and $4d^8(^1G)4f\ ^2P^\circ$ configurations. While the former has the largest leading percentage, overall the $4f$ is dominant. The calculated ionization energy is taken from Rodrigues *et al.* [04ROD/IND].

TABLE 21. Observed spectral lines of Cs XI

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
103.374	0.003	967 363	29		2.2E+12	$4d^9\ ^2D_{3/2}$	4f 986 618(1/2)	05CHU/JOS	05CHU/JOS
104.085	0.003	960 755	15	p	1.6E+10	$4d^9\ ^2D_{5/2}$	4f 960 757(5/2)	05CHU/JOS	05CHU/JOS
104.980	0.003	952 562	13		8.1E+10	$4d^9\ ^2D_{5/2}$	4f 952 559(3/2)	05CHU/JOS	05CHU/JOS
106.033	0.003	943 100	49		2.0E+12	$4d^9\ ^2D_{5/2}$	4f 943 094(3/2)	05CHU/JOS	05CHU/JOS
106.193	0.003	941 680	60		2.2E+12	$4d^9\ ^2D_{5/2}$	4f 941 680(7/2)	05CHU/JOS	05CHU/JOS
106.213	0.003	941 504	54		2.1E+12	$4d^9\ ^2D_{3/2}$	4f 960 757(5/2)	05CHU/JOS	05CHU/JOS
106.923	0.003	935 254	55		1.9E+12	$4d^9\ ^2D_{5/2}$	4f 935 256(5/2)	05CHU/JOS	05CHU/JOS
107.147	0.003	933 301	44		1.9E+12	$4d^9\ ^2D_{3/2}$	4f 952 559(3/2)	05CHU/JOS	05CHU/JOS
108.245	0.003	923 832	12		5.8E+10	$4d^9\ ^2D_{3/2}$	4f 943 094(3/2)	05CHU/JOS	05CHU/JOS
109.170	0.003	916 004	5		9.3E+9	$4d^9\ ^2D_{3/2}$	4f 935 256(5/2)	05CHU/JOS	05CHU/JOS
117.482	0.003	851 192	28		7.8E+9	$4d^9\ ^2D_{5/2}$	5p 851 208(3/2)	05CHU/JOS	05CHU/JOS
117.595	0.003	850 375	5		2.E+8	$4d^9\ ^2D_{5/2}$	4f 850 390(5/2)	05CHU/JOS	05CHU/JOS
117.616	0.003	850 226	6		1.E+8	$4d^9\ ^2D_{5/2}$	4f 850 226(7/2)	05CHU/JOS	05CHU/JOS
120.197	0.003	831 969	9		2.8E+9	$4d^9\ ^2D_{3/2}$	5p 851 208(3/2)	05CHU/JOS	05CHU/JOS
120.315	0.003	831 151	10		7.E+8	$4d^9\ ^2D_{3/2}$	4f 850 390(5/2)	05CHU/JOS	05CHU/JOS
121.849	0.003	820 686	6		2.E+8	$4d^9\ ^2D_{5/2}$	4f 820 686(3/2)	05CHU/JOS	05CHU/JOS
123.783	0.003	807 866	20		1.4E+10	$4d^9\ ^2D_{3/2}$	5p 827 121(1/2)	05CHU/JOS	05CHU/JOS
123.908	0.003	807 048	6		5.E+8	$4d^9\ ^2D_{5/2}$	4f 807 048(7/2)	05CHU/JOS	05CHU/JOS
124.070	0.003	805 996	38		5.3E+9	$4d^9\ ^2D_{5/2}$	5p 805 996(7/2)	05CHU/JOS	05CHU/JOS
124.370	0.003	804 053	8		1.8E+9	$4d^9\ ^2D_{5/2}$	5p 804 057(5/2)	05CHU/JOS	05CHU/JOS
124.594	0.003	802 609	9		4.E+8	$4d^9\ ^2D_{5/2}$	5p 802 609(7/2)	05CHU/JOS	05CHU/JOS
124.689	0.003	801 995	4		5.E+8	$4d^9\ ^2D_{5/2}$	4f 801 995(5/2)	05CHU/JOS	05CHU/JOS
124.700	0.003	801 924	4		1.3E+9	$4d^9\ ^2D_{5/2}$	4f 801 924(7/2)	05CHU/JOS	05CHU/JOS
125.191	0.003	798 780	20		5.3E+9	$4d^9\ ^2D_{5/2}$	5p 798 775(3/2)	05CHU/JOS	05CHU/JOS
125.591	0.003	796 237	6		1.0E+9	$4d^9\ ^2D_{5/2}$	4f 796 237(7/2)	05CHU/JOS	05CHU/JOS
125.731	0.003	795 346	8		2.3E+9	$4d^9\ ^2D_{5/2}$	5p 795 335(5/2)	05CHU/JOS	05CHU/JOS
126.230	0.003	792 207	7		8.E+8	$4d^9\ ^2D_{5/2}$	4f 792 204(5/2)	05CHU/JOS	05CHU/JOS
126.279	0.003	791 897	28		8.5E+9	$4d^9\ ^2D_{5/2}$	5p 791 897(3/2)	05CHU/JOS	05CHU/JOS
126.372	0.003	791 316	5	?	8.1E+10	$4d^9\ ^2D_{3/2}$	4f 810 571(1/2)	05CHU/JOS	05CHU/JOS
126.820	0.003	788 517	29		3.2E+10	$4d^9\ ^2D_{5/2}$	5p 788 515(3/2)	05CHU/JOS	05CHU/JOS
126.930	0.003	787 833	34		7.4E+10	$4d^9\ ^2D_{3/2}$	4f 807 088(1/2)	05CHU/JOS	05CHU/JOS
126.948	0.003	787 724	16		1.E+8	$4d^9\ ^2D_{5/2}$	4f 787 724(7/2)	05CHU/JOS	05CHU/JOS
127.087	0.003	786 864	5		1.2E+9	$4d^9\ ^2D_{5/2}$	4f 786 864(3/2)	05CHU/JOS	05CHU/JOS
127.261	0.003	785 788	16		4.5E+9	$4d^9\ ^2D_{3/2}$	4f 805 043(3/2)	05CHU/JOS	05CHU/JOS
127.393	0.003	784 972	25		1.8E+9	$4d^9\ ^2D_{5/2}$	5p 784 972(7/2)	05CHU/JOS	05CHU/JOS
127.420	0.003	784 805	55		4.2E+10	$4d^9\ ^2D_{3/2}$	5p 804 057(5/2)	05CHU/JOS	05CHU/JOS
127.637	0.003	783 470	20		3.3E+9	$4d^9\ ^2D_{5/2}$	5p 783 465(5/2)	05CHU/JOS	05CHU/JOS
127.747	0.003	782 798	18		1.2E+10	$4d^9\ ^2D_{5/2}$	5p 782 796(3/2)	05CHU/JOS	05CHU/JOS
127.784	0.003	782 572	5		5.E+8	$4d^9\ ^2D_{3/2}$	5p 801 827(3/2)	05CHU/JOS	05CHU/JOS
128.285	0.003	779 514	3		2.E+8	$4d^9\ ^2D_{3/2}$	5p 798 775(3/2)	05CHU/JOS	05CHU/JOS
128.442	0.003	778 561	4		2.0E+9	$4d^9\ ^2D_{3/2}$	4f 797 816(3/2)	05CHU/JOS	05CHU/JOS
128.631	0.003	777 417	18		3.6E+9	$4d^9\ ^2D_{5/2}$	4f 777 417(7/2)	05CHU/JOS	05CHU/JOS

TABLE 21. Observed spectral lines of Cs XI—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
128.658	0.003	777 254	12		1.3E+10	$4d^9\ ^2D_{3/2}$	5p 796 509(1/2)	05CHU/JOS	05CHU/JOS
128.676	0.003	777 148	34		6.5E+9	$4d^9\ ^2D_{3/2}$	4f 796 403(5/2)	05CHU/JOS	05CHU/JOS
128.784	0.003	776 492	58		7.3E+10	$4d^9\ ^2D_{5/2}$	5p 776 490(3/2)	05CHU/JOS	05CHU/JOS
128.854	0.003	776 072	35		2.3E+9	$4d^9\ ^2D_{3/2}$	5p 795 335(5/2)	05CHU/JOS	05CHU/JOS
128.977	0.003	775 334	4		2.2E+9	$4d^9\ ^2D_{5/2}$	4f 775 334(5/2)	05CHU/JOS	05CHU/JOS
129.045	0.003	774 926	48		2.4E+10	$4d^9\ ^2D_{5/2}$	5p 774 923(5/2)	05CHU/JOS	05CHU/JOS
129.082	0.003	774 702	65		4.0E+10	$4d^9\ ^2D_{5/2}$	5p 774 702(7/2)	05CHU/JOS	05CHU/JOS
129.260	0.003	773 634	7		2.3E+9	$4d^9\ ^2D_{5/2}$	4f 773 634(7/2)	05CHU/JOS	05CHU/JOS
129.375	0.003	772 947	55		2.6E+10	$4d^9\ ^2D_{3/2}$	4f 792 204(5/2)	05CHU/JOS	05CHU/JOS
129.435	0.003	772 590	50		3.0E+10	$4d^9\ ^2D_{5/2}$	5p 772 595(3/2)	05CHU/JOS	05CHU/JOS
129.435	0.003	772 590			1.8E+9	$4d^9\ ^2D_{3/2}$	5p 791 897(3/2)	05CHU/JOS	05CHU/JOS
129.481	0.003	772 314	7		2.E+9	$4d^9\ ^2D_{3/2}$	4f 791 569(1/2)	05CHU/JOS	05CHU/JOS
129.508	0.003	772 151	42		4.1E+9	$4d^9\ ^2D_{5/2}$	5p 772 151(7/2)	05CHU/JOS	05CHU/JOS
129.556	0.003	771 867	13		1.5E+10	$4d^9\ ^2D_{3/2}$	5p 791 122(5/2)	05CHU/JOS	05CHU/JOS
129.906	0.003	769 789	57		2.9E+10	$4d^9\ ^2D_{5/2}$	5p 769 790(5/2)	05CHU/JOS	05CHU/JOS
129.995	0.003	769 259	47		6.0E+10	$4d^9\ ^2D_{3/2}$	5p 788 515(3/2)	05CHU/JOS	05CHU/JOS
130.288	0.003	767 532	69		4.1E+10	$4d^9\ ^2D_{5/2}$	5p 767 532(7/2)	05CHU/JOS	05CHU/JOS
130.288	0.003	767 532			4.0E+9	$4d^9\ ^2D_{3/2}$	4f 786 864(3/2)	05CHU/JOS	05CHU/JOS
130.381	0.003	766 982	33		2.4E+10	$4d^9\ ^2D_{5/2}$	5p 766 985(5/2)	05CHU/JOS	05CHU/JOS
130.475	0.003	766 432	32	?	2.E+8	$4d^9\ ^2D_{5/2}$	4f 766 432(5/2)	05CHU/JOS	05CHU/JOS
130.855	0.003	764 205	40	p	1.2E+10	$4d^9\ ^2D_{3/2}$	5p 783 465(5/2)	05CHU/JOS	05CHU/JOS
130.969	0.003	763 539	53		9.1E+10	$4d^9\ ^2D_{3/2}$	5p 782 796(3/2)	05CHU/JOS	05CHU/JOS
131.042	0.003	763 112	27		1.7E+10	$4d^9\ ^2D_{3/2}$	5p 782 367(1/2)	05CHU/JOS	05CHU/JOS
131.235	0.003	761 991	60		5.5E+10	$4d^9\ ^2D_{5/2}$	5p 761 994(5/2)	05CHU/JOS	05CHU/JOS
131.400	0.003	761 035	5		1.E+8	$4d^9\ ^2D_{5/2}$	4f 761 035(7/2)	05CHU/JOS	05CHU/JOS
131.473	0.003	760 611	5		5.E+8	$4d^9\ ^2D_{3/2}$	4f 779 866(1/2)	05CHU/JOS	05CHU/JOS
131.577	0.003	760 013	21		6.0E+9	$4d^9\ ^2D_{5/2}$	5p 760 018(3/2)	05CHU/JOS	05CHU/JOS
131.851	0.003	758 430	19		2.0E+9	$4d^9\ ^2D_{5/2}$	4f 758 430(7/2)	05CHU/JOS	05CHU/JOS
132.061	0.003	757 228	4		5.E+8	$4d^9\ ^2D_{3/2}$	5p 776 490(3/2)	05CHU/JOS	05CHU/JOS
132.124	0.003	756 863	11		6.0E+9	$4d^9\ ^2D_{3/2}$	5p 776 118(1/2)	05CHU/JOS	05CHU/JOS
132.158	0.003	756 671	60		1.3E+10	$4d^9\ ^2D_{5/2}$	5p 756 671(7/2)	05CHU/JOS	05CHU/JOS
132.334	0.003	755 665	37		1.2E+10	$4d^9\ ^2D_{3/2}$	5p 774 923(5/2)	05CHU/JOS	05CHU/JOS
132.536	0.003	754 510	57		2.1E+10	$4d^9\ ^2D_{5/2}$	5p 754 510(5/2)	05CHU/JOS	05CHU/JOS
132.708	0.003	753 533	5		4.0E+9	$4d^9\ ^2D_{5/2}$	4f 753 535(5/2)	05CHU/JOS	05CHU/JOS
132.741	0.003	753 348	7		1.5E+9	$4d^9\ ^2D_{3/2}$	5p 772 595(3/2)	05CHU/JOS	05CHU/JOS
133.124	0.003	751 180	15		2.3E+9	$4d^9\ ^2D_{5/2}$	5p 751 182(3/2)	05CHU/JOS	05CHU/JOS
133.234	0.003	750 559	9	b	1.0E+9	$4d^9\ ^2D_{3/2}$	5p 769 790(5/2)	05CHU/JOS	05CHU/JOS
133.521	0.003	748 946	8		3.E+8	$4d^9\ ^2D_{5/2}$	4f 748 946(3/2)	05CHU/JOS	05CHU/JOS
133.738	0.003	747 733	3		1.3E+9	$4d^9\ ^2D_{3/2}$	5p 766 985(5/2)	05CHU/JOS	05CHU/JOS
134.636	0.003	742 742	11		2.5E+9	$4d^9\ ^2D_{3/2}$	5p 761 994(5/2)	05CHU/JOS	05CHU/JOS
134.662	0.003	742 601	8		5.E+8	$4d^9\ ^2D_{5/2}$	5p 742 601(7/2)	05CHU/JOS	05CHU/JOS
134.761	0.003	742 053	37		4.5E+9	$4d^9\ ^2D_{5/2}$	5p 742 053(5/2)	05CHU/JOS	05CHU/JOS
134.995	0.003	740 768	14		3.3E+9	$4d^9\ ^2D_{3/2}$	5p 760 018(3/2)	05CHU/JOS	05CHU/JOS
135.092	0.003	740 237	4		3.E+8	$4d^9\ ^2D_{5/2}$	4f 740 248(3/2)	05CHU/JOS	05CHU/JOS
135.230	0.003	739 479	8		1.0E+9	$4d^9\ ^2D_{3/2}$	4f 758 734(3/2)	05CHU/JOS	05CHU/JOS
135.535	0.003	737 816	10		8.E+8	$4d^9\ ^2D_{5/2}$	5p 737 819(3/2)	05CHU/JOS	05CHU/JOS
135.616	0.003	737 376	15		5.E+8	$4d^9\ ^2D_{3/2}$	4f 756 631(3/2)	05CHU/JOS	05CHU/JOS
135.788	0.003	736 440	8		8.E+8	$4d^9\ ^2D_{5/2}$	4f 736 440(5/2)	05CHU/JOS	05CHU/JOS
136.008	0.003	735 251	3		2.E+8	$4d^9\ ^2D_{3/2}$	5p 754 510(5/2)	05CHU/JOS	05CHU/JOS
136.188	0.003	734 281	4		2.E+8	$4d^9\ ^2D_{3/2}$	4f 753 535(5/2)	05CHU/JOS	05CHU/JOS
136.257	0.003	733 908	3		1.E+9	$4d^9\ ^2D_{3/2}$	5p 753 163(1/2)	05CHU/JOS	05CHU/JOS
136.625	0.003	731 930	7		5.E+8	$4d^9\ ^2D_{3/2}$	5p 751 182(3/2)	05CHU/JOS	05CHU/JOS
136.882	0.003	730 557	11		5.E+8	$4d^9\ ^2D_{3/2}$	4f 749 812(5/2)	05CHU/JOS	05CHU/JOS
137.468	0.003	727 442	5		1.E+9	$4d^9\ ^2D_{3/2}$	4f 746 697(1/2)	05CHU/JOS	05CHU/JOS
137.808	0.003	725 648	7		3.E+8	$4d^9\ ^2D_{5/2}$	4f 725 648(7/2)	05CHU/JOS	05CHU/JOS
138.423	0.003	722 425	17		6.E+8	$4d^9\ ^2D_{5/2}$	5p 722 425(7/2)	05CHU/JOS	05CHU/JOS
138.695	0.003	721 004	4		3.E+8	$4d^9\ ^2D_{3/2}$	4f 740 248(3/2)	05CHU/JOS	05CHU/JOS

TABLE 21. Observed spectral lines of Cs XI—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
139.166	0.003	718 567	11		1.3E+9	$4d^9\ ^2D_{3/2}$	5p 737 819(3/2)	05CHU/JOS	05CHU/JOS
139.993	0.003	714 319	7		2.E+9	$4d^9\ ^2D_{3/2}$	4f 733 574(1/2)	05CHU/JOS	05CHU/JOS
145.719	0.003	686 251	32		5.3E+9	$4d^9\ ^2D_{5/2}$	pd 686 247(3/2)	05CHU/JOS	05CHU/JOS
149.928	0.003	666 988	5		8.E+8	$4d^9\ ^2D_{3/2}$	pd 686 247(3/2)	05CHU/JOS	05CHU/JOS

TABLE 22. Energy levels of Cs XI

J	Designation	Energy (cm^{-1})	Unc. (cm^{-1})	Leading percentages	Ref.
1/2	4f 733 574(1/2)	733 574	20	47% $4d^8(^1G)4f\ ^2P°$+18% $4d^8(^3F)4f\ ^2P°$+10% $4p^5(^2P)4d^{10}\ ^2P°$	05CHU/JOS
	4f 746 697(1/2)	746 697	20	72% $4d^8(^3F)4f\ ^4D°$+8% $4d^8(^3F)4f\ ^4P°$+7% $4d^8(^1G)4f\ ^2P°$	05CHU/JOS
	5p 753 163(1/2)	753 163	20	31% $4d^8(^3P)5p\ ^4D°$+17% $4d^8(^3F)5p\ ^4D°$+13% $4d^8(^3P)5p\ ^2P°$	05CHU/JOS
	4f 755 028(1/2)	(755 028)		50% $4d^8(^3F)4f\ ^4P°$+14% $4d^8(^3P)5p\ ^4P°$+12% $4d^8(^3F)4f\ ^4D°$	05CHU/JOS
	5p 757 523(1/2)	(757 523)		55% $4d^8(^3P)5p\ ^4P°$+18% $4d^8(^3F)4f\ ^4P°$+9% $4d^8(^3P)5p\ ^4D°$	05CHU/JOS
	4f 761 808(1/2)	(761 808)		57% $4d^8(^3F)4f\ ^2S°$+17% $4d^8(^1D)4f\ ^2P°$+7% $4d^8(^3F)4f\ ^4P°$	05CHU/JOS
	5p 776 118(1/2)	776 118	20	31% $4d^8(^1D)5p\ ^2P°$+28% $4d^8(^3P)5p\ ^4D°$+22% $4d^8(^3F)5p\ ^4D°$	05CHU/JOS
	4f 779 866(1/2)	779 866	20	39% $4d^8(^3P)4f\ ^4D°$+20% $4d^8(^3F)4f\ ^2S°$+20% $4d^8(^1D)4f\ ^2P°$	05CHU/JOS
	5p 782 367(1/2)	782 367	20	39% $4d^8(^3F)5p\ ^4D°$+37% $4d^8(^3P)5p\ ^2P°$+9% $4d^8(^1D)5p\ ^2P°$	05CHU/JOS
	4f 791 569(1/2)	791 569	20	40% $4d^8(^3P)4f\ ^4D°$+27% $4d^8(^3F)4f\ ^2P°$+21% $4p^5(^2P)4d^{10}\ ^2P°$	05CHU/JOS
	5p 796 509(1/2)	796 509	20	61% $4d^8(^3P)5p\ ^2S°$+11% $4d^8(^3P)5p\ ^4P°$+11% $4d^8(^3P)5p\ ^2P°$	05CHU/JOS
	5p 807 088(1/2)	807 088	20	27% $4d^8(^3P)5p\ ^2P°$+22% $4d^8(^1D)5p\ ^2P°$+16% $4d^8(^1D)4f\ ^2P°$	05CHU/JOS
	4f 810 571(1/2) ?	810 571	20	31% $4d^8(^1D)4f\ ^2P°$+15% $4d^8(^3F)4f\ ^2P°$+15% $4d^8(^1D)5p\ ^2P°$	05CHU/JOS
	5p 827 121(1/2)	827 121	20	72% $4d^8(^1S)5p\ ^2P°$+11% $4d^8(^1D)5p\ ^2P°$+6% $4d^8(^3P)5p\ ^4D°$	05CHU/JOS
	4f 986 618(1/2)	986 618	30	40% $4p^5(^2P)4d^{10}\ ^2P°$+31% $4d^8(^1G)4f\ ^2P°$+24% $4d^8(^3F)4f\ ^2P°$	05CHU/JOS
3/2	$4d^9\ ^2D_{3/2}$	19 255	15	100%	05CHU/JOS
	pd 686 247(3/2)	686 247	20	70% $4p^5(^2P)4d^{10}\ ^2P°$+23% $4d^8(^1G)4f\ ^2P°$+5% $4d^8(^1D)4f\ ^2P°$	05CHU/JOS
	4f 732 282(3/2)	(732 282)		28% $4d^8(^3F)4f\ ^4D°$+27% $4d^8(^3P)4f\ ^4F°$+23% $4d^8(^3F)4f\ ^4F°$	05CHU/JOS
	5p 737 819(3/2)	737 819	20	20% $4d^8(^1D)5p\ ^2D°$+15% $4d^8(^3P)5p\ ^4P°$+14% $4d^8(^1D)5p\ ^2P°$	05CHU/JOS
	4f 740 248(3/2)	740 248	20	22% $4d^8(^3P)4f\ ^4F°$+18% $4d^8(^3F)4f\ ^4D°$+17% $4d^8(^3F)4f\ ^4P°$	05CHU/JOS
	4f 748 946(3/2)	748 946	20	29% $4d^8(^3F)4f\ ^4P°$+15% $4d^8(^1G)4f\ ^2D°$+12% $4d^8(^3F)4f\ ^4S°$	05CHU/JOS
	5p 751 182(3/2)	751 182	20	31% $4d^8(^3F)5p\ ^4D°$+28% $4d^8(^3P)5p\ ^4D°$+16% $4d^8(^3P)5p\ ^4P°$	05CHU/JOS
	4f 756 631(3/2)	756 631	20	39% $4d^8(^3F)4f\ ^4D°$+16% $4d^8(^1G)4f\ ^2D°$+10% $4d^8(^3F)4f\ ^4S°$	05CHU/JOS
	4f 758 734(3/2)	758 734	20	38% $4d^8(^3F)4f\ ^2P°$+26% $4d^8(^1G)4f\ ^2P°$+10% $4d^8(^1D)4f\ ^2D°$	05CHU/JOS
	5p 760 018(3/2)	760 018	20	24% $4d^8(^3P)5p\ ^4P°$+12% $4d^8(^3P)5p\ ^4D°$+12% $4d^8(^3F)5p\ ^4D°$	05CHU/JOS
	4f 768 535(3/2)	(768 535)		63% $4d^8(^3F)4f\ ^4S°$+21% $4d^8(^3F)4f\ ^4P°$+7% $4d^8(^1D)4f\ ^2P°$	05CHU/JOS
	5p 772 595(3/2)	772 595	20	23% $4d^8(^3P)5p\ ^2P°$+22% $4d^8(^3F)5p\ ^4D°$+17% $4d^8(^3P)5p\ ^4D°$	05CHU/JOS
	4f 775 770(3/2)	(775 770)		37% $4d^8(^3F)4f\ ^4F°$+26% $4d^8(^3P)4f\ ^4F°$+13% $4d^8(^1G)4f\ ^2D°$	05CHU/JOS
	5p 776 490(3/2)	776 490	20	36% $4d^8(^1D)5p\ ^2P°$+34% $4d^8(^3F)5p\ ^4F°$+13% $4d^8(^3P)5p\ ^2P°$	05CHU/JOS
	5p 782 796(3/2)	782 796	20	55% $4d^8(^3F)5p\ ^2D°$+16% $4d^8(^1D)5p\ ^2D°$+9% $4d^8(^3F)5p\ ^4D°$	05CHU/JOS
	4f 786 864(3/2)	786 864	20	65% $4d^8(^3P)4f\ ^4D°$+10% $4d^8(^1D)4f\ ^2P°$+4% $4d^8(^3F)4f\ ^4F°$	05CHU/JOS
	5p 788 515(3/2)	788 515	20	28% $4d^8(^3P)5p\ ^2P°$+26% $4d^8(^3P)5p\ ^2D°$+13% $4d^8(^3F)5p\ ^4D°$	05CHU/JOS
	5p 791 897(3/2)	791 897	20	20% $4d^8(^3P)5p\ ^4S°$+16% $4d^8(^3P)5p\ ^4D°$+12% $4d^8(^3P)5p\ ^4P°$	05CHU/JOS
	4f 797 816(3/2)	797 816	20	22% $4d^8(^1D)4f\ ^2D°$+12% $4d^8(^1G)4f\ ^2D°$+11% $4d^8(^3F)4f\ ^4F°$	05CHU/JOS
	5p 798 775(3/2)	798 775	20	35% $4d^8(^3P)5p\ ^2D°$+11% $4d^8(^1D)4f\ ^2D°$+6% $4d^8(^1D)5p\ ^2P°$	05CHU/JOS
	5p 801 827(3/2)	801 827	20	53% $4d^8(^3P)5p\ ^4S°$+12% $4d^8(^1D)5p\ ^2P°$+10% $4d^8(^3P)5p\ ^2P°$	05CHU/JOS
	4f 805 043(3/2)	805 043	20	29% $4d^8(^1D)4f\ ^2P°$+20% $4d^8(^3P)4f\ ^4D°$+16% $4d^8(^1D)4f\ ^2D°$	05CHU/JOS
	4f 820 686(3/2)	820 686	20	57% $4d^8(^3P)4f\ ^2D°$+23% $4d^8(^1D)4f\ ^2P°$+11% $4d^8(^3F)4f\ ^2D°$	05CHU/JOS
	5p 851 208(3/2)	851 208	20	85% $4d^8(^1S)5p\ ^2P°$+4% $4d^8(^3P)5p\ ^2D°$+3% $4d^8(^3P)5p\ ^4D°$	05CHU/JOS
	4f 943 094(3/2)	943 094	30	32% $4d^8(^1G)4f\ ^2P°$+24% $4d^8(^3F)4f\ ^2P°$+16% $4p^5(^2P)4d^{10}\ ^2P°$	05CHU/JOS
	4f 952 559(3/2)	952 559	30	45% $4d^8(^3F)4f\ ^2D°$+15% $4d^8(^1G)4f\ ^2D°$+10% $4d^8(^1G)4f\ ^2P°$	05CHU/JOS
5/2	$4d^9\ ^2D_{5/2}$	0	–	100%	05CHU/JOS
	4f 726 649(5/2)	(726 649)		32% $4d^8(^3P)4f\ ^4F°$+30% $4d^8(^3F)4f\ ^4F°$+16% $4d^8(^3F)4f\ ^4D°$	05CHU/JOS
	4f 736 440(5/2)	736 440	20	42% $4d^8(^3F)4f\ ^4D°$+23% $4d^8(^3F)4f\ ^4P°$+9% $4d^8(^3P)4f\ ^4F°$	05CHU/JOS
	5p 737 676(5/2)	(737 676)		21% $4d^8(^3F)5p\ ^4D°$+19% $4d^8(^1D)5p\ ^2F°$+14% $4d^8(^3P)5p\ ^4D°$	05CHU/JOS
	5p 742 053(5/2)	742 053	20	30% $4d^8(^3F)5p\ ^4D°$+29% $4d^8(^3F)5p\ ^4F°$+23% $4d^8(^3F)5p\ ^4G°$	05CHU/JOS

TABLE 22. Energy levels of Cs XI—Continued

J	Designation	Energy (cm^{-1})	Unc. (cm^{-1})	Leading percentages	Ref.
	4f 749 812(5/2)	749 812	20	33% $4d^8(^1D)4f\ ^2F^\circ$+14% $4d^8(^3F)4f\ ^4P^\circ$+10% $4d^8(^3P)4f\ ^2F^\circ$	05CHU/JOS
	4f 753 535(5/2)	753 535	20	39% $4d^8(^3F)4f\ ^4P^\circ$+15% $4d^8(^3F)4f\ ^4D^\circ$+7% $4d^8(^1D)4f\ ^2D^\circ$	05CHU/JOS
	5p 754 510(5/2)	754 510	20	28% $4d^8(^3F)5p\ ^4G^\circ$+15% $4d^8(^3F)5p\ ^2D^\circ$+11% $4d^8(^3P)5p\ ^4P^\circ$	05CHU/JOS
	5p 761 994(5/2)	761 994	20	57% $4d^8(^3F)5p\ ^2D^\circ$+12% $4d^8(^3F)5p\ ^4D^\circ$+11% $4d^8(^3P)5p\ ^4P^\circ$	05CHU/JOS
	4f 763 549(5/2)	(763 549)		42% $4d^8(^1G)4f\ ^2D^\circ$+16% $4d^8(^3F)4f\ ^2D^\circ$+14% $4d^8(^3F)4f\ ^4D^\circ$	05CHU/JOS
	4f 766 432(5/2)?	766 432	20	34% $4d^8(^3F)4f\ ^4G^\circ$+27% $4d^8(^3P)4f\ ^4G^\circ$+8% $4d^8(^3P)4f\ ^4F^\circ$	05CHU/JOS
	5p 766 985(5/2)	766 985	20	23% $4d^8(^1D)5p\ ^2F^\circ$+18% $4d^8(^3F)5p\ ^4F^\circ$+11% $4d^8(^3F)5p\ ^4D^\circ$	05CHU/JOS
	5p 769 790(5/2)	769 790	20	26% $4d^8(^1D)5p\ ^2D^\circ$+25% $4d^8(^3F)5p\ ^2F^\circ$+15% $4d^8(^3P)5p\ ^2D^\circ$	05CHU/JOS
	5p 774 923(5/2)	774 923	20	17% $4d^8(^1D)5p\ ^2D^\circ$+16% $4d^8(^1D)5p\ ^2F^\circ$+16% $4d^8(^3P)5p\ ^4P^\circ$	05CHU/JOS
	4f 775 334(5/2)	775 334	20	37% $4d^8(^3F)4f\ ^4F^\circ$+20% $4d^8(^3P)4f\ ^4F^\circ$+11% $4d^8(^1D)4f\ ^2D^\circ$	05CHU/JOS
	5p 783 465(5/2)	783 465	20	35% $4d^8(^3F)5p\ ^2F^\circ$+17% $4d^8(^3P)5p\ ^4P^\circ$+11% $4d^8(^3P)5p\ ^4D^\circ$	05CHU/JOS
	4f 784 429(5/2)	(784 429)		25% $4d^8(^3P)4f\ ^2F^\circ$+19% $4d^8(^3F)4f\ ^2F^\circ$+10% $4d^8(^3F)4f\ ^4F^\circ$	05CHU/JOS
	5p 791 122(5/2)	791 122	20	30% $4d^8(^1G)5p\ ^2F^\circ$+14% $4d^8(^1G)4f\ ^2F^\circ$+12% $4d^8(^3P)4f\ ^4D^\circ$	05CHU/JOS
	4f 792 204(5/2)	792 204	20	32% $4d^8(^1G)5p\ ^2F^\circ$+22% $4d^8(^3P)4f\ ^4D^\circ$+13% $4d^8(^1G)4f\ ^2F^\circ$	05CHU/JOS
	5p 795 335(5/2)	795 335	20	25% $4d^8(^3P)5p\ ^4D^\circ$+19% $4d^8(^3P)5p\ ^2D^\circ$+10% $4d^8(^1G)4f\ ^2F^\circ$	05CHU/JOS
	4f 796 403(5/2)	796 403	20	27% $4d^8(^3P)4f\ ^4D^\circ$+21% $4d^8(^3P)5p\ ^4D^\circ$+12% $4d^8(^3P)5p\ ^2D^\circ$	05CHU/JOS
	4f 801 995(5/2)	801 995	20	33% $4d^8(^3F)4f\ ^4G^\circ$+24% $4d^8(^3P)4f\ ^4G^\circ$+17% $4d^8(^1G)4f\ ^2F^\circ$	05CHU/JOS
	5p 804 057(5/2)	804 057	20	25% $4d^8(^1D)5p\ ^2D^\circ$+19% $4d^8(^1G)5p\ ^2F^\circ$+16% $4d^8(^3F)5p\ ^2F^\circ$	05CHU/JOS
	4f 807 134(5/2)	(807 134)		39% $4d^8(^1D)4f\ ^2D^\circ$+14% $4d^8(^3P)4f\ ^2F^\circ$+14% $4d^8(^3F)4f\ ^2F^\circ$	05CHU/JOS
	4f 814 977(5/2)	(814 977)		70% $4d^8(^3P)4f\ ^2D^\circ$+13% $4d^8(^3F)4f\ ^2D^\circ$+7% $4d^8(^1S)4f\ ^2F^\circ$	05CHU/JOS
	4f 850 390(5/2)	850 390	20	68% $4d^8(^1S)4f\ ^2F^\circ$+12% $4d^8(^1D)4f\ ^2F^\circ$+6% $4d^8(^3P)4f\ ^2D^\circ$	05CHU/JOS
	4f 935 256(5/2)	935 256	30	56% $4d^8(^3F)4f\ ^2D^\circ$+22% $4d^8(^1G)4f\ ^2D^\circ$+8% $4d^8(^1D)4f\ ^2D^\circ$	05CHU/JOS
	4f 960 757(5/2)	960 757	30	36% $4d^8(^3F)4f\ ^2F^\circ$+30% $4d^8(^3P)4f\ ^2F^\circ$+15% $4d^8(^1D)4f\ ^2F^\circ$	05CHU/JOS
7/2	5p 722 425(7/2)	722 425	20	64% $4d^8(^3F)5p\ ^4D^\circ$+17% $4d^8(^3F)5p\ ^4F^\circ$+9% $4d^8(^3F)5p\ ^2F^\circ$	05CHU/JOS
	4f 725 648(7/2)	725 648	20	39% $4d^8(^3F)4f\ ^4F^\circ$+36% $4d^8(^3P)4f\ ^4F^\circ$+12% $4d^8(^3F)4f\ ^4D^\circ$	05CHU/JOS
	4f 738 695(7/2)	(738 695)		79% $4d^8(^3F)4f\ ^4D^\circ$+9% $4d^8(^3P)4f\ ^4F^\circ$+7% $4d^8(^1D)4f\ ^2F^\circ$	05CHU/JOS
	5p 742 601(7/2)	742 601	20	64% $4d^8(^3F)5p\ ^4G^\circ$+15% $4d^8(^3F)5p\ ^2G^\circ$+11% $4d^8(^3F)5p\ ^4F^\circ$	05CHU/JOS
	5p 756 671(7/2)	756 671	20	54% $4d^8(^3F)5p\ ^2F^\circ$+20% $4d^8(^3F)5p\ ^4D^\circ$+11% $4d^8(^3F)5p\ ^4F^\circ$	05CHU/JOS
	4f 758 430(7/2)	758 430	20	38% $4d^8(^3F)4f\ ^4G^\circ$+23% $4d^8(^3P)4f\ ^4G^\circ$+17% $4d^8(^1D)4f\ ^2F^\circ$	05CHU/JOS
	4f 759 558(7/2)	(759 558)		59% $4d^8(^3F)4f\ ^4H^\circ$+29% $4d^8(^1D)4f\ ^2G^\circ$+2% $4d^8(^3F)4f\ ^4G^\circ$	05CHU/JOS
	4f 761 035(7/2)	761 035	20	20% $4d^8(^1D)4f\ ^2F^\circ$+18% $4d^8(^3F)4f\ ^2G^\circ$+9% $4d^8(^3F)4f\ ^4G^\circ$	05CHU/JOS
	5p 767 532(7/2)	767 532	20	35% $4d^8(^1G)5p\ ^2F^\circ$+30% $4d^8(^1D)5p\ ^2F^\circ$+14% $4d^8(^3F)5p\ ^2G^\circ$	05CHU/JOS
	5p 772 151(7/2)	772 151	20	37% $4d^8(^3F)5p\ ^4F^\circ$+20% $4d^8(^1G)5p\ ^2F^\circ$+14% $4d^8(^3F)5p\ ^4G^\circ$	05CHU/JOS
	4f 773 634(7/2)	773 634	20	30% $4d^8(^3P)4f\ ^4F^\circ$+26% $4d^8(^3F)4f\ ^4F^\circ$+11% $4d^8(^3F)4f\ ^4H^\circ$	05CHU/JOS
	5p 774 702(7/2)	774 702	20	23% $4d^8(^3F)5p\ ^2G^\circ$+22% $4d^8(^3F)5p\ ^2F^\circ$+16% $4d^8(^3F)5p\ ^4F^\circ$	05CHU/JOS
	4f 777 417(7/2)	777 417	20	27% $4d^8(^3F)4f\ ^2G^\circ$+26% $4d^8(^3P)4f\ ^2F^\circ$+24% $4d^8(^1G)4f\ ^2F^\circ$	05CHU/JOS
	4f 782 116(7/2)	(782 116)		16% $4d^8(^3F)4f\ ^2G^\circ$+15% $4d^8(^3P)4f\ ^4G^\circ$+14% $4d^8(^3P)4f\ ^2G^\circ$	05CHU/JOS
	5p 784 972(7/2)	784 972	20	50% $4d^8(^3P)5p\ ^4D^\circ$+29% $4d^8(^3F)5p\ ^2G^\circ$+11% $4d^8(^3F)5p\ ^4G^\circ$	05CHU/JOS
	4f 787 724(7/2)	787 724	20	35% $4d^8(^1D)4f\ ^2G^\circ$+18% $4d^8(^1G)4f\ ^2G^\circ$+10% $4d^8(^3F)4f\ ^4H^\circ$	05CHU/JOS
	4f 794 661(7/2)	(794 661)		75% $4d^8(^3P)4f\ ^4D^\circ$+5% $4d^8(^1S)4f\ ^2F^\circ$+3% $4d^8(^3F)4f\ ^4G^\circ$	05CHU/JOS
	4f 796 237(7/2)	796 237	20	18% $4d^8(^3P)4f\ ^4G^\circ$+15% $4d^8(^1G)4f\ ^2F^\circ$+13% $4d^8(^1G)4f\ ^2G^\circ$	05CHU/JOS
	4f 801 924(7/2)	801 924	20	21% $4d^8(^1G)5p\ ^2G^\circ$+15% $4d^8(^3P)4f\ ^4G^\circ$+14% $4d^8(^3F)4f\ ^4G^\circ$	05CHU/JOS
	5p 802 609(7/2)	802 609	20	20% $4d^8(^1G)5p\ ^2G^\circ$+18% $4d^8(^1D)5p\ ^2F^\circ$+12% $4d^8(^3F)4f\ ^4G^\circ$	05CHU/JOS
	5p 805 996(7/2)	805 996	20	38% $4d^8(^1G)5p\ ^2G^\circ$+25% $4d^8(^1D)5p\ ^2F^\circ$+15% $4d^8(^1G)5p\ ^2F^\circ$	05CHU/JOS
	4f 807 048(7/2)	807 048	20	31% $4d^8(^1G)4f\ ^2F^\circ$+19% $4d^8(^3F)4f\ ^2F^\circ$+18% $4d^8(^3P)4f\ ^2F^\circ$	05CHU/JOS
	4f 815 231(7/2)	(815 231)		45% $4d^8(^1G)4f\ ^2G^\circ$+34% $4d^8(^3P)4f\ ^2G^\circ$+7% $4d^8(^3F)4f\ ^2G^\circ$	05CHU/JOS
	4f 850 226(7/2)	850 226	20	75% $4d^8(^1S)4f\ ^2F^\circ$+11% $4d^8(^1D)4f\ ^2F^\circ$+5% $4d^8(^3P)4f\ ^2G^\circ$	05CHU/JOS
	4f 941 680(7/2)	941 680	30	38% $4d^8(^3F)4f\ ^2F^\circ$+33% $4d^8(^3P)4f\ ^2F^\circ$+14% $4d^8(^1D)4f\ ^2F^\circ$	05CHU/JOS
9/2	5p 726 840(9/2)	(726 840)		29% $4d^8(^3F)5p\ ^2G^\circ$+28% $4d^8(^3F)5p\ ^4G^\circ$+19% $4d^8(^3F)5p\ ^4F^\circ$	05CHU/JOS
	4f 727 974(9/2)	(727 974)		39% $4d^8(^3F)4f\ ^4F^\circ$+34% $4d^8(^3P)4f\ ^4F^\circ$+9% $4d^8(^3F)5p\ ^2G^\circ$	05CHU/JOS
	4f 750 774(9/2)	(750 774)		32% $4d^8(^3F)4f\ ^4H^\circ$+24% $4d^8(^3F)4f\ ^4G^\circ$+18% $4d^8(^3F)4f\ ^2G^\circ$	05CHU/JOS
	5p 755 842(9/2)	(755 842)		67% $4d^8(^3F)5p\ ^4F^\circ$+25% $4d^8(^3F)5p\ ^2G^\circ$+2% $4d^8(^1G)5p\ ^2H^\circ$	05CHU/JOS
	4f 757 956(9/2)	(757 956)		45% $4d^8(^3F)4f\ ^4I^\circ$+15% $4d^8(^3F)4f\ ^4H^\circ$+12% $4d^8(^1D)4f\ ^2H^\circ$	05CHU/JOS
	4f 760 458(9/2)	(760 458)		20% $4d^8(^1D)4f\ ^2G^\circ$+19% $4d^8(^3F)4f\ ^4I^\circ$+16% $4d^8(^3F)4f\ ^4G^\circ$	05CHU/JOS
	4f 765 864(9/2)	(765 864)		35% $4d^8(^3F)4f\ ^2G^\circ$+16% $4d^8(^3F)4f\ ^4H^\circ$+14% $4d^8(^3P)4f\ ^4F^\circ$	05CHU/JOS
	5p 767 858(9/2)	(767 858)		43% $4d^8(^1G)5p\ ^2H^\circ$+9% $4d^8(^3F)4f\ ^4H^\circ$+8% $4d^8(^3P)4f\ ^4F^\circ$	05CHU/JOS

TABLE 22. Energy levels of Cs XI—Continued

J	Designation	Energy (cm^{-1})	Unc. (cm^{-1})	Leading percentages	Ref.
	5p 768 797(9/2)	(768 797)		37% 4d^8(^{1}G)5p ^{2}H°+15% 4d^8(^{3}F)4f ^{4}H°+11% 4d^8(^{3}P)4f ^{4}F°	05CHU/JOS
	5p 770 027(9/2)	(770 027)		55% 4d^8(^{3}F)5p ^{4}G°+34% 4d^8(^{3}F)5p ^{2}G°+6% 4d^8(^{3}F)5p ^{4}F°	05CHU/JOS
	4f 779 095(9/2)	(779 095)		25% 4d^8(^{3}F)4f ^{2}H°+16% 4d^8(^{3}P)4f ^{4}F°+13% 4d^8(^{1}D)4f ^{2}H°	05CHU/JOS
	4f 782 774(9/2)	(782 774)		24% 4d^8(^{1}D)4f ^{2}H°+15% 4d^8(^{3}F)4f ^{4}I°+14% 4d^8(^{3}P)4f ^{4}G°	05CHU/JOS
	4f 796 681(9/2)	(796 681)		28% 4d^8(^{1}D)4f ^{2}G°+28% 4d^8(^{3}P)4f ^{2}G°+13% 4d^8(^{1}G)4f ^{2}H°	05CHU/JOS
	4f 797 923(9/2)	(797 923)		37% 4d^8(^{3}P)4f ^{4}G°+20% 4d^8(^{3}F)4f ^{2}H°+14% 4d^8(^{1}D)4f ^{2}H°	05CHU/JOS
	4f 801 746(9/2)	(801 746)		32% 4d^8(^{1}G)4f ^{2}G°+15% 4d^8(^{3}F)4f ^{4}G°+14% 4d^8(^{3}P)4f ^{4}G°	05CHU/JOS
	5p 806 863(9/2)	(806 863)		79% 4d^8(^{1}G)5p ^{2}G°+10% 4d^8(^{1}G)5p ^{2}K°+3% 4d^8(^{3}P)4f ^{2}G°	05CHU/JOS
	4f 813 505(9/2)	(813 505)		51% 4d^8(^{1}G)4f ^{2}G°+25% 4d^8(^{3}P)4f ^{2}G°+6% 4d^8(^{3}F)4f ^{2}H°	05CHU/JOS
	4f 819 165(9/2)	(819 165)		69% 4d^8(^{1}G)4f ^{2}H°+14% 4d^8(^{1}D)4f ^{2}H°+7% 4d^8(^{3}F)4f ^{2}H°	05CHU/JOS
11/2	4f 746 443(11/2)	(746 443)		43% 4d^8(^{3}F)4f ^{4}H°+29% 4d^8(^{3}F)4f ^{4}G°+12% 4d^8(^{3}P)4f ^{4}G°	05CHU/JOS
	5p 750 239(11/2)	(750 239)		85% 4d^8(^{3}F)5p ^{4}G°+6% 4d^8(^{3}F)4f ^{4}H°+4% 4d^8(^{3}F)4f ^{4}I°	05CHU/JOS
	4f 753 230(11/2)	(753 230)		42% 4d^8(^{3}F)4f ^{4}I°+19% 4d^8(^{3}F)4f ^{4}G°+14% 4d^8(^{3}P)4f ^{4}G°	05CHU/JOS
	4f 761 493(11/2)	(761 493)		39% 4d^8(^{3}F)4f ^{4}I°+33% 4d^8(^{3}F)4f ^{4}H°+11% 4d^8(^{3}F)4f ^{4}G°	05CHU/JOS
	4f 768 943(11/2)	(768 943)		49% 4d^8(^{3}F)4f ^{2}I°+28% 4d^8(^{1}D)4f ^{2}H°+11% 4d^8(^{3}F)4f ^{2}H°	05CHU/JOS
	4f 777 155(11/2)	(777 155)		71% 4d^8(^{3}F)4f ^{2}H°+11% 4d^8(^{1}D)4f ^{2}H°+7% 4d^8(^{3}F)4f ^{4}H°	05CHU/JOS
	4f 785 263(11/2)	(785 263)		33% 4d^8(^{3}F)4f ^{2}I°+22% 4d^8(^{3}P)4f ^{4}G°+16% 4d^8(^{3}F)4f ^{4}G°	05CHU/JOS
	5p 792 410(11/2)	(792 410)		81% 4d^8(^{1}G)5p ^{2}H°+7% 4d^8(^{3}P)4f ^{4}G°+5% 4d^8(^{1}G)4f ^{2}H°	05CHU/JOS
	4f 796 792(11/2)	(796 792)		31% 4d^8(^{3}P)4f ^{4}G°+20% 4d^8(^{1}G)4f ^{2}H°+18% 4d^8(^{1}D)4f ^{2}H°	05CHU/JOS
	4f 805 825(11/2)	(805 825)		91% 4d^8(^{1}G)4f ^{2}I°+3% 4d^8(^{3}F)4f ^{2}H°+3% 4d^8(^{3}F)4f ^{2}I°	05CHU/JOS
	4f 819 575(11/2)	(819 575)		67% 4d^8(^{1}G)4f ^{2}H°+19% 4d^8(^{1}D)4f ^{2}H°+4% 4d^8(^{3}P)4f ^{4}G°	05CHU/JOS
13/2	4f 743 564(13/2)	(743 564)		48% 4d^8(^{3}F)4f ^{4}I°+42% 4d^8(^{3}F)4f ^{4}H°+6% 4d^8(^{3}F)4f ^{2}I°	05CHU/JOS
	4f 747 696(13/2)	(747 696)		45% 4d^8(^{3}F)4f ^{4}H°+32% 4d^8(^{3}F)4f ^{2}I°+15% 4d^8(^{3}F)4f ^{4}I°	05CHU/JOS
	4f 763 376(13/2)	(763 376)		43% 4d^8(^{3}F)4f ^{2}I°+36% 4d^8(^{3}F)4f ^{4}I°+11% 4d^8(^{3}F)4f ^{4}H°	05CHU/JOS
	4f 772 391(13/2)	(772 391)		82% 4d^8(^{1}G)4f ^{2}K°+17% 4d^8(^{3}F)4f ^{2}I°+1% 4d^8(^{1}G)4f ^{2}I°	05CHU/JOS
	4f 807 003(13/2)	(807 003)		96% 4d^8(^{1}G)4f ^{2}I°+2% 4d^8(^{3}F)4f ^{2}I°+1% 4d^8(^{3}F)4f ^{4}H°	05CHU/JOS
15/2	4f 740 589(15/2)	(740 589)		94% 4d^8(^{3}F)4f ^{4}I°+6% 4d^8(^{1}G)4f ^{2}K°	05CHU/JOS
	4f 772 928(15/2)	(772 928)		94% 4d^8(^{1}G)4f ^{2}K°+6% 4d^8(^{3}F)4f ^{4}I°	05CHU/JOS
Cs XII (4d^8 ^{3}F$^{\circ}_4$)		(1 880 000)	*Limit*		04ROD/IND

References for Cs XI

81COW — R. D. Cowan, *The Theory of Atomic Structure and Spectra* (University of California, Berkeley, CA, 1981).

81KLE/JOS — Th. A. M. van Kleef and Y. N. Joshi, J. Opt. Soc. Am. **71**, 55 (1981).

98GAY/JOS — R. Gayasov and Y. N. Joshi, J. Phys. B **31**, L705 (1998).

04ROD/IND — G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

05CHU/JOS — S. S. Churilov, Y. N. Joshi, and A. Tauheed, Phys. Scr. **71**, 261 (2005).

6.12. Cs XII

Ru isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^63d^{10}4s^24p^64d^8$ ^{3}F$_4$
Ionization energy: (2 105 000 cm^{-1}); (261 eV)

There have been no experimental observations of the Cs XII spectrum. The ground state is assigned by analogy with Xe XI, which has been measured by Churilov *et al.* [04CHU/JOS]. The calculated ionization energy is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XII

04CHU/JOS — S. S. Churilov, Y. N. Joshi, J. Reader, and R. R. Kildiyarova, Phys. Scr. **70**, 126 (2004).

04ROD/IND — G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

6.13. Cs XIII

Tc isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^63d^{10}4s^24p^64d^7$ ^{4}F$_{9/2}$
Ionization energy: (2 330 000 cm^{-1}); (289 eV)

No energy levels or wavelengths have been measured for the Cs XIII spectrum. The ground state has been assigned by analogy with Xe XII, as calculated by Saloman [04SAL]. The calculated ionization energy is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XIII

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

04SAL E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).

6.14. Cs XIV

Mo isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d^6\ {}^5D_4$
Ionization energy: (2 550 000 cm^{-1}); (316 eV)

No measurements of energy levels or wavelengths of the Cs XIV spectrum have been published. The ground state has been assigned by analogy with Xe XIII, as calculated by Saloman [04SAL]. The calculated ionization energy is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XIV

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

04SAL E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).

6.15. Cs XV

Nb isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d^5\ {}^6S_{5/2}$
Ionization energy: (2 840 000 cm^{-1}); (352 eV)

Although no measurements of energy levels or wavelengths of the Cs XV spectrum have been published, O'Sullivan and Carroll [81OSU/CAR] observed the emission spectrum of highly ionized Cs in the 100–120 Å region. Klapisch *et al.* [83KLA/BAU] analyzed the [81OSU/CAR] data and reported an unresolved transition array of $4d^5$–$4d^4 4f$ transitions. The ground state has been assigned by analogy with Xe XIV, as calculated by Saloman [04SAL]. The calculated ionization energy is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XV

81OSU/CAR G. O'Sullivan, and P. K. Carroll, J. Opt. Soc. Am. **71**, 227 (1981).

83KLA/BAU M. Klapisch, J. Bauche, and C. Bauche-Arnoult, Phys. Scr., T **T3**, 222 (1983).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

04SAL E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).

6.16. Cs XVI

Zr isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d^4\ {}^5D_0$
Ionization energy: (3 080 000 cm^{-1}); (382 eV)

Although no measurements of energy levels or wavelengths of the Cs XVI spectrum have been published, O'Sullivan and Carroll [81OSU/CAR] observed the emission spectrum of highly ionized Cs in the 100–120 Å region. Klapisch *et al.* [83KLA/BAU] analyzed the [81OSU/CAR] data and reported an unresolved transition array of $4d^4$–$4d^3 4f$ transitions. The ground state has been assigned by analogy with Xe XV, as calculated by Saloman [04SAL]. The calculated ionization energy is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XVI

81OSU/CAR G. O'Sullivan, and P. K. Carroll, J. Opt. Soc. Am. **71**, 227 (1981).

83KLA/BAU M. Klapisch, J. Bauche, and C. Bauche-Arnoult, Phys. Scr., T **T3**, 222 (1983).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

04SAL E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).

6.17. Cs XVII

Y isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d^3\ {}^4F_{3/2}$
Ionization energy: (3 330 000 cm^{-1}); (413 eV)

No energy levels or wavelengths have been measured for the Cs XVII spectrum. The ground state has been assigned by analogy with Xe XVI, as calculated by Saloman [04SAL]. The calculated ionization energy is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XVII

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

04SAL E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).

6.18. Cs XVIII

Sr isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d^2\ {}^3F_2$
Ionization energy: (3 590 000 cm^{-1}); (445 eV)

The spectrum of Cs XVIII has not been experimentally observed. The ground state given here has been assigned by analogy with Xe XVII, as calculated by Saloman [04SAL]. The calculated ionization energy is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XVIII

TABLE 23. Observed spectral lines of Cs XIX

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Line Code	Lower Level	Upper Level	λ Ref.
102.208	0.005	978 400	60	b	$4p^6 4d\ ^2D_{5/2}$	$4p^5 4d^2(^1G^\circ)\ ^2F^\circ_{7/2}$	92SUG/KAU
102.963	0.005	971 220	20		$4p^6 4d\ ^2D_{5/2}$	$4p^5 4d^2(^3F^\circ)\ ^2F^\circ_{5/2}$	92SUG/KAU
104.532	0.005	956 640	4		$4p^6 4d\ ^2D_{3/2}$	$4p^5 4d^2(^3G^\circ)\ ^2F^\circ_{5/2}$	92SUG/KAU

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

04SAL E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).

6.19. Cs XIX

Rb isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d\ ^2D_{3/2}$
Ionization energy: (3 840 000 cm^{-1}); (476 eV)

Three lines of the Cs XIX spectrum have been measured by Sugar *et al.* [92SUG/KAU] using radiation from the TEXT tokamak photographed on a grazing-incidence spectrograph (see Table 23). Although the lack of a measurement of the splitting of the $4p^6 4d\ ^2D$ ground state precludes a calculation of the other energy levels, the $4p^5 4d^2(^1G^\circ)\ ^2F^\circ_{5/2}$ level is determined to lie at 956 640 ± 50 cm^{-1}. The calculated ionization energy cited here is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XIX

92SUG/KAU J. Sugar, V. Kaufman, and W. L. Rowan, J. Opt. Soc. Am. B **9**, 1959 (1992).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

6.20. Cs XX

Kr isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6\ ^1S_0$
Ionization energy: (4 820 000 cm^{-1}); (597 eV)

Two resonance lines of the Cs XX spectrum have been measured by Sugar *et al.* [91SUG/KAUa] using radiation from the TEXT tokamak photographed on a grazing-incidence spectrograph. The relative intensities listed in Table 24 are from the approximate ratio given by the authors. The energy levels in Table 25 are calculated from the observed wavelengths. The ground state is assigned by analogy with the other members of the Kr I isoelectronic sequence. The calculated ionization energy is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XX

91SUG/KAUa J. Sugar, V. Kaufman, and W. L. Rowan, J. Opt. Soc. Am. B **8**, 2026 (1991).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

TABLE 24. Observed spectral lines of Cs XX

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	Lower Level	Upper Level	λ Ref.
103.368	0.005	967 420	10	$4p^6\ ^1S_0$	$4p^5 4d\ ^1P^\circ_1$	91SUG/KAUa
125.718	0.005	795 430	1	$4p^6\ ^1S_0$	$4p^5 4d\ ^3D^\circ_1$	91SUG/KAUa

TABLE 25. Energy levels of Cs XX

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference
$4p^6$	^1S	0	0	30	91SUG/KAUa
$4p^5 4d$	$^3D^\circ$	1	795 430	30	91SUG/KAUa
$4p^5 4d$	$^1P^\circ$	1	967 420	50	91SUG/KAUa
Cs XXI ($4p^5\ ^2P^\circ_{3/2}$)		*Limit*	(4 820 000)		04ROD/IND

6.21. Cs XXI

Br isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^5\ ^2P^\circ_{3/2}$
Ionization energy: (5 070 000 cm^{-1}); (629 eV)

No energy levels or wavelengths have been measured for the Cs XXI spectrum; however, the ground state fine structure splitting has been calculated. Curtis [87CUR] compared the results of multiconfiguration Dirac-Fock (MCDF) calculations with a semiempirical approach, concluding that the semiempirical values were likely to be more accurate. The splitting thus obtained is 140 487 cm^{-1}. No estimate of the uncertainty of the procedure was given. The calculated ionization energy retained is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XXI

87CUR L. J. Curtis, Phys. Rev. A **35**, 2089 (1987).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

6.22. Cs XXII

Se isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^4\ ^3P_2$
Ionization energy: (5 370 000 cm^{-1}); (666 eV)

No energy levels or wavelengths have been measured for the Cs XXII spectrum. The ground state has been assigned by analogy with Xe XXI, as calculated by Saloman [04SAL]. The calculated ionization energy given above is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XXII

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

04SAL E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).

6.23. Cs XXIII

As isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^3\ ^4S^\circ_{3/2}$
Ionization energy: (5 650 000 cm^{-1}); (700 eV)

No energy levels or wavelengths have been measured for the Cs XXIII spectrum; however, Charro and Martín [98CHA/MAR] calculated the energy levels of a few low-lying states and the oscillator strengths for transitions between some of them (see Tables 26 and 27). There is no estimate of the uncertainty of their calculations, but a comparison of experimental and theoretical energy levels for the isoelectronic ions Y VII, Zr VIII, Nb IX, and Mo X indicates that the [98CHA/MAR] values are systematically too high, with an average deviation of about 4000 cm^{-1}. The calculated ionization energy retained is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XXIII

98CHA/MAR E. Charro and I. Martín, Astron. Astrophys. Suppl. Ser. **131**, 523 (1998).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

TABLE 26. Spectral lines of Cs XXIII

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(42.96)	(2 328 000)	2.31E+11	$4p^3\ ^4S^\circ_{3/2}$	$4p^25s\ ^4P_{5/2}$	98CHA/MAR	98CHA/MAR
(43.42)	(2 303 000)	1.63E+11	$4p^3\ ^4S^\circ_{3/2}$	$4p^25s\ ^4P_{3/2}$	98CHA/MAR	98CHA/MAR
(45.17)	(2 214 000)	1.14E+11	$4p^3\ ^2D^\circ_{3/2}$	$4p^25s\ ^2P_{3/2}$	98CHA/MAR	98CHA/MAR
(45.83)	(2 182 000)	6.48E+11	$4p^3\ ^4S^\circ_{3/2}$	$4p^25s\ ^4P_{1/2}$	98CHA/MAR	98CHA/MAR

TABLE 27. Energy levels of Cs XXIII

Configuration	Term	J	Energy (cm^{-1})	Reference
$4p^3$	$^4S^\circ$	3/2	(0)	98CHA/MAR
$4p^3$	$^2D^\circ$	3/2	(123 000)	98CHA/MAR
$4p^3$	$^2D^\circ$	5/2	(152 000)	98CHA/MAR
$4p^3$	$^2P^\circ$	1/2	(183 000)	98CHA/MAR
$4p^3$	$^2P^\circ$	3/2	(307 000)	98CHA/MAR
$4p^25s$	^4P	1/2	(2 182 000)	98CHA/MAR
$4p^25s$	^4P	3/2	(2 303 000)	98CHA/MAR
$4p^25s$	^4P	5/2	(2 328 000)	98CHA/MAR
$4p^25s$	^2P	1/2	(2 316 000)	98CHA/MAR
$4p^25s$	^2P	3/2	(2 337 000)	98CHA/MAR
$4p^25s$	^2D	5/2	(2 470 000)	98CHA/MAR
$4p^25s$	^2D	3/2	(2 481 000)	98CHA/MAR
$4p^25s$	^2S	1/2	(2 529 000)	98CHA/MAR
Cs XXIV ($4p^2\ ^3P_0$)		*Limit*	(5 650 000)	04ROD/IND

6.24. Cs XXIV

Ge isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^2\ ^3P_0$
Ionization energy: (6 070 000 cm^{-1}); (753 eV)

No energy levels or wavelengths have been measured for the Cs XXIV spectrum. Charro and Martín [02CHA/MAR] calculated some oscillator strengths for transitions between the ground configuration and the $4p5s$ configuration, but no wavelengths or energy level values are reported. The ground state given above has been assigned by analogy with Xe XXIII, as calculated by Saloman [04SAL]. The calculated ionization energy is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XXIV

02CHA/MAR E. Charro and I. Martín, Astron. Astrophys. **395**, 719 (2002).
04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).
04SAL E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).

6.25. Cs XXV

Ga isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p\ ^2P^\circ_{1/2}$
Ionization energy: (6 380 000 cm^{-1}); (791 eV)

No energy levels or wavelengths have been measured for the Cs XXV spectrum; however, Curtis [87CUR] calculated the fine structure splitting of the two levels of the ground configuration and Ali [97ALI] recalculated the splitting and reported values of the magnetic dipole and electric quadrupole transition probabilities for the forbidden transition between these levels. More recently, Safronova *et al.* [06SAF/COW] used relativistic many-body perturbation theory to obtain values for the splitting and the lifetime of the upper level. The splitting reported by Safronova *et al.* [06SAF/COW] is 154 985 cm^{-1} and the transition probability for the forbidden transition is A_{ki}=33 800 s^{-1}. The calculated ionization energy given above is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XXV

87CUR L. J. Curtis, Phys. Rev. A **35**, 2089 (1987).
97ALI M. A. Ali, Phys. Scr. **55**, 159 (1997).
04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).
06SAF/COW U. I. Safronova, T. E. Cowan, and M. S. Safronova, Phys. Lett. A **348**, 293 (2006).

6.26. Cs XXVI

Zn isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2\ ^1S_0$
Ionization energy: (7 060 000 cm^{-1}); (875 eV)

Two lines of the Cs XXVI spectrum have been observed experimentally. Acquista and Reader [84ACQ/REA] measured the $4s^2\ ^1S_0$–$4s4p\ (1/2,3/2)^\circ_1$ transition. Subsequently Sugar *et al.* [91SUG/KAUc] remeasured that transition and also observed the $4s^2\ ^1S_0$–$4s4p\ (1/2,1/2)^\circ_1$ line. Brown *et al.* [94BRO/SEE] studied the wavelengths and energy levels of the Zn isoelectronic sequence and determined fitted results for several transitions for which there are no experimental observations for cesium. Biémont [89BIE] used the MCDF technique to calculate energy levels for many of the low-lying configurations and the wavelengths and transition probabilities for transitions between them (see Tables 28 and 29). We have included here only the $4s^2$, $4s4p$, $4p^2$, $4s4d$, and $4s4f$ energy levels and have used the Biémont notation for the configuration designations of all levels. Transition probabilities for the two experimentally observed lines have also been calculated by Curtis [92CUR], Cheng and Huang [92CHE/HUA], and Chou *et al.* [94CHO/CHI]. All the results lie within 10% of each other and we report the [94CHO/CHI] values for those transitions in Table 28. As mentioned in the Introduction, the energy and wavelength values in parentheses are calculated, those in square brackets are determined by isoelectronic fitting, and those not in parentheses are experimental values. The calculated ionization energy cited is taken from Rodrigues *et al.* [04ROD/IND].

TABLE 28. Spectral lines of Cs XXVI

λ (Å)	Unc. (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(88.423)		(1 130 927)	1.84E+9	$4p^2\ ^3P_0$	$4p4d\ (3/2,5/2)^\circ_1$	89BIE	89BIE
(96.748)		(1 033 613)	2.22E+7	$4p^2\ ^3P_0$	$4p4d\ (3/2,3/2)^\circ_1$	89BIE	89BIE
(99.690)		(1 003 110)	2.27E+10	$4s4p\ (1/2,1/2)^\circ_1$	$4s4d\ (1/2,5/2)_2$	89BIE	89BIE
(99.985)		(1 000 150)	4.65E+9	$4p^2\ ^3P_1$	$4p4d\ (3/2,5/2)^\circ_1$	89BIE	89BIE
(100.475)		(995 272)	1.46E+8	$4p^2\ ^1D_2$	$4p4d\ (3/2,5/2)^\circ_1$	89BIE	89BIE
(105.276)		(949 884)	2.16E+10	$4p^2\ ^1D_2$	$4p4d\ (3/2,5/2)^\circ_3$	89BIE	89BIE
[105.858]		[944 662]	3.44E+8	$4p^2\ ^3P_2$	$4s4f\ (1/2,5/2)^\circ_3$	94BRO/SEE	89BIE
(108.792)		(919 185)	2.40E+10	$4p^2\ ^3P_1$	$4p4d\ (3/2,5/2)^\circ_2$	89BIE	89BIE
(109.373)		(914 302)	2.23E+10	$4p^2\ ^1D_2$	$4p4d\ (3/2,5/2)^\circ_2$	89BIE	89BIE

TABLE 28. Spectral lines of Cs XXVI—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
[109.474]		[913 459]	1.30E+11	4s4p $(1/2,1/2)^{\circ}_{0}$	4s4d $(1/2,3/2)_{1}$	94BRO/SEE	89BIE
(110.762)		(902 837)	1.50E+11	4p^{2} $^{3}P_{1}$	4p4d $(3/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(110.882)		(901 860)	1.64E+11	4s4p $(1/2,1/2)^{\circ}_{1}$	4s4d $(1/2,3/2)_{2}$	89BIE	89BIE
(111.138)		(899 782)	2.53E+11	4p^{2} $^{3}P_{0}$	4p4d $(1/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(111.364)		(897 956)	2.72E+10	4p^{2} $^{1}D_{2}$	4p4d $(3/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(112.120)		(891 901)	2.16E+11	4p^{2} $^{1}D_{2}$	4p4d $(3/2,3/2)^{\circ}_{3}$	89BIE	89BIE
(112.268)		(890 726)	1.01E+10	4s4d $(1/2,3/2)_{2}$	4s4f $(1/2,7/2)^{\circ}_{3}$	89BIE	89BIE
[112.659]		[887 634]	7.95E+10	4s4p $(1/2,1/2)^{\circ}_{1}$	4s4d $(1/2,3/2)_{1}$	94BRO/SEE	89BIE
(114.366)		(874 386)	1.10E+11	4p^{2} $^{3}P_{1}$	4p4d $(3/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(114.923)		(870 148)	9.57E+7	4s4p $(1/2,3/2)^{\circ}_{2}$	4s4d $(1/2,5/2)_{2}$	89BIE	89BIE
(114.934)		(870 065)	9.70E+8	4s4d $(1/2,5/2)_{3}$	4s4f $(1/2,7/2)^{\circ}_{3}$	89BIE	89BIE
(115.007)		(869 512)	7.95E+10	4p^{2} $^{1}D_{2}$	4p4d $(3/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(118.259)		(845 602)	7.14E+7	4p^{2} $^{3}P_{2}$	4p4d $(3/2,5/2)^{\circ}_{1}$	89BIE	89BIE
(118.461)		(844 160)	4.47E+9	4s4p $(1/2,1/2)^{\circ}_{1}$	4p^{2} $^{1}S_{0}$	89BIE	89BIE
[121.542]		[822 761]	1.64E+11	4s4d $(1/2,3/2)_{1}$	4s4f $(1/2,5/2)^{\circ}_{2}$	94BRO/SEE	89BIE
(122.518)		(816 207)	1.71E+11	4s4d $(1/2,3/2)_{2}$	4s4f $(1/2,5/2)^{\circ}_{3}$	89BIE	89BIE
(122.918)		(813 550)	2.66E+10	4s4d $(1/2,3/2)_{2}$	4s4f $(1/2,5/2)^{\circ}_{2}$	89BIE	89BIE
(124.967)		(800 211)	1.82E+11	4p^{2} $^{3}P_{2}$	4p4d $(3/2,5/2)^{\circ}_{3}$	89BIE	89BIE
[125.138]		[799 118]	1.91E+11	4s4d $(1/2,5/2)_{3}$	4s4f $(1/2,7/2)^{\circ}_{4}$	94BRO/SEE	89BIE
(125.701)		(795 539)	1.80E+10	4s4d $(1/2,5/2)_{3}$	4s4f $(1/2,5/2)^{\circ}_{3}$	89BIE	89BIE
(126.122)		(792 883)	6.26E+8	4s4d $(1/2,5/2)_{3}$	4s4f $(1/2,5/2)^{\circ}_{2}$	89BIE	89BIE
(126.653)		(789 559)	1.53E+11	4s4p $(1/2,3/2)^{\circ}_{2}$	4s4d $(1/2,5/2)_{3}$	89BIE	89BIE
[127.160]		[786 411]	2.81E+11	4s4d $(1/2,5/2)_{2}$	4s4f $(1/2,7/2)^{\circ}_{3}$	94BRO/SEE	89BIE
[127.344]		[785 275]	1.53E+11	4s4p $(1/2,3/2)^{\circ}_{2}$	4s4d $(1/2,5/2)_{3}$	94BRO/SEE	89BIE
(129.677)		(771 147)	1.64E+11	4p^{2} $^{1}S_{0}$	4p4d $(3/2,5/2)^{\circ}_{1}$	89BIE	89BIE
(130.038)		(769 006)	2.30E+10	4p^{2} $^{3}P_{1}$	4p4d $(1/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(130.057)		(768 894)	3.93E+10	4s4p $(1/2,3/2)^{\circ}_{2}$	4s4d $(1/2,3/2)_{2}$	89BIE	89BIE
[130.156]		[768 309]	1.90E+10	4s4p $(1/2,1/2)^{\circ}_{1}$	4p^{2} $^{3}P_{2}$	94BRO/SEE	89BIE
(130.782)		(764 631)	1.28E+11	4p^{2} $^{3}P_{2}$	4p4d $(3/2,5/2)^{\circ}_{2}$	89BIE	89BIE
[130.799]		[764 532]	2.36E+11	4s4p $(1/2,3/2)^{\circ}_{1}$	4s4d $(1/2,5/2)_{2}$	94BRO/SEE	89BIE
(130.868)		(764 129)	9.30E+9	4p^{2} $^{1}D_{2}$	4p4d $(1/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(131.226)		(762 044)	9.93E+10	4p^{2} $^{3}P_{1}$	4p4d $(1/2,5/2)^{\circ}_{2}$	89BIE	89BIE
(131.856)		(758 403)	3.75E+9	4s4p $(1/2,3/2)^{\circ}_{2}$	4s4d $(1/2,3/2)_{1}$	89BIE	89BIE
(132.071)		(757 168)	3.59E+10	4p^{2} $^{1}D_{2}$	4p4d $(1/2,5/2)^{\circ}_{2}$	89BIE	89BIE
(133.639)		(748 285)	3.45E+10	4p^{2} $^{3}P_{2}$	4p4d $(3/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(134.699)		(742 396)	3.94E+10	4p^{2} $^{1}D_{2}$	4p4d $(1/2,5/2)^{\circ}_{3}$	89BIE	89BIE
(134.729)		(742 231)	2.31E+10	4p^{2} $^{3}P_{2}$	4p4d $(3/2,3/2)^{\circ}_{3}$	89BIE	89BIE
(138.132)		(723 945)	1.80E+9	4s4d $(1/2,3/2)_{1}$	4p4d $(3/2,5/2)^{\circ}_{1}$	89BIE	89BIE
(138.920)		(719 839)	7.57E+9	4p^{2} $^{3}P_{2}$	4p4d $(3/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(139.869)		(714 955)	1.92E+9	4s4d $(1/2,5/2)_{2}$	4s4f $(1/2,5/2)^{\circ}_{3}$	89BIE	89BIE
(140.164)		(713 450)	6.13E+9	4s4d $(1/2,3/2)_{2}$	4p4d $(3/2,5/2)^{\circ}_{1}$	89BIE	89BIE
(140.391)		(712 296)	5.41E+8	4s4d $(1/2,5/2)_{2}$	4s4f $(1/2,5/2)^{\circ}_{2}$	89BIE	89BIE
(146.508)		(682 557)	1.01E+9	4p^{2} $^{3}P_{1}$	4p4d $(1/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(147.563)		(677 677)	1.65E+10	4p^{2} $^{1}D_{2}$	4p4d $(1/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(148.404)		(673 836)	6.30E+8	4p^{2} $^{1}S_{0}$	4p4d $(3/2,3/2)^{\circ}_{1}$	89BIE	89BIE
[149.365]		[669 501]	7.32E+8	4s4p $(1/2,3/2)^{\circ}_{1}$	4s4d $(1/2,3/2)_{2}$	89BIE	89BIE
(149.686)		(668 065)	1.14E+8	4s4d $(1/2,3/2)_{2}$	4p4d $(3/2,5/2)^{\circ}_{3}$	89BIE	89BIE
(152.452)		(655 944)	4.08E+9	4s4p $(1/2,3/2)^{\circ}_{1}$	4s4d $(1/2,3/2)_{1}$	89BIE	89BIE
(154.464)		(647 400)	2.29E+10	4s4d $(1/2,5/2)_{3}$	4p4d $(3/2,5/2)^{\circ}_{3}$	89BIE	89BIE
(155.527)		(642 975)	6.80E+9	4s4d $(1/2,3/2)_{1}$	4p4d $(3/2,5/2)^{\circ}_{2}$	89BIE	89BIE
155.939	0.005	641 280	1.03E+11	4s^{2} $^{1}S_{0}$	4s4p $(1/2,3/2)^{\circ}_{1}$	91SUG/KAUc	94CHO/CHI
[157.051]		[636 736]	4.36E+10	4s4p $(1/2,1/2)^{\circ}_{0}$	4p^{2} $^{3}P_{1}$	94BRO/SEE	89BIE
[157.785]		[633 774]	6.06E+10	4s4p $(1/2,3/2)^{\circ}_{2}$	4p^{2} $^{3}P_{2}$	94BRO/SEE	89BIE
(158.107)		(632 483)	3.88E+10	4s4d $(1/2,3/2)_{2}$	4p4d $(3/2,5/2)^{\circ}_{2}$	89BIE	89BIE
(159.584)		(626 629)	4.82E+10	4s4d $(1/2,3/2)_{1}$	4p4d $(3/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(160.843)		(621 724)	5.95E+10	4s4d $(1/2,3/2)_{1}$	4p4d $(3/2,3/2)^{\circ}_{0}$	89BIE	89BIE
[161.638]		[618 666]	2.67E+10	4s4p $(1/2,1/2)^{\circ}_{1}$	4p^{2} $^{1}D_{2}$	94BRO/SEE	89BIE

TABLE 28. Spectral lines of Cs XXVI—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(162.302)		(616 135)	1.12E+10	4s4d $(1/2,3/2)_{2}$	4p4d $(3/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(162.560)		(615 157)	2.57E+10	4s4p $(1/2,1/2)^{\circ}_{1}$	$4p^{2}\ ^{3}P_{1}$	89BIE	89BIE
(162.745)		(614 458)	1.60E+9	$4p^{2}\ ^{3}P_{2}$	4p4d $(1/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(163.346)		(612 197)	5.68E+10	4s4d $(1/2,5/2)_{2}$	4p4d $(3/2,5/2)^{\circ}_{1}$	89BIE	89BIE
(163.447)		(611 819)	9.83E+9	4s4d $(1/2,5/2)_{3}$	4p4d $(3/2,5/2)^{\circ}_{2}$	89BIE	89BIE
[163.848]		[610 322]	1.18E+11	4s4p $(1/2,3/2)^{\circ}_{1}$	$4p^{2}\ ^{1}S_{0}$	94BRO/SEE	89BIE
(163.913)		(610 080)	2.36E+10	4s4d $(1/2,3/2)_{2}$	4p4d $(3/2,3/2)^{\circ}_{3}$	89BIE	89BIE
(164.611)		(607 493)	1.04E+9	$4p^{2}\ ^{3}P_{2}$	4p4d $(1/2,5/2)^{\circ}_{2}$	89BIE	89BIE
(167.173)		(598 183)	1.35E+10	4s4d $(1/2,3/2)_{1}$	4p4d $(3/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(168.712)		(592 726)	1.59E+9	$4p^{2}\ ^{3}P_{2}$	4p4d $(1/2,5/2)^{\circ}_{3}$	89BIE	89BIE
(169.660)		(589 414)	1.51E+10	4s4d $(1/2,5/2)_{3}$	4p4d $(3/2,3/2)^{\circ}_{3}$	89BIE	89BIE
(170.158)		(587 689)	6.01E+9	4s4d $(1/2,3/2)_{2}$	4p4d $(1/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(176.359)		(567 025)	7.26E+9	4s4d $(1/2,5/2)_{3}$	4p4d $(3/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(176.426)		(566 810)	2.62E+10	4s4d $(1/2,5/2)_{2}$	4p4d $(3/2,5/2)^{\circ}_{3}$	89BIE	89BIE
(178.812)		(559 247)	3.11E+10	4s4d $(1/2,5/2)_{3}$	4p4d $(3/2,5/2)^{\circ}_{4}$	89BIE	89BIE
(185.183)		(540 006)	1.41E+8	$4p^{2}\ ^{1}S_{0}$	4p4d $(1/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(187.165)		(534 288)	1.52E+10	4s4p $(1/2,3/2)^{\circ}_{1}$	$4p^{2}\ ^{3}P_{2}$	89BIE	89BIE
(188.242)		(531 231)	2.28E+9	4s4d $(1/2,5/2)_{2}$	4p4d $(3/2,5/2)^{\circ}_{2}$	89BIE	89BIE
(189.392)		(528 005)	8.04E+8	$4p^{2}\ ^{3}P_{2}$	4p4d $(1/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(194.219)		(514 883)	1.31E+8	4s4d $(1/2,5/2)_{2}$	4p4d $(3/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(196.530)		(508 828)	4.12E+9	4s4d $(1/2,5/2)_{2}$	4p4d $(3/2,3/2)^{\circ}_{3}$	89BIE	89BIE
(202.922)		(492 800)	5.75E+9	4s4d $(1/2,3/2)_{1}$	4p4d $(1/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(205.309)		(487 071)	1.44E+10	4s4p $(1/2,3/2)^{\circ}_{2}$	$4p^{2}\ ^{1}D_{2}$	89BIE	89BIE
(205.576)		(486 438)	5.60E+9	4s4d $(1/2,5/2)_{2}$	4p4d $(3/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(205.831)		(485 835)	1.18E+8	4s4d $(1/2,3/2)_{1}$	4p4d $(1/2,5/2)^{\circ}_{2}$	89BIE	89BIE
(206.449)		(484 381)	5.60E+10	4s4p $(1/2,1/2)^{\circ}_{1}$	$4p^{2}\ ^{3}P_{0}$	89BIE	89BIE
(207.336)		(482 309)	1.93E+10	4s4d $(1/2,3/2)_{2}$	4p4d $(3/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(207.386)		(482 193)	2.26E+10	4s4p $(1/2,3/2)^{\circ}_{2}$	$4p^{2}\ ^{3}P_{1}$	89BIE	89BIE
(210.373)		(475 346)	1.05E+9	4s4d $(1/2,3/2)_{2}$	4p4d $(1/2,5/2)^{\circ}_{2}$	89BIE	89BIE
(217.119)		(460 577)	8.30E+9	4s4d $(1/2,3/2)_{2}$	4p4d $(1/2,5/2)^{\circ}_{3}$	89BIE	89BIE
(219.935)		(454 680)	1.51E+10	4s4d $(1/2,5/2)_{3}$	4p4d $(1/2,5/2)^{\circ}_{2}$	89BIE	89BIE
(227.319)		(439 910)	7.33E+9	4s4d $(1/2,5/2)_{3}$	4p4d $(1/2,5/2)^{\circ}_{3}$	89BIE	89BIE
242.390	0.005	412 558	3.40E+9	$4s^{2}\ ^{1}S_{0}$	4s4p $(1/2,1/2)^{\circ}_{1}$	91SUG/KAUc	94CHO/CHI
(246.094)		(406 349)	8.05E+9	4s4d $(1/2,3/2)_{1}$	4p4d $(1/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(252.616)		(395 858)	3.86E+9	4s4d $(1/2,3/2)_{2}$	4p4d $(1/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(260.001)		(384 614)	6.49E+9	4s4p $(1/2,3/2)^{\circ}_{1}$	$4p^{2}\ ^{1}D_{2}$	89BIE	89BIE
(262.429)		(381 055)	1.17E+9	4s4d $(1/2,5/2)_{2}$	4p4d $(1/2,3/2)^{\circ}_{1}$	89BIE	89BIE
(263.341)		(379 736)	7.19E+8	4s4p $(1/2,3/2)^{\circ}_{1}$	$4p^{2}\ ^{3}P_{1}$	89BIE	89BIE
(266.530)		(375 192)	5.76E+6	4s4d $(1/2,5/2)_{3}$	4p4d $(1/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(267.313)		(374 093)	2.07E+9	4s4d $(1/2,5/2)_{2}$	4p4d $(1/2,5/2)^{\circ}_{2}$	89BIE	89BIE
(278.301)		(359 323)	2.09E+9	4s4d $(1/2,5/2)_{2}$	4p4d $(1/2,5/2)^{\circ}_{3}$	89BIE	89BIE
(339.438)		(294 605)	3.05E+8	4s4d $(1/2,5/2)_{2}$	4p4d $(1/2,3/2)^{\circ}_{2}$	89BIE	89BIE
(401.673)		(248 959)	2.19E+8	4s4p $(1/2,3/2)^{\circ}_{1}$	$4p^{2}\ ^{3}P_{0}$	89BIE	89BIE

TABLE 29. Energy levels of Cs XXVI

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference
$4s^{2}$	^{1}S	0	0		91SUG/KAUc
4s4p	$(1/2,1/2)^{\circ}$	0	[386 786]		94BRO/SEE
		1	412 558	9	91SUG/KAUc
4s4p	$(1/2,3/2)^{\circ}$	2	[547 146]		94BRO/SEE
		1	641 280	20	91SUG/KAUc
$4p^{2}$	^{3}P	0	(895 416)		89BIE

TABLE 29. Energy levels of Cs XXVI—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference
		1	[1 023 522]		94BRO/SEE
		2	[1 180 919]		94BRO/SEE
$4p^2$	^1D	2	[1 031 277]		94BRO/SEE
$4p^2$	^1S	0	[1 251 635]		94BRO/SEE
4s4d	(1/2,3/2)	1	[1 300 245]		94BRO/SEE
		2	[1 310 814]		94BRO/SEE
4s4d	(1/2,5/2)	3	[1 332 420]		94BRO/SEE
		2	[1 405 845]		94BRO/SEE
4p4d	$(1/2,3/2)^\circ$	2	(1 708 750)		89BIE
		1	(1 795 202)		89BIE
4p4d	$(1/2,5/2)^\circ$	3	(1 773 469)		89BIE
		2	(1 788 238)		89BIE
4p4d	$(3/2,5/2)^\circ$	4	(1 892 805)		89BIE
		2	(1 945 378)		89BIE
		3	(1 980 956)		89BIE
		1	(2 026 344)		89BIE
4p4d	$(3/2,3/2)^\circ$	2	(1 900 583)		89BIE
		3	(1 922 973)		89BIE
		0	(1 924 125)		89BIE
		1	(1 929 029)		89BIE
4s4f	$(1/2,5/2)^\circ$	2	[2 123 006]		94BRO/SEE
		3	[2 125 811]		94BRO/SEE
4s4f	$(1/2,7/2)^\circ$	4	[2 131 538]		94BRO/SEE
		3	[2 192 256]		94BRO/SEE
Cs XXVII (4s $^2S_{1/2}$)		*Limit*	(7 060 000)		04ROD/IND

References for Cs XXVI

84ACQ/REA N. Acquista and J. Reader, J. Opt. Soc. B **1**, 649 (1984).

89BIE E. Biémont, At. Data Nucl. Data Tables **43**, 163 (1989).

91SUG/KAUc J. Sugar, V. Kaufman, D. H. Baik, Y.-K. Kim, and W. L. Rowan, J. Opt. Soc. B **8**, 1795 (1991).

92CUR L. J. Curtis, J. Opt. Soc. B **9**, 5 (1992).

92CHE/HUA T.-C. Cheng and K.-N. Huang, Phys. Rev. A **45**, 4367 (1992).

94BRO/SEE C. M. Brown, J. F. Seely, D. R. Kania, B. A. Hammel, C. A. Back, R. W. Lee, A. Bar-Shalom, and W. E. Behring, At. Data Nucl. Data Tables **58**, 203 (1994).

94CHO/CHI H.-S. Chou, H.-C. Chi, and K.-N. Huang, Phys. Rev. A **49**, 2394 (1994).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

6.27. Cs XXVII

Cu isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^63d^{10}4s\ ^2S_{1/2}$
Ionization energy: [7 388 600 cm^{-1}]; [916.07 eV]

Two lines of the Cs XXVII spectrum have been observed experimentally. Sugar *et al.* [91SUG/KAUc] measured the transitions to the ground state from the $4p\ ^2P^\circ_{1/2}$ and $4p\ ^2P^\circ_{3/2}$ levels. Seely *et al.* [89SEE/BRO, 89SEE/FEL] calculated energies for the $4p$, $4d$, $4f$, $5s$, $5p$, $5d$, $5f$, and $5g$ configurations, then compared the calculated and experimentally observed wavelengths along the Cu I isoelectronic sequence. By fitting the deviations between observed and calculated wavelengths they were able to determine semiempirical corrections to their wavelengths and energy levels. We have included the experimental data in Tables 30 and 31, where available, and otherwise the fitted [89SEE/BRO] data. Ivanova *et al.* [85IVA/IVA] calculated the energies of the $4l$ and $5l$ states using the relativistic model potential method, obtaining values consistent with those of [89SEE/BRO] but on average 620 cm^{-1} higher.

Biémont [88BIE] used the MCDF technique to calculate oscillator strengths and energy levels for many of the $3d^9 4s4p$ and $3d^9 4p^2$ configurations (which are not included in this compilation) and the $3d^{10}4s$, $4p$, $4d$, and $4f$ configurations. Curtis and Theodosiou [89CUR/THE] also reported calculations of oscillator strengths for the $4s\ ^2S_{1/2}$–$4p\ ^2P^{\circ}_{1/2,3/2}$, $4p\ ^2P^{\circ}_{1/2,3/2}$–$4d\ ^2D_{3/2}$, and $4p\ ^2P^{\circ}_{3/2}$–$4d\ ^2D_{5/2}$ transitions. In general the agreement between the [88BIE] and [89CUR/THE] transition probabilities is within a few percentage; however, they differ for the $4p\ ^2P^{\circ}_{3/2}$–$4d\ ^2D_{5/2}$ transition by a factor of about 4. The ionization energy retained is taken from [89CUR/THE], who estimated their semiempirical ionization potentials to be reliable within a few parts in 10^4. Ionization energies calculated by Tragin *et al.* [89TRA/GEI] and Ivanov *et al.* [86IVA/IVA] agree to within ± 400 cm^{-1}.

As mentioned in the Introduction, the energy and wavelength values in square brackets are from isoelectronic fits; those not in brackets are experimental values.

References for Cs XXVII

85IVA/IVA E. P. Ivanova, L. N. Ivanov, A. D. Gurchumelya, M. A. Tsirekidze, and T. A. Tsirekidze, J. Phys. B **18**, 1467 (1985).

86IVA/IVA L. N. Ivanov, E. P. Ivanova, E. Ya. Kononov, S. S. Churilov, and M. A. Tsirekidze, Phys. Scr. **33**, 401 (1986).

88BIE E. Biémont, At. Data Nucl. Data Tables **39**, 157 (1988).

89CUR/THE L. J. Curtis and C. E. Theodosiou, Phys. Rev. A **39**, 605 (1989).

89SEE/BRO J. F. Seely, C. M. Brown, and U. Feldman, At. Data Nucl. Data Tables **43**, 145 (1989).

89SEE/FEL J. F. Seely, U. Feldman, A. W. Wouters, J. L. Schwob, and S. Suckewer Phys. Rev. A **40**, 5020 (1989).

89TRA/GEI N. Tragin, J.-P. Geindre, C. Chennais-Popovics, J.-C. Gauthier, J.-F. Wyart, and E. Luc-Koenig, Phys. Rev. A **39**, 2085 (1989).

91SUG/KAUc J. Sugar, V. Kaufman, D. H. Baik, Y.-K. Kim, and W. L. Rowan, J. Opt. Soc. B **8**, 1795 (1991).

6.28. Cs XXVIII

Ni isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10}\ ^1S_0$
Ionization energy: [12 820 000 cm^{-1}]; [1589 eV]

No Cs XXVIII wavelengths have been observed, though Träbert *et al.* [06TRA/BEI] observed the $3d^{10}\ ^1S_0$–$3d^9 4s\ ^3D_3$ magnetic octupole transition and measured the lifetime of the upper state to be 8.2 ± 2.0 ms. Several groups have calculated energies of Cs XXVIII transitions. Using the MCDF approach, Quinet and Biémont [91QUI/BIE] produced values for transition rates and wavelengths for transitions to the ground state from odd parity levels with $J=1$ in the $3d^9 4p$, $3d^9 4f$, $3p^5 3d^{10} 4s$, and $3p^5 3d^{10} 4d$ configurations for Ni-like ions. Later Safronova *et al.* [00SAF/JOH] recalculated the wavelengths using many-body perturbation theory, achieving a closer agreement with experimental data for those elements which have been observed. More recently,

TABLE 30. Spectral lines of Cs XXVII

λ (Å)	Unc. (Å)	σ (cm^{-1})	Int.	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
[29.831]		[3 352 200]			4s $^2S_{1/2}$	5p $^2P^{\circ}_{3/2}$	89SEE/BRO	
[30.505]		[3 278 200]			4s $^2S_{1/2}$	5p $^2P^{\circ}_{1/2}$	89SEE/BRO	
[30.859]		[3 240 500]			4p $^2P^{\circ}_{1/2}$	5d $^2D_{3/2}$	89SEE/BRO	
[32.337]		[3 092 400]			4p $^2P^{\circ}_{3/2}$	5d $^2D_{5/2}$	89SEE/BRO	
[36.913]		[2 709 100]			4d $^2D_{3/2}$	5f $^2F^{\circ}_{5/2}$	89SEE/BRO	
[37.319]		[2 679 600]			4d $^2D_{5/2}$	5f $^2F^{\circ}_{7/2}$	89SEE/BRO	
[38.073]		[2 626 500]			4p $^2P^{\circ}_{1/2}$	5s $^2S_{1/2}$	89SEE/BRO	
[40.600]		[2 463 100]			4p $^2P^{\circ}_{3/2}$	5s $^2S_{1/2}$	89SEE/BRO	
[48.833]		[2 047 800]			4f $^2F^{\circ}_{5/2}$	5g $^2G_{7/2}$	89SEE/BRO	
[48.923]		[2 044 000]			4f $^2F^{\circ}_{7/2}$	5g $^2G_{9/2}$	89SEE/BRO	
[50.173]		[1 993 100]			4d $^2D_{5/2}$	5p $^2P^{\circ}_{3/2}$	89SEE/BRO	
[51.235]		[1 951 800]			4d $^2D_{3/2}$	5p $^2P^{\circ}_{1/2}$	89SEE/BRO	
[113.291]		[882 680]		1.75E+11	4p $^2P^{\circ}_{1/2}$	4d $^2D_{3/2}$	89SEE/BRO	88BIE
[125.166]		[798 940]		1.35E+11	4d $^2D_{3/2}$	4f $^2F^{\circ}_{5/2}$	89SEE/BRO	88BIE
[129.683]		[771 110]		1.30E+11	4d $^2D_{5/2}$	4f $^2F^{\circ}_{7/2}$	89SEE/BRO	88BIE
[130.518]		[766 180]		8.61E+9	4d $^2D_{5/2}$	4f $^2F^{\circ}_{5/2}$	89SEE/BRO	88BIE
[133.018]		[751 780]		3.01E+10	4p $^2P^{\circ}_{3/2}$	4d $^2D_{5/2}$	89SEE/BRO	88BIE
[139.076]		[719 030]		1.93E+10	4p $^2P^{\circ}_{3/2}$	4d $^2D_{3/2}$	89SEE/BRO	88BIE
164.568	0.005	607 650	60	5.62E+10	4s $^2S_{1/2}$	4p $^2P^{\circ}_{3/2}$	91SUG/KAUc	88BIE
225.214	0.005	444 022	10	2.18E+10	4s $^2S_{1/2}$	4p $^2P^{\circ}_{1/2}$	91SUG/KAUc	88BIE

TABLE 31. Energy levels of Cs XXVII

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference
4s	^2S	1/2	0	10	91SUG/KAUc
4p	$^2P^\circ$	1/2	444 022	10	91SUG/KAUc
	$^2P^\circ$	3/2	607 650	20	91SUG/KAUc
4d	^2D	3/2	[1 326 680]		89SEE/BRO
	^2D	5/2	[1 359 440]		89SEE/BRO
4f	$^2F^\circ$	5/2	[2 125 620]		89SEE/BRO
	$^2F^\circ$	7/2	[2 130 550]		89SEE/BRO
5s	^2S	1/2	[3 070 700]		89SEE/BRO
5p	$^2P^\circ$	1/2	[3 278 200]		89SEE/BRO
	$^2P^\circ$	3/2	[3 352 200]		89SEE/BRO
5d	^2D	3/2	[3 684 500]		89SEE/BRO
	^2D	5/2	[3 700 100]		89SEE/BRO
5f	$^2F^\circ$	5/2	[4 035 800]		89SEE/BRO
	$^2F^\circ$	7/2	[4 039 000]		89SEE/BRO
5g	^2G	7/2	[4 173 400]		89SEE/BRO
	^2G	9/2	[4 174 600]		89SEE/BRO
Cs XXVIII ($3d^{10}\ ^1S_0$)		*Limit*	[7 388 600]		89CUR/THE

Safronova *et al.* [06SAF/SAF, 08SAF/SAF] obtained theoretical values for many of the same transitions as Quinet and Biémont [91QUI/BIE] and also investigated many of the forbidden transitions between $3l^{-1}4l'$ levels. Schofield and MacGowan [92SCH/MAC] reported MCDF results for wavelengths of transitions between a few levels of the $3d^94p$ and $3d^94d$ configurations. They then corrected their results using a semiempirical fit along the isoelectronic sequence.

The wavelengths reported in Table 32 are for the allowed transitions and are taken from [06SAF/SAF] and [92SCH/MAC]. The corrected [92SCH/MAC] have has an estimated uncertainty in the transition energies of 800 cm^{-1}. Estimated uncertainties for the [06SAF/SAF] data are not reported. The energy level values in Table 33 for the $3d^94d$ configuration are obtained by adding the energies of the [92SCH/MAC] transitions to the [00SAF/JOH] values for the $3d^94p$ configuration. The ionization energy cited is taken from Tragin *et al.* [89TRA/GEI], who used isoelectronic fitting to adjust the results of their *ab initio* calculations. Ivanova and Tsirekidze [86IVA/TSI] obtained a value just 60 000 cm^{-1} higher using a relativistic perturbation calculation and including the effects of atomic core polarization.

References for Cs XXVIII

86IVA/TSI E. P. Ivanova and M. A. Tsirekidze, Phys. Scr. **43**, 35 (1986).

89TRA/GEI N. Tragin, J.-P. Geindre, C. Chennais-Popovics, J.-C. Gauthier, J.-F. Wyart, and E. Luc-Koenig, Phys. Rev. A **39**, 2085 (1989).

91QUI/BIE P. Quinet and E. Biémont, Phys. Scr. **43**, 150 (1991).

92SCH/MAC J. H. Schofield and B. J. MacGowan, Phys. Scr. **46**, 361 (1992).

00SAF/JOH U. I. Safronova, W. R. Johnson, and J. R. Albritton, Phys. Rev. A **62**, 052505 (2000).

06SAF/SAF U. I. Safronova, A. S. Safronova, S. M. Hamasha, and P. Beiersdorfer, At. Data Nucl. Data Tables **92**, 47 (2006).

06TRA/BEI E. Träbert, P. Beiersdorfer, G. V. Brown, K. Boyce, R. L. Kelley, C. A. Kilbourne, F. S. Porter, and A. Szymkowiak, Phys. Rev. A **73**, 022508 (2006).

08SAF/SAF U. I. Safronova and A. S. Safronova, Phys. Rev. A **77**, 032506 (2008).

TABLE 32. Spectral lines of Cs XXVIII

λ (Å)	Unc. (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(10.431)		(9 586 800)	2.74E+12	$3p^63d^{10}\ ^1S_0$	$3s3d^{10}4p\ (1/2,3/2)^\circ_1$	06SAF/SAF	06SAF/SAF
(10.621)		(9 415 300)	9.77E+11	$3p^63d^{10}\ ^1S_0$	$3s3d^{10}4p\ (1/2,1/2)^\circ_1$	06SAF/SAF	06SAF/SAF
(10.979)		(9 108 300)	9.12E+12	$3p^63d^{10}\ ^1S_0$	$3p^53d^{10}4d\ (1/2,3/2)^\circ_1$	06SAF/SAF	06SAF/SAF
(11.658)		(8 577 800)	1.42E+13	$3p^63d^{10}\ ^1S_0$	$3p^53d^{10}4d\ (3/2,5/2)^\circ_1$	06SAF/SAF	06SAF/SAF
(11.729)		(8 525 900)	6.30E+9	$3p^63d^{10}\ ^1S_0$	$3p^53d^{10}4d\ (3/2,3/2)^\circ_1$	06SAF/SAF	06SAF/SAF
(12.856)		(7 778 500)	5.85E+11	$3p^63d^{10}\ ^1S_0$	$3p^53d^{10}4s\ (1/2,1/2)^\circ_1$	06SAF/SAF	06SAF/SAF
(13.456)		(7 431 600)	6.29E+13	$3p^63d^{10}\ ^1S_0$	$3p^63d^94f\ (3/2,5/2)^\circ_1$	06SAF/SAF	06SAF/SAF
(13.803)		(7 244 800)	4.01E+12	$3p^63d^{10}\ ^1S_0$	$3p^63d^94f\ (5/2,7/2)^\circ_1$	06SAF/SAF	06SAF/SAF
(13.856)		(7 217 100)	7.42E+12	$3p^63d^{10}\ ^1S_0$	$3p^53d^{10}4s\ (3/2,1/2)^\circ_1$	06SAF/SAF	06SAF/SAF
(13.955)		(7 165 900)	4.70E+10	$3p^63d^{10}\ ^1S_0$	$3p^63d^94f\ (5/2,5/2)^\circ_1$	06SAF/SAF	06SAF/SAF
(17.204)		(5 812 600)	3.80E+11	$3p^63d^{10}\ ^1S_0$	$3p^63d^94p\ (3/2,3/2)^\circ_1$	06SAF/SAF	06SAF/SAF
(17.544)		(5 700 000)	2.71E+12	$3p^63d^{10}\ ^1S_0$	$3p^63d^94p\ (5/2,3/2)^\circ_1$	06SAF/SAF	06SAF/SAF
(17.700)		(5 649 700)	5.35E+11	$3p^63d^{10}\ ^1S_0$	$3p^63d^94p\ (3/2,1/2)^\circ_1$	06SAF/SAF	06SAF/SAF
[91.53]	0.07	[1 092 500]		$3p^63d^94p\ (3/2,1/2)^\circ_1$	$3p^63d^94d\ (3/2,3/2)_0$	92SCH/MAC	
[95.93]	0.07	[1 042 400]		$3p^63d^94p\ (5/2,3/2)^\circ_1$	$3p^63d^94d\ (3/2,3/2)_0$	92SCH/MAC	
[107.39]	0.09	[931 200]		$3p^63d^94p\ (3/2,3/2)^\circ_1$	$3p^63d^94d\ (3/2,3/2)_0$	92SCH/MAC	
[132.75]	0.14	[753 300]		$3p^63d^94p\ (5/2,3/2)^\circ_1$	$3p^63d^94d\ (5/2,5/2)_2$	92SCH/MAC	
[138.02]	0.15	[724 500]		$3p^63d^94p\ (5/2,3/2)^\circ_1$	$3p^63d^94d\ (5/2,5/2)_1$	92SCH/MAC	

TABLE 33. Energy levels of Cs XXVIII

Configuration	Term	J	Energy (cm^{-1})	Reference
$3p^63d^{10}$	^1S	0	0	06SAF/SAF
$3p^63d^94p$	$(3/2,1/2)^\circ$	1	5 649 700	06SAF/SAF
	$(5/2,3/2)^\circ$	1	5 700 000	06SAF/SAF
	$(3/2,3/2)^\circ$	1	5 812 600	06SAF/SAF
$3p^63d^94d$	$(5/2,5/2)$	1	6 424 500	92SCH/MAC,06SAF/SAF
	$(5/2,5/2)$	2	6 453 300	92SCH/MAC,06SAF/SAF
	$(3/2,3/2)$	0	6 742 800	92SCH/MAC,06SAF/SAF
$3p^63d^94f$	$(5/2,5/2)^\circ$	1	7 165 900	06SAF/SAF
	$(5/2,7/2)^\circ$	1	7 244 800	06SAF/SAF
	$(3/2,5/2)^\circ$	1	7 431 600	06SAF/SAF
$3p^53d^{10}4s$	$(3/2,1/2)^\circ$	1	7 217 100	06SAF/SAF
	$(1/2,1/2)^\circ$	1	7 778 500	06SAF/SAF
$3p^53d^{10}4d$	$(3/2,3/2)^\circ$	1	8 525 900	06SAF/SAF
	$(3/2,5/2)^\circ$	1	8 577 800	06SAF/SAF
	$(1/2,3/2)^\circ$	1	9 108 300	06SAF/SAF
$3s3d^{10}4p$	$(1/2,1/2)^\circ$	1	(9 415 300)	06SAF/SAF
	$(1/2,3/2)^\circ$	1	(9 586 800)	06SAF/SAF
Cs XXIX ($3d^9\ ^2D_{5/2}$)		*Limit*	[12 820 000]	89TRA/GEI

6.29. Cs XXIX

Co isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^63d^9\ ^2D_{5/2}$
Ionization energy: (13 490 000 cm^{-1}); (1672 eV)

No wavelengths or energy levels of the Cs XXIX spectrum have been experimentally observed, but Ekberg *et al.* [87EKB/FEL] obtained fitted values for the energy levels of the $3p^63d^9$ and $3p^53d^{10}$ configurations. Using the MCDF approach, they calculated the wavelengths for ions in the Co I isoelectronic sequence. They then used all elements for which experimental data are available to fit the isoelectronic calculations to the experimental results. The fitted results were then used to predict the wavelengths and energy levels included in Tables 34 and 35 for the Cs XXIX spectrum. Calculated values for the $3p^63d^9$ and $3p^53d^{10}$ configurations

TABLE 34. Spectral lines of Cs XXIX

λ (Å)	Unc. (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
[38.831]	0.006	[2 575 260]		$3p^63d^9\ ^2D_{3/2}$	$3p^53d^{10}\ ^2P^\circ_{1/2}$	87EKB/FEL	
[47.118]	0.006	[2 122 330]		$3p^63d^9\ ^2D_{5/2}$	$3p^53d^{10}\ ^2P^\circ_{3/2}$	87EKB/FEL	
[49.953]	0.006	[2 001 880]		$3p^63d^9\ ^2D_{3/2}$	$3p^53d^{10}\ ^2P^\circ_{3/2}$	87EKB/FEL	
[830.22]	0.83	[120 450]	2.82E+4	$3p^63d^9\ ^2D_{5/2}$	$3p^63d^9\ ^2D_{3/2}$	87EKB/FEL	89BIE/HAN

TABLE 35. Energy levels of Cs XXIX

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference
$3p^63d^9$	^2D	5/2	[0]		87EKB/FEL
	^2D	3/2	[120 450]	120	87EKB/FEL
$3p^53d^{10}$	$^2P^\circ$	3/2	[2 122 330]	230	87EKB/FEL
	$^2P^\circ$	1/2	[2 695 710]	350	87EKB/FEL
Cs XXX ($3d^8\ ^3F_4$)		*Limit*	(13 490 000)		04ROD/IND

have also been reported by Ivanova and Tsirekidze [86IVA/TSI], in good agreement with those obtained by isoelectronic fitting [87EKB/FEL].

Biémont and Hansen [89BIE/HAN] reported magnetic dipole (M1) and electric quadrupole (E2) transition probabilities for the forbidden transition between the $^2D_{3/2}$ and $^2D_{5/2}$ levels of the ground configuration. The M1 probability is much larger than the E2 so the A_{ki} cited below is the M1 value. The calculated ionization energy is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XXIX

86IVA/TSI E. P. Ivanova and M. A. Tsirekidze, Phys. Scr. **43**, 35 (1986).

87EKB/FEL J. O. Ekberg, U. Feldman, J. F. Seely, C. M. Brown, J. Reader, and N. Acquista, J. Opt. Soc. Am. B **4**, 1913 (1987).

89BIE/HAN E. Biémont and J. E. Hansen, Phys. Scr. **39**, 308 (1989).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

6.30. Cs XXX

Fe isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^63d^8\ ^3F_4$
Ionization energy: (14 170 000 cm^{-1}); (1757 eV)

The Cs XXX spectrum has not been observed, but through isoelectronic fitting of levels of the ironlike ions Ekberg *et al.* [88EKB/FEL] determined values for levels in the $3p^63d^8$ and $3p^53d^9$ configurations (see Table 36). They observed the spectra of 14 isoelectronic ions from Ru XIX to Gd XXXVIII. Theoretical values for the energy levels were calculated using the Dirac-Fock approach. The corrections to these levels were then fitted along the isoelectronic series and the resulting curves used to predict corrections to the theoretical results for Cs. For the $3p^63d^8$ configuration [88EKB/FEL] used the notation $[N_1, N_2]$ to indicate N_1 $3d_{3/2}$ and N_2 $3d_{5/2}$ electrons. For the $3p^53d^9$ configuration the notation (j_1, j_2) was used as an abbreviation for the states $3p^5(^2P_{j_1})3d^9(^2D_{j_2})$. It should be noted that Ivanova and Tsirekidze [86IVA/TSI] also calculated values for these levels using a relativistic perturbation theory with core polarization. The calculated ionization energy retained is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XXX

86IVA/TSI E. P. Ivanova and M. A. Tsirekidze, Phys. Scr. **43**, 35 (1986).

88EKB/FEL J. O. Ekberg, U. Feldman, and J. Reader, J. Opt. Soc. Am. B **5**, 1275 (1988).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

TABLE 36. Energy levels of Cs XXX

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference
$3p^6 3d^8$	[4,4]	4	[0]	–	88EKB/FEL
	[4,4]	2	[47 720]	1000	88EKB/FEL
	[4,4]	0	[133 440]	1500	88EKB/FEL
	[3,5]	3	[112 950]	1000	88EKB/FEL
	[3,5]	2	[158 360]	1000	88EKB/FEL
	[3,5]	1	[186 090]	1000	88EKB/FEL
	[3,5]	4	[197 000]	1000	88EKB/FEL
	[2,6]	2	[263 600]	1500	88EKB/FEL
	[2,6]	0	[401 590]	1500	88EKB/FEL
$3p^5 3d^9$	$(3/2,5/2)^\circ$	4	[2 020 010]	1000	88EKB/FEL
	$(3/2,5/2)^\circ$	2	[2 060 600]	1000	88EKB/FEL
	$(3/2,5/2)^\circ$	3	[2 128 450]	1000	88EKB/FEL
	$(3/2,5/2)^\circ$	1	[2 194 390]	1000	88EKB/FEL
	$(3/2,3/2)^\circ$	2	[2 213 210]	1000	88EKB/FEL
	$(3/2,3/2)^\circ$	0	[2 244 220]	1500	88EKB/FEL
	$(3/2,3/2)^\circ$	3	[2 263 930]	1000	88EKB/FEL
	$(3/2,3/2)^\circ$	1	[2 267 780]	1000	88EKB/FEL
	$(1/2,5/2)^\circ$	2	[2 689 540]	1000	88EKB/FEL
	$(1/2,5/2)^\circ$	3	[2 754 390]	1000	88EKB/FEL
	$(1/2,3/2)^\circ$	2	[2 730 180]	1500	88EKB/FEL
	$(1/2,3/2)^\circ$	1	[2 893 300]	1500	88EKB/FEL
Cs XXXI ($3d^7\ ^4F_{9/2}$)		*Limit*	(14 170 000)		04ROD/IND

6.31. Cs XXXI

Mn isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^7\ ^4F_{9/2}$
Ionization energy: (14 910 000 cm^{-1}); (1848 eV)

No measurements of the Cs XXXI spectrum have been made. The ground state has been assigned by analogy with Xe XXX, as calculated by Saloman [04SAL]. The calculated ionization energy is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XXXI

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).
04SAL E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).

6.32. Cs XXXII

Cr isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^6\ ^5D_4$
Ionization energy: (15 610 000 cm^{-1}); (1936 eV)

There are no observations of the energy levels or wavelengths of the Cs XXXII spectrum. The ground state has been assigned by analogy with Xe XXXI, as calculated by Saloman [04SAL]. The calculated ionization energy listed above is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XXXII

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).
04SAL E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).

6.33. Cs XXXIII

V isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^5\ ^6S_{5/2}$
Ionization energy: (16 360 000 cm^{-1}); (2029 eV)

No energy levels or wavelengths have been measured for the Cs XXXIII spectrum. The ground state has been assigned by analogy with Xe XXXII, as calculated by Saloman [04SAL]. The calculated ionization energy cited here is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XXXIII

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).
04SAL E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).

6.34. Cs XXXIV

Ti isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^4\ ^5D_0$

Ionization energy: (17 240 000 cm^{-1}); (2137 eV)

Because of its possible use for plasma diagnostics in tokamaks, the $J=3-J=2$ magnetic dipole transition within the ground configuration of Cs XXXIV has been the subject of intense interest. The first predicted energy levels were by Parente *et al.* [94PAR/MAR], who calculated the energies of all the levels of the ground configuration and transition probabilities for transitions between them using the MCDF method. Kato *et al.* [99KAT/YAM] refined the calculations for the $J=3-J=2$ transition and compared theoretical and experimental results for isoelectronic Xe XXXIII and Ba XXXV. This was followed by five papers [01WAT/CUR, 01WAT/CRO, 01KAT/TON, 01POR/KIN, 01BEI/TRA] on the transition published in 2001. Unfortunately the [94PAR/MAR] result for the splitting between the $J=3$ and $J=2$ levels does not agree well with the experimental observation [01WAT/CRO] and interpolated value [01POR/KIN], casting doubt on the accuracy of the [94PAR/MAR] level values and transition probabilities. We adopt here the [01WAT/CRO] experimental value for the $J=3-J=2$ wavelength (4021.4 ± 1.1 Å) and the [01BEI/TRA] calculated value of its transition probability ($A_{ki}=388\ s^{-1}$). The ionization energy listed was calculated by Rodrigues *et al.* [04ROD/IND].

References for Cs XXXIV

94PAR/MAR	P. Parente, J. P. Marques, and P. Indelicato, Europhys. Lett. **26**, 437 (1994).
99KAT/YAM	D. Kato, C. Yamada, T. Fukami, I. Ikuta, H. Watanabe, K. Okazaki, S. Tsurubuchi, K. Mohohashi, and S. Ohtani, Phys. Scr., T **T80**, 446 (1999).
01BEI/TRA	E. Biémont, E. Träbert, and C. J. Zeippen, J. Phys. B **34**, 1941 (2001).
01KAT/TON	D. Kato, X.-M. Tong, H. Watanabe, T. Fukami, T. Kinugawa, C. Yamada, S. Ohtani, and T. Watanabe, J. Chin. Chem. Soc. **48**, 525 (2001).
01POR/KIN	J. V. Porto, I. Kink, and J. D. Gillaspy, Phys. Rev. A **61**, 054501 (2001).
01WAT/CRO	H. Watanabe, D. Crosby, F. J. Currell, T. Fukami, D. Kato, S. Ohtani, J. D. Silver, and C. Yamada, Phys. Rev. A **63**, 042513 (2001).
01WAT/CUR	H. Watanabe, F. J. Currell, T. Fukami, D. Kato, S. Ohtani, and C. Yamada, Phys. Scr., T **T92**, 122 (2001).
04ROD/IND	G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

6.35. Cs XXXV

Sc isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^63d^3\ ^4F_{3/2}$
Ionization energy: (17 990 000 cm^{-1}); (2230 eV)

There are no observations of wavelengths or energy levels of the Cs XXXV spectrum. The ground state has been assigned by analogy with Xe XXXIV, as calculated by Saloman [04SAL]. The ionization energy retained was calculated by Rodrigues *et al.* [04ROD/IND]. It agrees well with that obtained by Zilitis [02ZIL].

References for Cs XXXV

02ZIL	V. A. Zilitis, Opt. Spectrosc. **92**, 353 (2002).
04ROD/IND	G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).
04SAL	E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).

6.36. Cs XXXVI

Ca isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^63d^2\ ^3F_2$
Ionization energy: (18 780 000 cm^{-1}); (2329 eV)

No energy levels or wavelengths have been measured for the Cs XXXVI spectrum. The ground state has been assigned by analogy with Xe XXXV, as calculated by Saloman [04SAL]. The calculated ionization energy cited above is taken from Rodrigues *et al.* [04ROD/IND].

References for Cs XXXVI

04ROD/IND	G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).
04SAL	E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).

6.37. Cs XXXVII

K isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^63d\ ^2D_{3/2}$
Ionization energy: (19 530 000 cm^{-1}); (2422 eV)

The Cs XXXVII spectrum has not been observed; however, calculations of the ground state splitting and transition probabilities for the transition between its levels have been made by Ali and Kim [92ALI/KIM]. Biémont [90BIE] used the MCDF method to calculate values for the $4s\ ^2S_{1/2}$, $3d\ ^2D$, and $4d\ ^2D$ levels. Charro *et al.* [02CHA/CUR] used experimental data for isoelectronic ions with values of $18 \leqslant Z \leqslant 42$ to predict the energy of the $3d\ ^2D_{5/2}$ and $4s\ ^2S_{1/2}$ levels. They also predicted the ionization energy by extrapolating from data available for $18 \leqslant Z \leqslant 34$. Comparison of data from [02CHA/CUR] [91SUG/KAUb] for ions from Tc XXV to Sn XXXII indicates that the polynomials calculated by [02CHA/CUR] do not accurately predict the values for ions with higher Z. Therefore we retain in Tables 37 and 38 the [90BIE] calculated values for levels and transition probabilities. The ionization energy cited was calculated by Rodrigues *et al.* [04ROD/IND].

References for Cs XXXVII

90BIE E. Biémont, Bull. Soc. R. Sci. Liège **59**, 319 (1990).
91SUG/KAUb J. Sugar, V. Kaufman, and W. L. Rowan, J. Opt. Soc. Am. B **8**, 913 (1991).
92ALI/KIM M. A. Ali and Y.-K. Kim, J. Opt. Soc. Am. B **9**, 185 (1992).
02CHA/CUR E. Charro, Z. Curiel, and I. Martín, Astron. Astrophys. **387**, 1146 (2002).
04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

TABLE 37. Spectral lines of Cs XXXVII

λ (Å)	σ (cm⁻¹)	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(12.64)	(7 909 700)	2.41E+9	3d $^2D_{3/2}$	4s $^2S_{1/2}$	90BIE	90BIE
(12.88)	(7 761 200)	3.64E+9	3d $^2D_{5/2}$	4s $^2S_{1/2}$	90BIE	90BIE
(677.4)	(148 500)	3.51E+4	3d $^2D_{3/2}$	3d $^2D_{5/2}$	90BIE	90BIE

TABLE 38. Energy levels of Cs XXXVII

Configuration	Term	J	Energy (cm^{-1})	Reference
3d	^2D	3/2	(0)	90BIE
	^2D	5/2	(148 500)	90BIE
4s	^2S	1/2	(7 909 700)	90BIE
4d	^2D	3/2	(9 187 100)	90BIE
	^2D	5/2	(9 243 400)	90BIE
Cs XXXVIII ($3p^6\ ^1S_0$)		*Limit*	(19 530 000)	04ROD/IND

6.38. Cs XXXVIII

Ar isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^6\ ^1S_0$
Ionization energy: (21 640 000 cm^{-1}); (2683 eV)

There are no experimental observations of transitions in the Cs XXXVIII spectrum. The ground state has been assigned by analogy with Xe XXXVII, as calculated by Saloman [04SAL]. Rodrigues *et al.* [04ROD/IND] calculated the ionization energy cited above. A discussion of the relativistic correlation corrections to the binding energies of argonlike ions can be found in Santos *et al.* [06SAN/ROD].

References for Cs XXXVIII

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).
04SAL E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).
06SAN/ROD J. P. Santos, G. C. Rodrigues, J. P. Marques, F. Parente, J. P. Desclaux, and P. Indelicato, Eur. Phys. J. D **37**, 201 (2006).

6.39. Cs XXXIX

Cl isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^5\ ^2P^\circ_{3/2}$
Ionization energy: (22 320 000 cm^{-1}); (2767 eV)

The Cs XXXIX spectrum has not been observed, but Huang *et al.* [83HUA/KIM] used the multiconfiguration Hartree-Fock technique to calculate energy levels and wave functions. Electric dipole transition probabilities were calculated for transitions between the ground configuration and excited states in the $3s3p^6$ and $3s^23p^43d^2$ configurations. Electric quadrupole and magnetic dipole transition probabilities were given for the transition between the two levels of the ground configuration. Other than the ground configuration, [83HUA/KIM] did give designations for the cesium energy levels. Therefore in Tables 39 and 40 we refer to the levels by the level value with its *J* value in parentheses. No information regarding the accuracy of the calculated values is available. The ionization energy given above was calculated by Rodrigues *et al.* [04ROD/IND].

References for Cs XXXIX

83HUA/KIM K.-N. Huang, Y.-K. Kim, K. T. Cheng, and J. P. Desclaux, At. Data Nucl. Data Tables **28**, 355 (1983).
04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

TABLE 39. Spectral lines of Cs XXXIX

λ (Å)	σ (cm⁻¹)	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(33.975)	(2 943 308)	1.05E+9	$3s^23p^5\ ^2P^\circ_{3/2}$	2 943 308(5/2)	83HUA/KIM	83HUA/KIM
(34.022)	(2 939 239)	1.80E+8	$3s^23p^5\ ^2P^\circ_{3/2}$	2 939 239(3/2)	83HUA/KIM	83HUA/KIM
(39.555)	(2 528 121)	1.16E+10	$3s^23p^5\ ^2P^\circ_{3/2}$	2 528 121(1/2)	83HUA/KIM	83HUA/KIM
(41.044)	(2 436 416)	8.30E+10	$3s^23p^5\ ^2P^\circ_{3/2}$	2 436 416(3/2)	83HUA/KIM	83HUA/KIM
(43.760)	(2 285 182)	8.34E+11	$3s^23p^5\ ^2P^\circ_{3/2}$	2 285 182(5/2)	83HUA/KIM	83HUA/KIM
(43.783)	(2 284 016)	1.26E+12	$3s^23p^5\ ^2P^\circ_{3/2}$	2 284 016(1/2)	83HUA/KIM	83HUA/KIM
(43.815)	(2 282 316)	7.67E+11	$3s^23p^5\ ^2P^\circ_{3/2}$	2 282 316(3/2)	83HUA/KIM	83HUA/KIM
(44.234)	(2 260 716)	7.28E+11	$3s^23p^5\ ^2P^\circ_{1/2}$	2 939 239(3/2)	83HUA/KIM	83HUA/KIM

TABLE 39. Spectral lines of Cs XXXIX—Continued

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(44.617)	(2 241 281)	4.94E+10	$3s^2 3p^5\ ^2P^\circ_{3/2}$	2 241 281(5/2)	83HUA/KIM	83HUA/KIM
(45.407)	(2 202 311)	7.46E+8	$3s^2 3p^5\ ^2P^\circ_{3/2}$	2 202 311(5/2)	83HUA/KIM	83HUA/KIM
(45.977)	(2 174 989)	8.84E+9	$3s^2 3p^5\ ^2P^\circ_{3/2}$	2 174 989(3/2)	83HUA/KIM	83HUA/KIM
(48.605)	(2 057 408)	2.19E+10	$3s^2 3p^5\ ^2P^\circ_{3/2}$	2 057 408(5/2)	83HUA/KIM	83HUA/KIM
(50.136)	(1 994 588)	1.21E+7	$3s^2 3p^5\ ^2P^\circ_{3/2}$	1 994 588(3/2)	83HUA/KIM	83HUA/KIM
(51.668)	(1 935 437)	3.95E+9	$3s^2 3p^5\ ^2P^\circ_{3/2}$	1 935 437(1/2)	83HUA/KIM	83HUA/KIM
(54.066)	(1 849 598)	6.24E+11	$3s^2 3p^5\ ^2P^\circ_{1/2}$	2 528 121(1/2)	83HUA/KIM	83HUA/KIM
(56.886)	(1 757 893)	2.29E+11	$3s^2 3p^5\ ^2P^\circ_{1/2}$	2 436 416(3/2)	83HUA/KIM	83HUA/KIM
(57.203)	(1 748 168)	2.12E+11	$3s^2 3p^5\ ^2P^\circ_{3/2}$	1 748 168(1/2)	83HUA/KIM	83HUA/KIM
(58.559)	(1 707 693)	1.58E+11	$3s^2 3p^5\ ^2P^\circ_{3/2}$	1 707 693(5/2)	83HUA/KIM	83HUA/KIM
(59.259)	(1 687 499)	1.21E+11	$3s^2 3p^5\ ^2P^\circ_{3/2}$	1 687 499(3/2)	83HUA/KIM	83HUA/KIM
(60.367)	(1 656 534)	7.51E+8	$3s^2 3p^5\ ^2P^\circ_{3/2}$	1 656 534(5/2)	83HUA/KIM	83HUA/KIM
(62.286)	(1 605 493)	1.64E+10	$3s^2 3p^5\ ^2P^\circ_{1/2}$	2 284 016(1/2)	83HUA/KIM	83HUA/KIM
(62.352)	(1 603 793)	5.84E+9	$3s^2 3p^5\ ^2P^\circ_{1/2}$	2 282 316(3/2)	83HUA/KIM	83HUA/KIM
(66.824)	(1 496 466)	4.76E+8	$3s^2 3p^5\ ^2P^\circ_{1/2}$	2 174 989(3/2)	83HUA/KIM	83HUA/KIM
(67.679)	(1 477 561)	2.43E+8	$3s^2 3p^5\ ^2P^\circ_{3/2}$	1 477 561(3/2)	83HUA/KIM	83HUA/KIM
(68.093)	(1 468 587)	1.71E+9	$3s^2 3p^5\ ^2P^\circ_{3/2}$	1 468 587(1/2)	83HUA/KIM	83HUA/KIM
(74.752)	(1 337 765)	1.75E+8	$3s^2 3p^5\ ^2P^\circ_{3/2}$	1 337 765(5/2)	83HUA/KIM	83HUA/KIM
(74.803)	(1 336 841)	1.10E+9	$3s^2 3p^5\ ^2P^\circ_{3/2}$	1 336 841(1/2)	83HUA/KIM	83HUA/KIM
(75.934)	(1 316 941)	8.41E+8	$3s^2 3p^5\ ^2P^\circ_{3/2}$	1 316 941(3/2)	83HUA/KIM	83HUA/KIM
(75.984)	(1 316 065)	1.04E+8	$3s^2 3p^5\ ^2P^\circ_{1/2}$	1 994 588(3/2)	83HUA/KIM	83HUA/KIM
(79.560)	(1 256 914)	5.11E+8	$3s^2 3p^5\ ^2P^\circ_{1/2}$	1 935 437(1/2)	83HUA/KIM	83HUA/KIM
(93.489)	(1 069 645)	1.47E+10	$3s^2 3p^5\ ^2P^\circ_{1/2}$	1 748 168(1/2)	83HUA/KIM	83HUA/KIM
(99.110)	(1 008 976)	4.96E+6	$3s^2 3p^5\ ^2P^\circ_{1/2}$	1 687 499(3/2)	83HUA/KIM	83HUA/KIM
(125.150)	(799 038)	1.28E+7	$3s^2 3p^5\ ^2P^\circ_{1/2}$	1 477 561(3/2)	83HUA/KIM	83HUA/KIM
(126.572)	(790 064)	1.48E+9	$3s^2 3p^5\ ^2P^\circ_{1/2}$	1 468 587(1/2)	83HUA/KIM	83HUA/KIM
(147.4)	(678 523)	5.60E+6	$3s^2 3p^5\ ^2P^\circ_{3/2}$	$3s^2 3p^5\ ^2P^\circ_{1/2}$	83HUA/KIM	83HUA/KIM
(151.902)	(658 318)	3.76E+8	$3s^2 3p^5\ ^2P^\circ_{1/2}$	1 336 841(1/2)	83HUA/KIM	83HUA/KIM
(156.637)	(638 418)	8.72E+6	$3s^2 3p^5\ ^2P^\circ_{1/2}$	1 316 941(3/2)	83HUA/KIM	83HUA/KIM

TABLE 40. Energy levels of Cs XXXIX

Configuration	Term	J	Energy (cm^{-1})	Reference
$3s^2 3p^5$	$^2P^\circ$	3/2	(0)	83HUA/KIM
	$^2P^\circ$	1/2	(678 523)	83HUA/KIM
	1 336 841(1/2)	1/2	(1 336 841)	83HUA/KIM
	1 468 587(1/2)	1/2	(1 468 587)	83HUA/KIM
	1 748 168(1/2)	1/2	(1 748 168)	83HUA/KIM
	1 935 437(1/2)	1/2	(1 935 437)	83HUA/KIM
	2 284 016(1/2)	1/2	(2 284 016)	83HUA/KIM
	2 528 121(1/2)	1/2	(2 528 121)	83HUA/KIM
	1 316 941(3/2)	3/2	(1 316 941)	83HUA/KIM
	1 477 561(3/2)	3/2	(1 477 561)	83HUA/KIM
	1 687 499(3/2)	3/2	(1 687 499)	83HUA/KIM
	1 994 588(3/2)	3/2	(1 994 588)	83HUA/KIM
	2 174 989(3/2)	3/2	(2 174 989)	83HUA/KIM
	2 282 316(3/2)	3/2	(2 282 316)	83HUA/KIM
	2 436 416(3/2)	3/2	(2 436 416)	83HUA/KIM
	2 939 239(3/2)	3/2	(2 939 239)	83HUA/KIM
	1 656 534(5/2)	5/2	(1 656 534)	83HUA/KIM
	1 707 693(5/2)	5/2	(1 707 693)	83HUA/KIM
	2 057 408(5/2)	5/2	(2 057 408)	83HUA/KIM
	2 202 311(5/2)	5/2	(2 202 311)	83HUA/KIM

TABLE 40. Energy levels of Cs XXXIX—Continued

Configuration	Term	J	Energy (cm^{-1})	Reference
	2 241 281(5/2)	5/2	(2 241 281)	83HUA/KIM
	2 285 182(5/2)	5/2	(2 285 182)	83HUA/KIM
	2 943 308(5/2)	5/2	(2 943 308)	83HUA/KIM
	1 376 552(7/2)	7/2	(1 376 552)	83HUA/KIM
	1 483 865(7/2)	7/2	(1 483 865)	83HUA/KIM
	2 065 876(7/2)	7/2	(2 065 876)	83HUA/KIM
	2 138 410(7/2)	7/2	(2 138 410)	83HUA/KIM
	2 295 892(7/2)	7/2	(2 295 892)	83HUA/KIM
	1 502 737(9/2)	9/2	(1 502 737)	83HUA/KIM
	2 211 018(9/2)	9/2	(2 211 018)	83HUA/KIM
Cs XL ($3p^4\ ^3P_2$)	*Limit*		(22 320 000)	04ROD/IND

6.40. Cs XL

S isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^4\ ^3P_2$
Ionization energy: (23 060 000 cm^{-1}); (2859 eV)

Although the Cs XL spectrum has not been experimentally observed, there are two theoretical papers that report values for energy levels and transition probabilities. Saloman and Kim [89SAL/KIM] used the multiconfiguration Hartree-Fock technique to determine energy levels of the ground configuration and magnetic dipole (M1) and electric quadrupole (E2) probabilities for transitions between them. Chou *et al.* [96CHO/CHA] repeated the [89SAL/KIM] calculations with more configurations and also reported values for levels of the $3s3p^5$ and $3s^23p^33d$ configurations and probabilities for transitions from them to levels in the ground configuration. Except for the levels in the ground configuration the most appropriate designations are uncertain. Therefore, excited levels in the tables are referred to by level value and *J*. The transition probabilities of lines for which [96CHO/CHA] calculated both M1 and E2 probabilities are the sum of the two. Although no comparison of experimental and theoretical results are possible for Cs XL, [96CHO/CHA] shows such comparisons for Ca V–Ni XIII. These tables indicate agreement with experimental levels within a few percentage. The numbers of significant digits given in Tables 41 and 42 are those of [96CHO/CHA] and are not an indication of the accuracy of the data. The calculated ionization energy is taken from Rodrigues *et al.* [04ROD/IND].

TABLE 41. Spectral lines of Cs XL

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
Vacuum						
(31.2830)	(3 196 623)	4.16E+7	$3s^23p^4\ ^3P_2$	3 196 623(1)°	96CHO/CHA	96CHO/CHA
(32.3517)	(3 091 031)	2.99E+9	$3s^23p^4\ ^3P_0$	3 196 623(1)°	96CHO/CHA	96CHO/CHA
(33.8225)	(2 956 608)	8.70E+8	$3s^23p^4\ ^3P_2$	2 956 608(3)°	96CHO/CHA	96CHO/CHA
(34.3296)	(2 912 936)	5.28E+7	$3s^23p^4\ ^3P_2$	2 912 936(2)°	96CHO/CHA	96CHO/CHA
(34.5685)	(2 892 803)	7.72E+6	$3s^23p^4\ ^3P_2$	2 892 803(3)°	96CHO/CHA	96CHO/CHA
(34.7461)	(2 878 022)	9.60E+8	$3s^23p^4\ ^3P_2$	2 878 022(2)°	96CHO/CHA	96CHO/CHA
(34.9106)	(2 864 457)	5.05E+8	$3s^23p^4\ ^3P_2$	2 864 457(1)°	96CHO/CHA	96CHO/CHA
(36.2468)	(2 758 865)	1.06E+8	$3s^23p^4\ ^3P_0$	2 864 457(1)°	96CHO/CHA	96CHO/CHA
(39.5001)	(2 531 637)	1.42E+8	$3s^23p^4\ ^3P_2$	2 531 637(1)°	96CHO/CHA	96CHO/CHA
(39.5396)	(2 529 109)	1.13E+10	$3s^23p^4\ ^3P_1$	3 196 623(1)°	96CHO/CHA	96CHO/CHA
(40.4728)	(2 470 796)	1.93E+8	$3s^23p^4\ ^1D_2$	3 196 623(1)°	96CHO/CHA	96CHO/CHA
(40.9404)	(2 442 576)	1.10E+10	$3s^23p^4\ ^3P_2$	2 442 576(2)°	96CHO/CHA	96CHO/CHA
(41.2194)	(2 426 045)	2.49E+8	$3s^23p^4\ ^3P_0$	2 531 637(1)°	96CHO/CHA	96CHO/CHA
(42.0011)	(2 380 891)	2.98E+10	$3s^23p^4\ ^3P_2$	2 380 891(3)°	96CHO/CHA	96CHO/CHA
(42.0181)	(2 379 927)	2.09E+10	$3s^23p^4\ ^3P_2$	2 379 927(1)°	96CHO/CHA	96CHO/CHA
(42.7497)	(2 339 197)	3.72E+10	$3s^23p^4\ ^3P_2$	2 339 197(2)°	96CHO/CHA	96CHO/CHA
(43.1233)	(2 318 932)	7.21E+8	$3s^23p^4\ ^3P_2$	2 318 932(3)°	96CHO/CHA	96CHO/CHA
(43.4671)	(2 300 586)	1.45E+11	$3s^23p^4\ ^3P_2$	2 300 586(1)°	96CHO/CHA	96CHO/CHA
(43.9689)	(2 274 335)	2.92E+11	$3s^23p^4\ ^3P_0$	2 379 927(1)°	96CHO/CHA	96CHO/CHA
(43.9785)	(2 273 835)	1.07E+10	$3s^23p^4\ ^3P_2$	2 273 835(2)°	96CHO/CHA	96CHO/CHA

TABLE 41. Spectral lines of Cs XL—Continued

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(44.5350)	(2 245 425)	1.76E+11	$3s^23p^4\ ^3P_1$	2 912 936(2)°	96CHO/CHA	96CHO/CHA
(44.8274)	(2 230 781)	2.82E+9	$3s^23p^4\ ^1D_2$	2 956 608(3)°	96CHO/CHA	96CHO/CHA
(45.0194)	(2 221 265)	8.25E+11	$3s^23p^4\ ^3P_2$	2 221 265(1)°	96CHO/CHA	96CHO/CHA
(45.2384)	(2 210 511)	7.92E+10	$3s^23p^4\ ^3P_1$	2 878 022(2)°	96CHO/CHA	96CHO/CHA
(45.3027)	(2 207 375)	7.74E+11	$3s^23p^4\ ^3P_2$	2 207 375(2)°	96CHO/CHA	96CHO/CHA
(45.4437)	(2 200 527)	6.88E+11	$3s^23p^4\ ^3P_2$	2 200 527(3)°	96CHO/CHA	96CHO/CHA
(45.5177)	(2 196 946)	4.91E+11	$3s^23p^4\ ^3P_1$	2 864 457(1)°	96CHO/CHA	96CHO/CHA
(45.5582)	(2 194 994)	5.31E+11	$3s^23p^4\ ^3P_0$	2 300 586(1)°	96CHO/CHA	96CHO/CHA
(45.7225)	(2 187 109)	2.22E+11	$3s^23p^4\ ^1D_2$	2 912 936(2)°	96CHO/CHA	96CHO/CHA
(45.9078)	(2 178 279)	9.49E+11	$3s^23p^4\ ^3P_1$	2 845 790(0)°	96CHO/CHA	96CHO/CHA
(46.1473)	(2 166 976)	6.01E+11	$3s^23p^4\ ^1D_2$	2 892 803(3)°	96CHO/CHA	96CHO/CHA
(46.4642)	(2 152 195)	6.94E+10	$3s^23p^4\ ^1D_2$	2 878 022(2)°	96CHO/CHA	96CHO/CHA
(46.7589)	(2 138 630)	2.99E+11	$3s^23p^4\ ^1D_2$	2 864 457(1)°	96CHO/CHA	96CHO/CHA
(47.2385)	(2 116 915)	3.65E+9	$3s^23p^4\ ^3P_2$	2 116 915(1)°	96CHO/CHA	96CHO/CHA
(47.2663)	(2 115 673)	1.04E+9	$3s^23p^4\ ^3P_0$	2 221 265(1)°	96CHO/CHA	96CHO/CHA
(47.8168)	(2 091 316)	5.09E+10	$3s^23p^4\ ^3P_2$	2 091 316(2)°	96CHO/CHA	96CHO/CHA
(48.2951)	(2 070 605)	9.82E+9	$3s^23p^4\ ^3P_2$	2 070 605(3)°	96CHO/CHA	96CHO/CHA
(49.7185)	(2 011 323)	7.14E+8	$3s^23p^4\ ^3P_0$	2 116 915(1)°	96CHO/CHA	96CHO/CHA
(50.9467)	(1 962 834)	5.85E+9	$3s^23p^4\ ^3P_2$	1 962 834(3)°	96CHO/CHA	96CHO/CHA
(52.0252)	(1 922 144)	1.78E+10	$3s^23p^4\ ^3P_2$	1 922 144(1)°	96CHO/CHA	96CHO/CHA
(52.0656)	(1 920 654)	4.50E+9	$3s^23p^4\ ^3P_2$	1 920 654(2)°	96CHO/CHA	96CHO/CHA
(53.6444)	(1 864 126)	7.63E+9	$3s^23p^4\ ^3P_1$	2 531 637(1)°	96CHO/CHA	96CHO/CHA
(55.0494)	(1 816 552)	1.73E+10	$3s^23p^4\ ^3P_0$	1 922 144(1)°	96CHO/CHA	96CHO/CHA
(55.3768)	(1 805 810)	5.44E+11	$3s^23p^4\ ^1D_2$	2 531 637(1)°	96CHO/CHA	96CHO/CHA
(56.3360)	(1 775 065)	2.59E+11	$3s^23p^4\ ^3P_1$	2 442 576(2)°	96CHO/CHA	96CHO/CHA
(56.5574)	(1 768 116)	5.79E+10	$3s^23p^4\ ^3P_2$	1 768 116(1)°	96CHO/CHA	96CHO/CHA
(56.6949)	(1 763 826)	4.89E+11	$3s^23p^4\ ^1S_0$	3 196 623(1)°	96CHO/CHA	96CHO/CHA
(58.2496)	(1 716 749)	1.89E+11	$3s^23p^4\ ^1D_2$	2 442 576(2)°	96CHO/CHA	96CHO/CHA
(58.3970)	(1 712 416)	1.42E+11	$3s^23p^4\ ^3P_1$	2 379 927(1)°	96CHO/CHA	96CHO/CHA
(58.5488)	(1 707 977)	2.06E+11	$3s^23p^4\ ^3P_1$	2 375 488(0)°	96CHO/CHA	96CHO/CHA
(59.8198)	(1 671 686)	9.03E+10	$3s^23p^4\ ^3P_1$	2 339 197(2)°	96CHO/CHA	96CHO/CHA
(60.1399)	(1 662 789)	1.32E+11	$3s^23p^4\ ^3P_2$	1 662 789(2)°	96CHO/CHA	96CHO/CHA
(60.1495)	(1 662 524)	9.96E+10	$3s^23p^4\ ^3P_0$	1 768 116(1)°	96CHO/CHA	96CHO/CHA
(60.4206)	(1 655 064)	1.70E+11	$3s^23p^4\ ^1D_2$	2 380 891(3)°	96CHO/CHA	96CHO/CHA
(60.4558)	(1 654 100)	1.11E+9	$3s^23p^4\ ^1D_2$	2 379 927(1)°	96CHO/CHA	96CHO/CHA
(60.7038)	(1 647 344)	6.31E+10	$3s^23p^4\ ^3P_2$	1 647 344(1)°	96CHO/CHA	96CHO/CHA
(61.2341)	(1 633 075)	5.56E+10	$3s^23p^4\ ^3P_1$	2 300 586(1)°	96CHO/CHA	96CHO/CHA
(61.6475)	(1 622 125)	1.19E+11	$3s^23p^4\ ^3P_2$	1 622 125(3)°	96CHO/CHA	96CHO/CHA
(61.9821)	(1 613 370)	5.71E+10	$3s^23p^4\ ^1D_2$	2 339 197(2)°	96CHO/CHA	96CHO/CHA
(62.2539)	(1 606 324)	5.47E+9	$3s^23p^4\ ^3P_1$	2 273 835(2)°	96CHO/CHA	96CHO/CHA
(62.7705)	(1 593 105)	8.62E+7	$3s^23p^4\ ^1D_2$	2 318 932(3)°	96CHO/CHA	96CHO/CHA
(63.5018)	(1 574 759)	7.01E+9	$3s^23p^4\ ^1D_2$	2 300 586(1)°	96CHO/CHA	96CHO/CHA
(64.3602)	(1 553 754)	2.27E+9	$3s^23p^4\ ^3P_1$	2 221 265(1)°	96CHO/CHA	96CHO/CHA
(64.5991)	(1 548 008)	8.96E+8	$3s^23p^4\ ^1D_2$	2 273 835(2)°	96CHO/CHA	96CHO/CHA
(64.8613)	(1 541 752)	1.73E+10	$3s^23p^4\ ^3P_0$	1 647 344(1)°	96CHO/CHA	96CHO/CHA
(64.9408)	(1 539 864)	1.01E+10	$3s^23p^4\ ^3P_1$	2 207 375(2)°	96CHO/CHA	96CHO/CHA
(66.8700)	(1 495 438)	1.05E+9	$3s^23p^4\ ^1D_2$	2 221 265(1)°	96CHO/CHA	96CHO/CHA
(67.4970)	(1 481 548)	2.97E+9	$3s^23p^4\ ^1D_2$	2 207 375(2)°	96CHO/CHA	96CHO/CHA
(67.8104)	(1 474 700)	1.41E+9	$3s^23p^4\ ^1D_2$	2 200 527(3)°	96CHO/CHA	96CHO/CHA
(68.9938)	(1 449 404)	5.58E+8	$3s^23p^4\ ^3P_1$	2 116 915(1)°	96CHO/CHA	96CHO/CHA
(69.0802)	(1 447 593)	1.94E+8	$3s^23p^4\ ^3P_2$	1 447 593(2)°	96CHO/CHA	96CHO/CHA
(69.3030)	(1 442 939)	1.83E+9	$3s^23p^4\ ^3P_1$	2 110 450(0)°	96CHO/CHA	96CHO/CHA
(69.7936)	(1 432 797)	1.27E+3	$3s^23p^4\ ^3P_2$	$3s^23p^4\ ^1S_0$	96CHO/CHA	96CHO/CHA
(69.8490)	(1 431 660)	5.50E+9	$3s^23p^4\ ^1S_0$	2 864 457(1)°	96CHO/CHA	96CHO/CHA
(70.2343)	(1 423 805)	5.89E+8	$3s^23p^4\ ^3P_1$	2 091 316(2)°	96CHO/CHA	96CHO/CHA
(71.8862)	(1 391 088)	1.65E+8	$3s^23p^4\ ^1D_2$	2 116 915(1)°	96CHO/CHA	96CHO/CHA
(73.2339)	(1 365 489)	4.40E+7	$3s^23p^4\ ^1D_2$	2 091 316(2)°	96CHO/CHA	96CHO/CHA

TABLE 41. Spectral lines of Cs XL—Continued

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(74.3617)	(1 344 778)	1.67E+8	$3s^23p^4\ ^1D_2$	2 070 605(3)°	96CHO/CHA	96CHO/CHA
(74.4337)	(1 343 476)	4.68E+7	$3s^23p^4\ ^3P_2$	1 343 476(3)°	96CHO/CHA	96CHO/CHA
(75.3972)	(1 326 309)	1.33E+9	$3s^23p^4\ ^3P_2$	1 326 309(1)°	96CHO/CHA	96CHO/CHA
(77.1453)	(1 296 255)	1.70E+9	$3s^23p^4\ ^3P_2$	1 296 255(2)°	96CHO/CHA	96CHO/CHA
(79.7046)	(1 254 633)	6.47E+6	$3s^23p^4\ ^3P_1$	1 922 144(1)°	96CHO/CHA	96CHO/CHA
(79.7993)	(1 253 143)	7.90E+6	$3s^23p^4\ ^3P_1$	1 920 654(2)°	96CHO/CHA	96CHO/CHA
(80.0785)	(1 248 774)	9.20E+8	$3s^23p^4\ ^3P_1$	1 916 285(0)°	96CHO/CHA	96CHO/CHA
(80.8403)	(1 237 007)	1.09E+8	$3s^23p^4\ ^1D_2$	1 962 834(3)°	96CHO/CHA	96CHO/CHA
(81.9191)	(1 220 717)	4.59E+8	$3s^23p^4\ ^3P_0$	1 326 309(1)°	96CHO/CHA	96CHO/CHA
(83.5899)	(1 196 317)	2.18E+9	$3s^23p^4\ ^1D_2$	1 922 144(1)°	96CHO/CHA	96CHO/CHA
(83.6941)	(1 194 827)	2.73E+8	$3s^23p^4\ ^1D_2$	1 920 654(2)°	96CHO/CHA	96CHO/CHA
(90.8591)	(1 100 605)	4.08E+9	$3s^23p^4\ ^3P_1$	1 768 116(1)°	96CHO/CHA	96CHO/CHA
(91.0050)	(1 098 840)	8.47E+9	$3s^23p^4\ ^1S_0$	2 531 637(1)°	96CHO/CHA	96CHO/CHA
(95.9427)	(1 042 289)	9.96E+9	$3s^23p^4\ ^1D_2$	1 768 116(1)°	96CHO/CHA	96CHO/CHA
(100.4744)	(995 278)	6.20E+9	$3s^23p^4\ ^3P_1$	1 662 789(2)°	96CHO/CHA	96CHO/CHA
(102.0581)	(979 833)	7.34E+8	$3s^23p^4\ ^3P_1$	1 647 344(1)°	96CHO/CHA	96CHO/CHA
(105.5820)	(947 130)	2.81E+8	$3s^23p^4\ ^1S_0$	2 379 927(1)°	96CHO/CHA	96CHO/CHA
(106.7279)	(936 962)	4.30E+9	$3s^23p^4\ ^1D_2$	1 662 789(2)°	96CHO/CHA	96CHO/CHA
(108.5167)	(921 517)	2.28E+9	$3s^23p^4\ ^1D_2$	1 647 344(1)°	96CHO/CHA	96CHO/CHA
(111.5700)	(896 298)	1.49E+6	$3s^23p^4\ ^1D_2$	1 622 125(3)°	96CHO/CHA	96CHO/CHA
(115.2353)	(867 789)	2.32E+8	$3s^23p^4\ ^1S_0$	2 300 586(1)°	96CHO/CHA	96CHO/CHA
(126.8281)	(788 468)	3.80E+8	$3s^23p^4\ ^1S_0$	2 221 265(1)°	96CHO/CHA	96CHO/CHA
(128.1915)	(780 082)	1.03E+9	$3s^23p^4\ ^3P_1$	1 447 593(2)°	96CHO/CHA	96CHO/CHA
(130.6701)	(765 286)	1.41E+7	$3s^23p^4\ ^3P_1$	$3s^23p^4\ ^1S_0$	96CHO/CHA	96CHO/CHA
(137.7738)	(725 827)	2.97E+6	$3s^23p^4\ ^3P_2$	$3s^23p^4\ ^1D_2$	96CHO/CHA	96CHO/CHA
(138.5491)	(721 766)	6.91E+8	$3s^23p^4\ ^1D_2$	1 447 593(2)°	96CHO/CHA	96CHO/CHA
(141.4489)	(706 969)	1.05E+5	$3s^23p^4\ ^1D_2$	$3s^23p^4\ ^1S_0$	96CHO/CHA	96CHO/CHA
(146.1734)	(684 118)	2.99E+8	$3s^23p^4\ ^1S_0$	2 116 915(1)°	96CHO/CHA	96CHO/CHA
(148.6231)	(672 842)	4.15E+7	$3s^23p^4\ ^3P_1$	1 340 353(0)°	96CHO/CHA	96CHO/CHA
(149.8103)	(667 511)	4.72E+6	$3s^23p^4\ ^3P_2$	$3s^23p^4\ ^3P_1$	96CHO/CHA	96CHO/CHA
(151.7914)	(658 798)	4.19E+7	$3s^23p^4\ ^3P_1$	1 326 309(1)°	96CHO/CHA	96CHO/CHA
(159.0472)	(628 744)	2.35E+7	$3s^23p^4\ ^3P_1$	1 296 255(2)°	96CHO/CHA	96CHO/CHA
(161.2292)	(620 235)	4.76E+3	$3s^23p^4\ ^3P_0$	$3s^23p^4\ ^1D_2$	96CHO/CHA	96CHO/CHA
(161.9042)	(617 649)	2.74E+6	$3s^23p^4\ ^1D_2$	1 343 476(3)°	96CHO/CHA	96CHO/CHA
(166.5329)	(600 482)	2.34E+8	$3s^23p^4\ ^1D_2$	1 326 309(1)°	96CHO/CHA	96CHO/CHA
(175.3070)	(570 428)	5.14E+7	$3s^23p^4\ ^1D_2$	1 296 255(2)°	96CHO/CHA	96CHO/CHA
(177.9618)	(561 919)	1.26E+6	$3s^23p^4\ ^3P_0$	$3s^23p^4\ ^3P_1$	96CHO/CHA	96CHO/CHA
(204.3539)	(489 347)	2.86E+7	$3s^23p^4\ ^1S_0$	1 922 144(1)°	96CHO/CHA	96CHO/CHA
(284.8277)	(351 089)	5.52E+3	1 296 255(2)°	1 647 344(1)°	96CHO/CHA	96CHO/CHA
(298.2231)	(335 319)	1.28E+7	$3s^23p^4\ ^1S_0$	1 768 116(1)°	96CHO/CHA	96CHO/CHA
(311.4925)	(321 035)	1.02E+5	1 326 309(1)°	1 647 344(1)°	96CHO/CHA	96CHO/CHA
(325.7424)	(306 991)	2.19E+5	1 340 353(0)°	1 647 344(1)°	96CHO/CHA	96CHO/CHA
(466.0965)	(214 547)	1.02E+6	$3s^23p^4\ ^1S_0$	1 647 344(1)°	96CHO/CHA	96CHO/CHA
(939.0798)	(106 488)	6.80E+4	1 326 309(1)°	$3s^23p^4\ ^1S_0$	96CHO/CHA	96CHO/CHA
(947.0349)	(105 592)	7.11E+0	$3s^23p^4\ ^3P_2$	$3s^23p^4\ ^3P_0$	96CHO/CHA	96CHO/CHA
(1714.7768)	(58 316)	7.60E+2	$3s^23p^4\ ^3P_1$	$3s^23p^4\ ^1D_2$	96CHO/CHA	96CHO/CHA
Air						
(2266.9627)	(44 098)	5.42E−2	1 296 255(2)°	1 340 353(0)°	96CHO/CHA	96CHO/CHA
(3326.3556)	(30 054)	4.37E+2	1 296 255(2)°	1 326 309(1)°	96CHO/CHA	96CHO/CHA
(7118.5353)	(14 044)	1.23E+2	1 326 309(1)°	1 340 353(0)°	96CHO/CHA	96CHO/CHA

TABLE 42. Energy levels of Cs XL

Configuration	Term	J	Energy (cm^{-1})	Reference
$3s^23p^4$	^3P	2	(0)	96CHO/CHA
	^3P	0	(105 592)	96CHO/CHA
	^3P	1	(667 511)	96CHO/CHA
	^1D	2	(725 827)	96CHO/CHA
	^1S	0	(1 432 797)	96CHO/CHA
	1 340 353(0)°	0	(1 340 353)	96CHO/CHA
	1 916 285(0)°	0	(1 916 285)	96CHO/CHA
	2 110 450(0)°	0	(2 110 450)	96CHO/CHA
	2 375 488(0)°	0	(2 375 488)	96CHO/CHA
	2 845 790(0)°	0	(2 845 790)	96CHO/CHA
	1 326 309(1)°	1	(1 326 309)	96CHO/CHA
	1 647 344(1)°	1	(1 647 344)	96CHO/CHA
	1 768 116(1)°	1	(1 768 116)	96CHO/CHA
	1 922 144(1)°	1	(1 922 144)	96CHO/CHA
	2 116 915(1)°	1	(2 116 915)	96CHO/CHA
	2 221 265(1)°	1	(2 221 265)	96CHO/CHA
	2 300 586(1)°	1	(2 300 586)	96CHO/CHA
	2 379 927(1)°	1	(2 379 927)	96CHO/CHA
	2 531 637(1)°	1	(2 531 637)	96CHO/CHA
	2 864 457(1)°	1	(2 864 457)	96CHO/CHA
	3 196 623(1)°	1	(3 196 623)	96CHO/CHA
	1 296 255(2)°	2	(1 296 255)	96CHO/CHA
	1 447 593(2)°	2	(1 447 593)	96CHO/CHA
	1 662 789(2)°	2	(1 662 789)	96CHO/CHA
	1 920 654(2)°	2	(1 920 654)	96CHO/CHA
	2 091 316(2)°	2	(2 091 316)	96CHO/CHA
	2 207 375(2)°	2	(2 207 375)	96CHO/CHA
	2 273 835(2)°	2	(2 273 835)	96CHO/CHA
	2 339 197(2)°	2	(2 339 197)	96CHO/CHA
	2 442 576(2)°	2	(2 442 576)	96CHO/CHA
	2 878 022(2)°	2	(2 878 022)	96CHO/CHA
	2 912 936(2)°	2	(2 912 936)	96CHO/CHA
	1 343 476(3)°	3	(1 343 476)	96CHO/CHA
	1 622 125(3)°	3	(1 622 125)	96CHO/CHA
	1 962 834(3)°	3	(1 962 834)	96CHO/CHA
	2 070 605(3)°	3	(2 070 605)	96CHO/CHA
	2 200 527(3)°	3	(2 200 527)	96CHO/CHA
	2 318 932(3)°	3	(2 318 932)	96CHO/CHA
	2 380 891(3)°	3	(2 380 891)	96CHO/CHA
	2 892 803(3)°	3	(2 892 803)	96CHO/CHA
	2 956 608(3)°	3	(2 956 608)	96CHO/CHA
	1 482 657(4)°	4	(1 482 657)	96CHO/CHA
	2 022 168(4)°	4	(2 022 168)	96CHO/CHA
	2 087 741(4)°	4	(2 087 741)	96CHO/CHA
	2 153 647(4)°	4	(2 153 647)	96CHO/CHA
	2 862 592(4)°	4	(2 862 592)	96CHO/CHA
	2 177 575(5)°	5	(2 177 575)	96CHO/CHA
Cs XLI ($3p^3\ ^4S^\circ_{3/2}$)		*Limit*	(23 060 000)	04ROD/IND

References for Cs XL

89SAL/KIM E. B. Saloman and Y.-K. Kim, At. Data Nucl. Data Tables **41**, 339 (1989).

96CHO/CHA H.-S. Chou, J.-Y. Chang, Y.-H. Chang, and K.-N. Huang, At. Data Nucl. Data Tables **62**, 77 (1996).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

6.41. Cs XLI

P isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^3\ ^4S^{\circ}_{3/2}$
Ionization energy: (23 750 000 cm^{-1}); (2945 eV)

The Cs XLI spectrum has not been observed, but Huang [84HUA] used the MCDF technique to calculate energy levels and wave functions. Electric dipole transition probabilities were calculated for transitions between the ground configuration and excited states in the $3s3p^4$ and $3s^23p^23d$ configurations. Electric quadrupole and magnetic dipole transition probabilities were given for the transitions between the five levels of the ground configuration. Charro *et al.* [00CHA/MAR] also reported transition probabilities for transitions from the ground state to the $3s^23p^2(^3P)3d\ ^4P$ states. There is considerable disagreement between [84HUA] and [00CHA/MAR] in both the level values and the transition probabilities. Since the [00CHA/MAR] calculations are based upon extrapolations from polynomials fitted to data for $15 \leqslant Z \leqslant 36$, significant deviations can be expected, so we report the [84HUA] results in Tables 43 and 44. Because neither *LS* nor *jj* coupling accurately describes the Cs XLI energy levels, we use the level value with the *J* value in parentheses to designate each level. No information regarding the accuracy of the calculated values is available. The calculated ionization energy cited above is taken from Rodrigues *et al.* [04ROD/IND].

TABLE 43. Spectral lines of Cs XLI

λ (Å)	σ (cm^{-1})	$A_{k,i}$ (s^{-1})	Lower Level	Upper Level	λ Ref.	$A_{k,i}$ Ref.
Vacuum						
(30.691)	(3 258 247)	2.36E+8	0(3/2)°	3 258 247(1/2)	84HUA	84HUA
(32.379)	(3 088 434)	9.26E+8	0(3/2)°	3 088 434(5/2)	84HUA	84HUA
(32.739)	(3 054 459)	1.43E+9	0(3/2)°	3 054 459(3/2)	84HUA	84HUA
(33.821)	(2 956 706)	7.36E+8	0(3/2)°	2 956 706(5/2)	84HUA	84HUA
(34.404)	(2 906 605)	7.46E+8	0(3/2)°	2 906 605(3/2)	84HUA	84HUA
(35.776)	(2 795 136)	1.18E+9	0(3/2)°	2 795 136(1/2)	84HUA	84HUA
(35.949)	(2 781 689)	1.33E+8	0(3/2)°	2 781 689(3/2)	84HUA	84HUA
(35.036)	(2 775 001)	6.19E+5	0(3/2)°	2 775 001(5/2)	84HUA	84HUA
(36.084)	(2 771 290)	7.46E+4	0(3/2)°	2 771 290(1/2)	84HUA	84HUA
(38.003)	(2 631 377)	1.78E+7	626 870(3/2)°	3 258 247(1/2)	84HUA	84HUA
(39.917)	(2 505 200)	3.34E+9	0(3/2)°	2 505 200(1/2)	84HUA	84HUA
(40.094)	(2 494 139)	6.42E+7	0(3/2)°	2 494 139(3/2)	84HUA	84HUA
(40.339)	(2 478 990)	4.28E+9	779 257(1/2)°	3 258 247(1/2)	84HUA	84HUA
(40.625)	(2 461 564)	5.35E+9	626 870(3/2)°	3 088 434(5/2)	84HUA	84HUA
(41.193)	(2 427 589)	6.40E+6	626 870(3/2)°	3 054 459(3/2)	84HUA	84HUA
(41.835)	(2 390 336)	1.98E+9	698 098(5/2)°	3 088 434(5/2)	84HUA	84HUA
(41.953)	(2 383 609)	2.08E+8	0(3/2)°	2 383 609(5/2)	84HUA	84HUA
(42.438)	(2 356 361)	8.83E+9	698 098(5/2)°	3 054 459(3/2)	84HUA	84HUA
(42.819)	(2 335 426)	1.56E+10	0(3/2)°	2 335 426(3/2)	84HUA	84HUA
(42.921)	(2 329 836)	1.20E+8	626 870(3/2)°	2 956 706(5/2)	84HUA	84HUA
(43.760)	(2 285 170)	4.64E+10	0(3/2)°	2 285 170(1/2)	84HUA	84HUA
(43.865)	(2 279 735)	3.67E+9	626 870(3/2)°	2 906 605(3/2)	84HUA	84HUA
(43.952)	(2 275 202)	2.22E+10	779 257(1/2)°	3 054 459(3/2)	84HUA	84HUA
(43.969)	(2 274 335)	8.03E+10	0(3/2)°	2 274 335(5/2)	84HUA	84HUA
(44.223)	(2 261 259)	1.51E+10	0(3/2)°	2 261 259(3/2)	84HUA	84HUA
(44.275)	(2 258 608)	2.85E+8	698 098(5/2)°	2 956 706(5/2)	84HUA	84HUA
(45.279)	(2 208 507)	1.40E+10	698 098(5/2)°	2 906 605(3/2)	84HUA	84HUA
(46.120)	(2 168 266)	2.42E+11	626 870(3/2)°	2 795 136(1/2)	84HUA	84HUA
(46.264)	(2 161 508)	8.95E+11	0(3/2)°	2 161 508(3/2)	84HUA	84HUA
(46.288)	(2 160 392)	6.57E+11	0(3/2)°	2 160 392(1/2)	84HUA	84HUA
(46.408)	(2 154 819)	4.61E+11	626 870(3/2)°	2 781 689(3/2)	84HUA	84HUA
(46.552)	(2 148 131)	2.01E+11	626 870(3/2)°	2 775 001(5/2)	84HUA	84HUA
(46.633)	(2 144 420)	4.60E+11	626 870(3/2)°	2 771 290(1/2)	84HUA	84HUA
(47.007)	(2 127 348)	5.14E+11	779 257(1/2)°	2 906 605(3/2)	84HUA	84HUA
(47.065)	(2 124 709)	5.04E+11	0(3/2)°	2 124 709(5/2)	84HUA	84HUA
(47.438)	(2 107 994)	4.04E+11	698 098(5/2)°	2 806 092(7/2)	84HUA	84HUA
(47.930)	(2 086 382)	4.38E+10	0(3/2)°	2 086 382(5/2)	84HUA	84HUA

TABLE 43. Spectral lines of Cs XLI—Continued

λ (Å)	σ (cm^{-1})	$A_{k,i}$ (s^{-1})	Lower Level	Upper Level	λ Ref.	$A_{k,i}$ Ref.
(47.994)	(2 083 591)	2.35E+11	698 098(5/2)°	2 781 689(3/2)	84HUA	84HUA
(48.149)	(2 076 903)	3.89E+11	698 098(5/2)°	2 775 001(5/2)	84HUA	84HUA
(48.530)	(2 060 571)	7.61E+10	698 098(5/2)°	2 758 669(7/2)	84HUA	84HUA
(49.060)	(2 038 319)	2.42E+8	0(3/2)°	2 038 319(3/2)	84HUA	84HUA
(49.606)	(2 015 879)	2.49E+10	779 257(1/2)°	2 795 136(1/2)	84HUA	84HUA
(49.939)	(2 002 432)	4.94E+10	779 257(1/2)°	2 781 689(3/2)	84HUA	84HUA
(50.200)	(1 992 033)	1.67E+10	779 257(1/2)°	2 771 290(1/2)	84HUA	84HUA
(52.758)	(1 895 446)	2.86E+9	0(3/2)°	1 895 446(1/2)	84HUA	84HUA
(52.843)	(1 892 408)	2.55E+10	0(3/2)°	1 892 408(3/2)	84HUA	84HUA
(52.953)	(1 888 456)	1.06E+9	0(3/2)°	1 888 456(5/2)	84HUA	84HUA
(53.239)	(1 878 330)	7.55E+10	626 870(3/2)°	2 505 200(1/2)	84HUA	84HUA
(53.554)	(1 867 269)	7.48E+10	626 870(3/2)°	2 494 139(3/2)	84HUA	84HUA
(54.289)	(1 841 984)	7.60E+11	1 416 263(3/2)°	3 258 247(1/2)	84HUA	84HUA
(55.678)	(1 796 041)	3.39E+11	698 098(5/2)°	2 494 139(3/2)	84HUA	84HUA
(56.924)	(1 756 739)	4.20E+10	626 870(3/2)°	2 383 609(5/2)	84HUA	84HUA
(57.939)	(1 725 943)	3.74E+11	779 257(1/2)°	2 505 200(1/2)	84HUA	84HUA
(58.313)	(1 714 882)	6.14E+10	779 257(1/2)°	2 494 139(3/2)	84HUA	84HUA
(58.529)	(1 708 556)	8.89E+10	626 870(3/2)°	2 335 426(3/2)	84HUA	84HUA
(58.860)	(1 698 945)	1.31E+11	0(3/2)°	1 698 945(3/2)	84HUA	84HUA
(59.180)	(1 689 758)	8.12E+10	0(3/2)°	1 689 758(1/2)	84HUA	84HUA
(59.329)	(1 685 511)	2.35E+11	698 098(5/2)°	2 383 609(5/2)	84HUA	84HUA
(59.802)	(1 672 171)	3.77E+11	1 416 263(3/2)°	3 088 434(5/2)	84HUA	84HUA
(60.303)	(1 658 300)	9.77E+10	626 870(3/2)°	2 285 170(1/2)	84HUA	84HUA
(60.699)	(1 647 465)	2.17E+11	626 870(3/2)°	2 274 335(5/2)	84HUA	84HUA
(61.043)	(1 638 196)	2.77E+11	1 416 263(3/2)°	3 054 459(3/2)	84HUA	84HUA
(61.075)	(1 637 328)	4.70E+10	698 098(5/2)°	2 335 426(3/2)	84HUA	84HUA
(61.185)	(1 634 389)	1.04E+11	626 870(3/2)°	2 261 259(3/2)	84HUA	84HUA
(63.379)	(1 577 814)	8.98E+10	0(3/2)°	1 577 814(5/2)	84HUA	84HUA
(63.442)	(1 576 237)	3.90E+8	698 098(5/2)°	2 274 335(5/2)	84HUA	84HUA
(63.973)	(1 563 161)	8.86E+9	698 098(5/2)°	2 261 259(3/2)	84HUA	84HUA
(64.049)	(1 561 309)	1.24E+11	698 098(5/2)°	2 259 407(7/2)	84HUA	84HUA
(64.260)	(1 556 169)	6.05E+10	779 257(1/2)°	2 335 426(3/2)	84HUA	84HUA
(64.916)	(1 540 443)	1.06E+9	1 416 263(3/2)°	2 956 706(5/2)	84HUA	84HUA
(65.162)	(1 534 638)	1.06E+9	626 870(3/2)°	2 161 508(3/2)	84HUA	84HUA
(65.209)	(1 533 522)	6.79E+5	626 870(3/2)°	2 160 392(1/2)	84HUA	84HUA
(66.405)	(1 505 913)	3.12E+10	779 257(1/2)°	2 285 170(1/2)	84HUA	84HUA
(66.763)	(1 497 839)	1.01E+10	626 870(3/2)°	2 124 709(5/2)	84HUA	84HUA
(67.099)	(1 490 342)	1.03E+10	1 416 263(3/2)°	2 906 605(3/2)	84HUA	84HUA
(67.476)	(1 482 002)	8.65E+9	779 257(1/2)°	2 261 259(3/2)	84HUA	84HUA
(68.334)	(1 463 410)	1.48E+9	698 098(5/2)°	2 161 508(3/2)	84HUA	84HUA
(68.516)	(1 459 512)	6.48E+9	626 870(3/2)°	2 086 382(5/2)	84HUA	84HUA
(69.892)	(1 430 770)	3.91E+9	0(3/2)°	1 430 770(5/2)	84HUA	84HUA
(70.096)	(1 426 611)	3.58E+9	698 098(5/2)°	2 124 709(5/2)	84HUA	84HUA
(70.608)	(1 416 263)	7.52E+2	0(3/2)°	1 416 263(3/2)°	84HUA	84HUA
(70.849)	(1 411 449)	6.03E+8	626 870(3/2)°	2 038 319(3/2)	84HUA	84HUA
(72.031)	(1 388 284)	8.96E+8	698 098(5/2)°	2 086 382(5/2)	84HUA	84HUA
(72.346)	(1 382 251)	2.88E+7	779 257(1/2)°	2 161 508(3/2)	84HUA	84HUA
(72.404)	(1 381 135)	1.71E+9	779 257(1/2)°	2 160 392(1/2)	84HUA	84HUA
(72.523)	(1 378 873)	9.37E+7	1 416 263(3/2)°	2 795 136(1/2)	84HUA	84HUA
(73.237)	(1 365 426)	1.41E+8	1 416 263(3/2)°	2 781 689(3/2)	84HUA	84HUA
(73.598)	(1 358 738)	3.38E+9	1 416 263(3/2)°	2 775 001(5/2)	84HUA	84HUA
(73.799)	(1 355 027)	1.15E+9	1 416 263(3/2)°	2 771 290(1/2)	84HUA	84HUA
(74.055)	(1 350 345)	2.03E+8	698 098(5/2)°	2 048 443(7/2)	84HUA	84HUA
(74.615)	(1 340 221)	1.94E+7	698 098(5/2)°	2 038 319(3/2)	84HUA	84HUA
(78.829)	(1 268 576)	4.62E+8	626 870(3/2)°	1 895 446(1/2)	84HUA	84HUA
(79.018)	(1 265 538)	1.14E+8	626 870(3/2)°	1 892 408(3/2)	84HUA	84HUA
(79.044)	(1 265 118)	2.08E+9	0(3/2)°	1 265 118(3/2)	84HUA	84HUA

TABLE 43. Spectral lines of Cs XLI—Continued

λ (Å)	σ (cm⁻¹)	$A_{k,i}$ (s⁻¹)	Lower Level	Upper Level	λ Ref.	$A_{k,i}$ Ref.
(79.265)	(1 261 586)	7.96E+7	626 870(3/2)°	1 888 456(5/2)	84HUA	84HUA
(79.340)	(1 260 402)	1.98E+7	698 098(5/2)°	1 958 500(7/2)	84HUA	84HUA
(79.424)	(1 259 062)	1.38E+8	779 257(1/2)°	2 038 319(3/2)	84HUA	84HUA
(83.730)	(1 194 310)	2.11E+9	698 098(5/2)°	1 892 408(3/2)	84HUA	84HUA
(84.008)	(1 190 358)	1.04E+9	698 098(5/2)°	1 888 456(5/2)	84HUA	84HUA
(89.591)	(1 116 189)	1.76E+8	779 257(1/2)°	1 895 446(1/2)	84HUA	84HUA
(89.835)	(1 113 151)	2.38E+8	779 257(1/2)°	1 892 408(3/2)	84HUA	84HUA
(91.833)	(1 088 937)	7.99E+9	1 416 263(3/2)°	2 505 200(1/2)	84HUA	84HUA
(92.775)	(1 077 876)	1.09E+10	1 416 263(3/2)°	2 494 139(3/2)	84HUA	84HUA
(93.277)	(1 072 075)	5.96E+9	626 870(3/2)°	1 698 945(3/2)	84HUA	84HUA
(94.083)	(1 062 888)	7.17E+4	626 870(3/2)°	1 689 758(1/2)	84HUA	84HUA
(99.915)	(1 000 847)	1.35E+10	698 098(5/2)°	1 698 945(3/2)	84HUA	84HUA
(103.376)	(967 346)	5.92E+9	1 416 263(3/2)°	2 383 609(5/2)	84HUA	84HUA
(105.159)	(950 944)	4.52E+9	626 870(3/2)°	1 577 814(5/2)	84HUA	84HUA
(108.733)	(919 688)	1.83E+7	779 257(1/2)°	1 698 945(3/2)	84HUA	84HUA
(108.795)	(919 163)	9.76E+7	1 416 263(3/2)°	2 335 426(3/2)	84HUA	84HUA
(109.830)	(910 501)	1.26E+10	779 257(1/2)°	1 689 758(1/2)	84HUA	84HUA
(113.673)	(879 716)	2.54E+9	698 098(5/2)°	1 577 814(5/2)	84HUA	84HUA
(115.087)	(868 907)	1.47E+9	1 416 263(3/2)°	2 285 170(1/2)	84HUA	84HUA
(116.540)	(858 072)	6.69E+8	1 416 263(3/2)°	2 274 335(5/2)	84HUA	84HUA
(118.344)	(844 996)	9.74E+6	1 416 263(3/2)°	2 261 259(3/2)	84HUA	84HUA
(124.394)	(803 900)	2.02E+9	626 870(3/2)°	1 430 770(5/2)	84HUA	84HUA
(126.680)	(789 393)	7.54E+6	626 870(3/2)°	1 416 263(3/2)°	84HUA	84HUA
(128.327)	(779 257)	3.79E+6	0(3/2)°	779 257(1/2)°	84HUA	84HUA
(134.184)	(745 245)	2.60E+7	1 416 263(3/2)°	2 161 508(3/2)	84HUA	84HUA
(134.385)	(744 129)	3.94E+8	1 416 263(3/2)°	2 160 392(1/2)	84HUA	84HUA
(136.487)	(732 672)	1.16E+9	698 098(5/2)°	1 430 770(5/2)	84HUA	84HUA
(139.244)	(718 165)	1.77E+6	698 098(5/2)°	1 416 263(3/2)°	84HUA	84HUA
(141.154)	(708 446)	3.22E+8	1 416 263(3/2)°	2 124 709(5/2)	84HUA	84HUA
(143.246)	(698 098)	9.41E+5	0(3/2)°	698 098(5/2)°	84HUA	84HUA
(149.227)	(670 119)	2.94E+8	1 416 263(3/2)°	2 086 382(5/2)	84HUA	84HUA
(156.679)	(638 248)	1.01E+7	626 870(3/2)°	1 265 118(3/2)	84HUA	84HUA
(156.984)	(637 006)	1.26E+6	779 257(1/2)°	1 416 263(3/2)°	84HUA	84HUA
(159.523)	(626 780)	4.83E+6	0(3/2)°	626 870(3/2)°	84HUA	84HUA
(160.757)	(622 056)	1.61E+8	1 416 263(3/2)°	2 038 319(3/2)	84HUA	84HUA
(176.361)	(567 020)	1.39E+8	698 098(5/2)°	1 265 118(3/2)	84HUA	84HUA
(205.820)	(485 861)	4.89E+3	779 257(1/2)°	1 265 118(3/2)	84HUA	84HUA
(208.689)	(479 183)	1.59E+7	1 416 263(3/2)°	1 895 446(1/2)	84HUA	84HUA
(210.020)	(476 145)	1.92E+7	1 416 263(3/2)°	1 892 408(3/2)	84HUA	84HUA
(211.778)	(472 193)	4.96E+6	1 416 263(3/2)°	1 888 456(5/2)	84HUA	84HUA
(353.754)	(282 682)	1.77E+7	1 416 263(3/2)°	1 698 945(3/2)	84HUA	84HUA
(365.637)	(273 495)	1.01E+7	1 416 263(3/2)°	1 689 758(1/2)	84HUA	84HUA
(619.000)	(161 551)	1.09E+5	1 416 263(3/2)°	1 577 814(5/2)	84HUA	84HUA
(656.224)	(152 387)	5.44E+2	626 870(3/2)°	779 257(1/2)°	84HUA	84HUA
(661.616)	(151 145)	5.50E+4	1 265 118(3/2)	1 416 263(3/2)°	84HUA	84HUA
(1232.15)	(81159)	1.20E+0	698 098(5/2)°	779 257(1/2)°	84HUA	84HUA
(1403.94)	(71228)	1.80E+3	626 870(3/2)°	698 098(5/2)°	84HUA	84HUA
Air						
(6889.42)	(14 507)	5.27E+1	1 416 263(3/2)°	1 430 770(5/2)	84HUA	84HUA

TABLE 44. Energy levels of Cs XLI

Configuration	Designation	J	Energy (cm^{-1})	Reference
$3s^23p^3$	0(3/2)°	3/2	(0)	84HUA
	626 870(3/2)°	3/2	(626 870)	84HUA
	698 098(5/2)°	5/2	(698 098)	84HUA
	779 257(1/2)°	1/2	(779 257)	84HUA
	1 416 263(3/2)°	3/2	(1 416 263)	84HUA
$3s3p^4$	1 689 758(1/2)	1/2	(1 689 758)	84HUA
	2 285 170(1/2)	1/2	(2 285 170)	84HUA
	2 771 290(1/2)	1/2	(2 771 290)	84HUA
	1 265 118(3/2)	3/2	(1 265 118)	84HUA
	1 698 945(3/2)	3/2	(1 698 945)	84HUA
	2 494 139(3/2)	3/2	(2 494 139)	84HUA
	1 430 770(5/2)	5/2	(1 430 770)	84HUA
	1 577 814(5/2)	5/2	(1 577 814)	84HUA
$3s^23p^23d$	1 895 446(1/2)	1/2	(1 895 446)	84HUA
	2 160 392(1/2)	1/2	(2 160 392)	84HUA
	2 505 200(1/2)	1/2	(2 505 200)	84HUA
	2 795 136(1/2)	1/2	(2 795 136)	84HUA
	3 258 247(1/2)	1/2	(3 258 247)	84HUA
	1 892 408(3/2)	3/2	(1 892 408)	84HUA
	2 038 319(3/2)	3/2	(2 038 319)	84HUA
	2 161 508(3/2)	3/2	(2 161 508)	84HUA
	2 261 259(3/2)	3/2	(2 261 259)	84HUA
	2 335 426(3/2)	3/2	(2 335 426)	84HUA
	2 781 689(3/2)	3/2	(2 781 689)	84HUA
	2 906 605(3/2)	3/2	(2 906 605)	84HUA
	3 054 459(3/2)	3/2	(3 054 459)	84HUA
	1 888 456(5/2)	5/2	(1 888 456)	84HUA
	2 086 382(5/2)	5/2	(2 086 382)	84HUA
	2 124 709(5/2)	5/2	(2 124 709)	84HUA
	2 274 335(5/2)	5/2	(2 274 335)	84HUA
	2 383 609(5/2)	5/2	(2 383 609)	84HUA
	2 775 001(5/2)	5/2	(2 775 001)	84HUA
	2 956 706(5/2)	5/2	(2 956 706)	84HUA
	3 088 434(5/2)	5/2	(3 088 434)	84HUA
	1 958 500(7/2)	7/2	(1 958 500)	84HUA
	2 048 443(7/2)	7/2	(2 048 443)	84HUA
	2 259 407(7/2)	7/2	(2 259 407)	84HUA
	2 758 669(7/2)	7/2	(2 758 669)	84HUA
	2 806 092(7/2)	7/2	(2 806 092)	84HUA
	2 126 744(9/2)	9/2	(2 126 744)	84HUA
	2 788 783(9/2)	9/2	(2 788 783)	84HUA
Cs XLII ($3p^2\ ^3P_0$)		*Limit*	(23 750 000)	04ROD/IND

References for Cs XLI

84HUA K.-N. Huang, At. Data Nucl. Data Tables **30**, 313 (1984).

00CHA/MAR E. Charro, I. Martín, and M. A. Serna, J. Phys. B **33**, 1753 (2000).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

6.42. Cs XLII

Si isoelectronic sequence
Ground state: $1s^22s^22p^63s^23p^2\ ^3P_0$
Ionization energy: (25 150 000 cm^{-1}); (3118 eV)

There have been no experimental observations of the Cs XLII spectrum, but Huang [85HUA] used the MCDF technique to calculate energy levels and wave functions. Electric dipole transition probabilities were calculated for transitions between the ground configuration and excited states in the $3s3p^3$ and $3s^23p3d$ configurations. Electric quadrupole and magnetic dipole transition probabilities were given for the transitions between the five levels of the ground configuration. Because neither *LS* nor *jj* coupling accurately describes the Cs XLII energy levels, the designation for each level in Tables 45 and 46 consists of the level value with the *J* value in parentheses. No information regarding the accuracy of the calculated values is available. Rodrigues *et al.* [04ROD/IND] calculated the ionization energy retained.

References for Cs XLII

85HUA K.-N. Huang, At. Data Nucl. Data Tables **32**, 503 (1985).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

TABLE 45. Spectral lines of Cs XLII

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(30.636)	(3 264 150)	3.04E+8	0(0)	3 264 150(1)°	85HUA	85HUA
(33.356)	(2 997 930)	2.18E+9	0(0)	2 997 930(1)°	85HUA	85HUA
(36.431)	(2 744 936)	1.58E+8	0(0)	2 744 936(1)°	85HUA	85HUA
(38.273)	(2 612 840)	3.68E+7	651 310(1)	3 264 150(1)°	85HUA	85HUA
(39.090)	(2 558 187)	7.22E+8	705 963(2)	3 264 150(1)°	85HUA	85HUA
(40.526)	(2 467 575)	2.14E+8	0(0)	2 467 575(1)°	85HUA	85HUA

TABLE 45. Spectral lines of Cs XLII—Continued

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(40.655)	(2 459 703)	1.27E+9	651 310(1)	3 111 013(2)°	85HUA	85HUA
(41.579)	(2 405 050)	2.24E+9	705 963(2)	3 111 013(2)°	85HUA	85HUA
(42.067)	(2 377 182)	1.11E+10	0(0)	2 377 182(1)°	85HUA	85HUA
(42.614)	(2 346 620)	1.93E+9	651 310(1)	2 997 930(1)°	85HUA	85HUA
(43.631)	(2 291 967)	9.91E+9	705 963(2)	2 997 930(1)°	85HUA	85HUA
(44.211)	(2 261 891)	1.26E+10	705 963(2)	2 967 854(3)°	85HUA	85HUA
(47.522)	(2 104 277)	4.84E+11	651 310(1)	2 755 587(0)°	85HUA	85HUA
(47.580)	(2 101 729)	3.18E+9	651 310(1)	2 753 039(2)°	85HUA	85HUA
(47.666)	(2 097 928)	6.75E+11	0(0)	2 097 928(1)°	85HUA	85HUA
(47.764)	(2 093 626)	4.95E+11	651 310(1)	2 744 936(1)°	85HUA	85HUA
(47.808)	(2 091 709)	2.31E+11	651 310(1)	2 743 019(2)°	85HUA	85HUA
(48.850)	(2 047 076)	5.48E+9	705 963(2)	2 753 039(2)°	85HUA	85HUA
(49.044)	(2 038 973)	6.23E+10	705 963(2)	2 744 936(1)°	85HUA	85HUA
(49.077)	(2 037 605)	4.13E+11	705 963(2)	2 743 568(3)°	85HUA	85HUA
(49.090)	(2 037 056)	4.58E+11	705 963(2)	2 743 019(2)°	85HUA	85HUA
(53.467)	(1 870 324)	4.15E+11	1 393 826(2)	3 264 150(1)°	85HUA	85HUA
(55.058)	(1 816 265)	1.53E+11	651 310(1)	2 467 575(1)°	85HUA	85HUA
(56.766)	(1 761 612)	3.42E+11	705 963(2)	2 467 575(1)°	85HUA	85HUA
(56.938)	(1 756 291)	2.43E+10	651 310(1)	2 407 601(2)°	85HUA	85HUA
(57.034)	(1 753 349)	2.91E+11	1 510 801(0)	3 264 150(1)°	85HUA	85HUA
(57.942)	(1 725 872)	1.30E+11	651 310(1)	2 377 182(1)°	85HUA	85HUA
(58.235)	(1 717 187)	4.12E+11	1 393 826(2)	3 111 013(2)°	85HUA	85HUA
(58.767)	(1 701 638)	2.31E+11	705 963(2)	2 407 601(2)°	85HUA	85HUA
(59.809)	(1 671 982)	9.43E+10	0(0)	1 671 982(1)°	85HUA	85HUA
(59.837)	(1 671 219)	8.02E+9	705 963(2)	2 377 182(1)°	85HUA	85HUA
(60.325)	(1 657 685)	8.94E+10	651 310(1)	2 308 995(0)°	85HUA	85HUA
(62.340)	(1 604 104)	9.58E+10	1 393 826(2)	2 997 930(1)°	85HUA	85HUA
(63.163)	(1 583 205)	1.83E+11	651 310(1)	2 234 515(2)°	85HUA	85HUA
(63.531)	(1 574 028)	2.63E+11	1 393 826(2)	2 967 854(3)°	85HUA	85HUA
(64.051)	(1 561 255)	8.39E+10	705 963(2)	2 267 218(3)°	85HUA	85HUA
(65.421)	(1 528 552)	4.48E+9	705 963(2)	2 234 515(2)°	85HUA	85HUA
(67.244)	(1 487 129)	7.74E+10	1 510 801(0)	2 997 930(1)°	85HUA	85HUA
(69.127)	(1 446 618)	7.05E+5	651 310(1)	2 097 928(1)°	85HUA	85HUA
(71.745)	(1 393 826)	9.19E+0	0(0)	1 393 826(2)	85HUA	85HUA
(71.841)	(1 391 965)	3.30E+9	705 963(2)	2 097 928(1)°	85HUA	85HUA
(72.045)	(1 388 023)	3.02E+9	651 310(1)	2 039 333(2)°	85HUA	85HUA
(72.046)	(1 388 007)	1.48E+10	705 963(2)	2 093 970(3)°	85HUA	85HUA
(73.572)	(1 359 213)	5.64E+9	1 393 826(2)	2 753 039(2)°	85HUA	85HUA
(74.013)	(1 351 110)	9.46E+7	1 393 826(2)	2 744 936(1)°	85HUA	85HUA
(74.088)	(1 349 742)	4.16E+9	1 393 826(2)	2 743 568(3)°	85HUA	85HUA
(74.118)	(1 349 193)	4.84E+8	1 393 826(2)	2 743 019(2)°	85HUA	85HUA
(74.998)	(1 333 370)	8.72E+8	705 963(2)	2 039 333(2)°	85HUA	85HUA
(81.028)	(1 234 135)	1.76E+8	1 510 801(0)	2 744 936(1)°	85HUA	85HUA
(82.033)	(1 219 027)	8.20E+7	651 310(1)	1 870 337(2)°	85HUA	85HUA
(85.883)	(1 164 374)	1.69E+9	705 963(2)	1 870 337(2)°	85HUA	85HUA
(93.132)	(1 073 749)	8.45E+9	1 393 826(2)	2 467 575(1)°	85HUA	85HUA
(97.975)	(1 020 672)	4.26E+9	651 310(1)	1 671 982(1)°	85HUA	85HUA
(98.641)	(1 013 775)	1.04E+10	1 393 826(2)	2 407 601(2)°	85HUA	85HUA
(101.693)	(983 356)	4.14E+9	1 393 826(2)	2 377 182(1)°	85HUA	85HUA
(103.518)	(966 019)	1.60E+10	705 963(2)	1 671 982(1)°	85HUA	85HUA
(104.518)	(956 774)	3.82E+9	1 510 801(0)	2 467 575(1)°	85HUA	85HUA
(114.496)	(873 392)	5.04E+9	1 393 826(2)	2 267 218(3)°	85HUA	85HUA
(115.423)	(866 381)	3.92E+9	1 510 801(0)	2 377 182(1)°	85HUA	85HUA
(116.348)	(859 491)	9.22E+6	651 310(1)	1 510 801(0)	85HUA	85HUA
(117.108)	(853 913)	5.65E+9	651 310(1)	1 505 223(2)°	85HUA	85HUA
(118.950)	(840 689)	2.12E+7	1 393 826(2)	2 234 515(2)°	85HUA	85HUA
(124.249)	(804 838)	8.71E+4	705 963(2)	1 510 801(0)	85HUA	85HUA
(125.116)	(799 260)	4.07E+9	705 963(2)	1 505 223(2)°	85HUA	85HUA
(134.677)	(742 516)	3.33E+6	651 310(1)	1 393 826(2)	85HUA	85HUA
(141.650)	(705 963)	1.67E+4	0(0)	705 963(2)	85HUA	85HUA

TABLE 45. Spectral lines of Cs XLII—Continued

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(142.025)	(704 102)	1.42E+8	1 393 826(2)	2 097 928(1)°	85HUA	85HUA
(142.828)	(700 144)	7.76E+8	1 393 826(2)	2 093 970(3)°	85HUA	85HUA
(145.378)	(687 863)	3.11E+6	705 963(2)	1 393 826(2)	85HUA	85HUA
(153.537)	(651 310)	3.55E+6	0(0)	651 310(1)	85HUA	85HUA
(154.917)	(645 507)	3.98E+8	1 393 826(2)	2 039 333(2)°	85HUA	85HUA
(170.321)	(587 127)	2.16E+7	1 510 801(0)	2 097 928(1)°	85HUA	85HUA
(209.859)	(476 511)	1.43E+7	1 393 826(2)	1 870 337(2)°	85HUA	85HUA
(359.510)	(278 156)	2.12E+7	1 393 826(2)	1 671 982(1)°	85HUA	85HUA
(620.421)	(161 181)	6.97E+5	1 510 801(0)	1 671 982(1)°	85HUA	85HUA
(854.884)	(116 975)	1.31E+1	1 393 826(2)	1 510 801(0)	85HUA	85HUA
(897.690)	(111 397)	2.82E+5	1 393 826(2)	1 505 223(2)°	85HUA	85HUA
(1 829.703)	(54 653)	8.64E+2	651 310(1)	705 963(2)	85HUA	85HUA

TABLE 46. Energy levels of Cs XLII

Configuration	Designation	J	Energy (cm^{-1})	Reference
3s^{2}3p^2	0(0)	0	(0)	85HUA
	651 310(1)	1	(651 310)	85HUA
	705 963(2)	2	(705 963)	85HUA
	1 393 826(2)	2	(1 393 826)	85HUA
	1 510 801(0)	0	(1 510 801)	85HUA
3s^{3}p^3	2 308 995(0)°	0	(2 308 995)	85HUA
	1 671 982(1)°	1	(1 671 982)	85HUA
	2 097 928(1)°	1	(2 097 928)	85HUA
	2 377 182(1)°	1	(2 377 182)	85HUA
	2 467 575(1)°	1	(2 467 575)	85HUA
	1 505 223(2)°	2	(1 505 223)	85HUA
	1 870 337(2)°	2	(1 870 337)	85HUA
	2 039 333(2)°	2	(2 039 333)	85HUA
	3 111 013(2)°	2	(3 111 013)	85HUA
	2 093 970(3)°	3	(2 093 970)	85HUA
3s^{2}3p3d	2 755 587(0)°	0	(2 755 587)	85HUA
	2 744 936(1)°	1	(2 744 936)	85HUA
	2 997 930(1)°	1	(2 997 930)	85HUA
	3 264 150(1)°	1	(3 264 150)	85HUA
	2 234 515(2)°	2	(2 234 515)	85HUA
	2 407 601(2)°	2	(2 407 601)	85HUA
	2 743 019(2)°	2	(2 743 019)	85HUA
	2 753 039(2)°	2	(2 753 039)	85HUA
	2 267 218(3)°	3	(2 267 218)	85HUA
	2 743 568(3)°	3	(2 743 568)	85HUA
	2 967 854(3)°	3	(2 967 854)	85HUA
	2 756 367(4)°	4	(2 756 367)	85HUA
Cs XLIII (3p ^{2}P°$_{1/2}$)		*Limit*	(25 150 000)	04ROD/IND

6.43. Cs XLIII

Al isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2 3p\ ^2P^\circ_{1/2}$
Ionization energy: (25 920 000 cm^{-1}); (3214 eV)

The Cs XLIII spectrum has not been observed, but Huang [86HUA] used the MCDF technique to calculate energy levels and wavelengths. Electric dipole transition probabilities were calculated for transitions between the ground configuration and excited states in the $3s3p^2$ and $3s^2 3d$ configurations, as well as between levels of the $3s3p^2$ and $3s^2 3d$ configurations and odd—parity levels of the $3p^3$ and $3s3p3d$ configurations with $J \geqslant 5/2$. Electric quadrupole and magnetic dipole transition probabilities were given for forbidden transitions between the first five levels of the ion. Charro *et al.* [03CHA/LOP] obtained values within 10% for the forbidden transition in the ground configuration using the RQDO method. Lavin *et al.* [97LAV/ALV] and Gebarowski *et al.* [94GEB/MIG] reported transition probabilities for transitions from the ground configuration to the $3s^2 3d\ ^2D$ states and Safronova *et al.* [03SAF/SAT] calculated probabilities for transitions with lower levels in the $3s^2 3p$, $3s3p^2$, and $3s^2 3d$ configurations. Although the transition probabilities of [03SAF/SAT] and [86HUA] generally agree to within 10%, there is considerable disagreement between them and [97LAV/ALV]. In order to give a consistent set of wavelengths, energy levels, and transition probabilities Tables 47 and 48 retain the [86HUA] results, where available. For transitions in [03SAF/SAT] but not in [86HUA], the levels from [86HUA] were used to calculate wavelengths and [03SAF/SAT] transition probabilities were listed.

Because neither *LS* nor *jj* coupling accurately describes the Cs XLIII energy levels, we use the level value with the *J* value in parentheses to designate each level. Despite the impurity of the coupling, Table 48 also gives the *jj* configuration names given by Huang [86HUA]. No information regarding the accuracy of the calculated values is available. The calculated ionization energy cited is taken from Rodrigues *et al.* [00ROD/OUR, 04ROD/IND].

TABLE 47. Spectral lines of Cs XLIII

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(40.039)	(2 497 547)	4.52E+9	1 426 531(3/2)	3 924 078(5/2)°	86HUA	86HUA
(40.149)	(2 490 740)	3.23E+7	0(1/2)°	2 490 740(3/2)	86HUA	86HUA
(40.850)	(2 448 007)	5.14E+9	0(1/2)°	2 448 007(1/2)	86HUA	86HUA
(41.619)	(2 402 742)	7.59E+9	1 521 336(5/2)	3 924 078(5/2)°	86HUA	86HUA
(43.509)	(2 298 373)	3.74E+5	1 426 531(3/2)	3 724 904(5/2)°	86HUA	86HUA
(43.969)	(2 274 305)	6.50E+9	1 649 773(3/2)	3 924 078(5/2)°	86HUA	86HUA
(44.005)	(2 272 467)	4.66E+8	1 521 336(5/2)	3 793 803(7/2)°	86HUA	86HUA
(45.381)	(2 203 568)	1.05E+10	1 521 336(5/2)	3 724 904(5/2)°	86HUA	86HUA
(45.656)	(2 190 284)	1.36E+9	1 426 531(3/2)	3 616 815(5/2)°	86HUA	86HUA
(45.971)	(2 175 284)	6.14E+10	1 521 336(5/2)	3 696 620(7/2)°	86HUA	86HUA
(47.722)	(2 095 479)	1.61E+10	1 521 336(5/2)	3 616 815(5/2)°	86HUA	86HUA
(48.190)	(2 075 131)	1.61E+11	1 649 773(3/2)	3 724 904(5/2)°	86HUA	86HUA
(49.512)	(2 019 711)	2.39E+11	1 720 098(1/2)	3 739 809(1/2)°	86HUA	03SAF/SAT
(49.626)	(2 015 088)	4.95E+11	0(1/2)°	2 015 088(3/2)	86HUA	86HUA
(49.665)	(2 013 505)	2.42E+11	1 426 531(3/2)	3 440 036(1/2)°	86HUA	03SAF/SAT
(49.688)	(2 012 540)	1.14E+11	1 426 531(3/2)	3 439 071(5/2)°	86HUA	86HUA
(49.813)	(2 007 492)	2.37E+11	1 426 531(3/2)	3 434 023(3/2)°	86HUA	03SAF/SAT
(50.136)	(1 994 580)	3.41E+11	850 303(1/2)	2 844 883(3/2)°	86HUA	03SAF/SAT
(50.396)	(1 984 293)	3.50E+11	850 303(1/2)	2 834 596(1/2)°	86HUA	03SAF/SAT
(50.838)	(1 967 042)	2.96E+9	1 649 773(3/2)	3 616 815(5/2)°	86HUA	86HUA
(50.843)	(1 966 849)	1.36E+11	1 720 098(1/2)	3 686 947(3/2)°	86HUA	03SAF/SAT
(51.687)	(1 934 729)	2.35E+11	1 521 336(5/2)	3 456 065(7/2)°	86HUA	86HUA
(51.808)	(1 930 204)	1.01E+11	1 649 773(3/2)	3 579 977(3/2)°	86HUA	03SAF/SAT
(52.145)	(1 917 735)	2.47E+11	1 521 336(5/2)	3 439 071(5/2)°	86HUA	86HUA
(52.282)	(1 912 687)	4.89E+10	1 521 336(5/2)	3 434 023(3/2)°	86HUA	03SAF/SAT
(52.384)	(1 908 990)	1.34E+10	2 015 088(3/2)	3 924 078(5/2)°	86HUA	86HUA
(53.707)	(1 861 968)	1.18E+11	1 426 531(3/2)	3 288 499(3/2)°	86HUA	03SAF/SAT
(53.767)	(1 859 879)	8.93E+10	1 720 098(1/2)	3 579 977(3/2)°	86HUA	03SAF/SAT
(53.804)	(1 858 615)	6.83E+10	2 298 588(5/2)	4 157 203(3/2)°	86HUA	03SAF/SAT
(54.212)	(1 844 606)	1.43E+11	2 079 472(5/2)	3 924 078(5/2)°	86HUA	86HUA
(54.251)	(1 843 280)	8.22E+10	2 015 088(3/2)	3 858 368(1/2)°	86HUA	03SAF/SAT
(54.680)	(1 828 836)	2.03E+11	2 079 472(5/2)	3 908 308(3/2)°	86HUA	03SAF/SAT
(55.210)	(1 811 255)	7.08E+9	1 426 531(3/2)	3 237 786(5/2)°	86HUA	86HUA
(55.858)	(1 790 263)	1.27E+10	1 649 773(3/2)	3 440 036(1/2)°	86HUA	03SAF/SAT
(55.888)	(1 789 298)	1.42E+10	1 649 773(3/2)	3 439 071(5/2)°	86HUA	86HUA
(56.446)	(1 771 591)	2.16E+10	850 303(1/2)	2 621 894(3/2)°	86HUA	03SAF/SAT
(56.586)	(1 767 215)	5.39E+11	723 525(3/2)°	2 490 740(3/2)	86HUA	86HUA
(56.588)	(1 767 163)	1.58E+10	1 521 336(5/2)	3 288 499(3/2)°	86HUA	03SAF/SAT
(57.980)	(1 724 721)	3.62E+11	2 015 088(3/2)	3 739 809(1/2)°	86HUA	03SAF/SAT
(57.988)	(1 724 482)	2.64E+11	723 525(3/2)°	2 448 007(1/2)	86HUA	86HUA
(58.136)	(1 720 098)	3.73E+11	0(1/2)°	1 720 098(1/2)	86HUA	86HUA
(58.260)	(1 716 450)	4.78E+10	1 521 336(5/2)	3 237 786(5/2)°	86HUA	86HUA
(58.332)	(1 714 331)	5.22E+10	2 079 472(5/2)	3 793 803(7/2)°	86HUA	86HUA
(58.486)	(1 709 816)	4.85E+11	2 015 088(3/2)	3 724 904(5/2)°	86HUA	86HUA
(58.507)	(1 709 196)	1.26E+11	2 448 007(1/2)	4 157 203(3/2)°	86HUA	03SAF/SAT
(59.714)	(1 674 638)	2.18E+11	1 649 773(3/2)	3 324 411(1/2)°	86HUA	03SAF/SAT
(59.814)	(1 671 859)	8.82E+10	2 015 088(3/2)	3 686 947(3/2)°	86HUA	03SAF/SAT
(59.945)	(1 668 193)	5.26E+10	850 303(1/2)	2 518 496(3/2)°	86HUA	03SAF/SAT
(60.007)	(1 666 463)	5.17E+11	2 490 740(3/2)	4 157 203(3/2)°	86HUA	03SAF/SAT
(60.614)	(1 649 773)	1.01E+11	0(1/2)°	1 649 773(3/2)	86HUA	86HUA
(60.774)	(1 645 432)	5.25E+7	2 079 472(5/2)	3 724 904(5/2)°	86HUA	86HUA
(61.023)	(1 638 726)	8.84E+10	1 649 773(3/2)	3 288 499(3/2)°	86HUA	03SAF/SAT
(61.520)	(1 625 490)	1.44E+11	2 298 588(5/2)	3 924 078(5/2)°	86HUA	86HUA
(61.837)	(1 617 148)	1.04E+11	2 079 472(5/2)	3 696 620(7/2)°	86HUA	86HUA
(62.123)	(1 609 720)	1.25E+11	2 298 588(5/2)	3 908 308(3/2)°	86HUA	03SAF/SAT
(62.433)	(1 601 727)	4.62E+8	2 015 088(3/2)	3 616 815(5/2)°	86HUA	86HUA
(62.972)	(1 588 013)	1.45E+11	1 649 773(3/2)	3 237 786(5/2)°	86HUA	86HUA
(63.490)	(1 575 063)	2.09E+11	723 525(3/2)°	2 298 588(5/2)	86HUA	86HUA
(63.759)	(1 568 401)	2.01E+11	1 720 098(1/2)	3 288 499(3/2)°	86HUA	03SAF/SAT
(63.825)	(1 566 796)	6.13E+10	1 426 531(3/2)	2 993 327(3/2)°	86HUA	03SAF/SAT
(63.902)	(1 564 889)	6.52E+10	2 015 088(3/2)	3 579 977(3/2)°	86HUA	03SAF/SAT
(64.420)	(1 552 324)	1.29E+10	1 426 531(3/2)	2 978 855(5/2)°	86HUA	86HUA
(65.047)	(1 537 343)	1.46E+11	2 079 472(5/2)	3 616 815(5/2)°	86HUA	86HUA
(66.644)	(1 500 505)	3.89E+10	2 079 472(5/2)	3 579 977(3/2)°	86HUA	03SAF/SAT

TABLE 47. Spectral lines of Cs XLIII—Continued

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(66.880)	(1 495 215)	2.82E+11	2 298 588(5/2)	3 793 803(7/2)°	86HUA	86HUA
(68.479)	(1 460 301)	1.02E+11	2 448 007(1/2)	3 908 308(3/2)°	86HUA	03SAF/SAT
(68.610)	(1 457 519)	4.36E+10	1 521 336(5/2)	2 978 855(5/2)°	86HUA	86HUA
(69.676)	(1 435 219)	8.72E+10	1 426 531(3/2)	2 861 750(5/2)°	86HUA	86HUA
(69.767)	(1 433 338)	2.13E+11	2 490 740(3/2)	3 924 078(5/2)°	86HUA	86HUA
(70.100)	(1 426 531)	6.62E+8	0(1/2)°	1 426 531(3/2)	86HUA	86HUA
(70.111)	(1 426 316)	8.07E+7	2 298 588(5/2)	3 724 904(5/2)°	86HUA	86HUA
(70.226)	(1 423 983)	1.23E+9	2 015 088(3/2)	3 439 071(5/2)°	86HUA	86HUA
(70.904)	(1 410 361)	1.48E+11	2 448 007(1/2)	3 858 368(1/2)°	86HUA	03SAF/SAT
(71.529)	(1 398 032)	2.50E+10	2 298 588(5/2)	3 696 620(7/2)°	86HUA	86HUA
(71.736)	(1 394 006)	4.48E+10	1 521 336(5/2)	2 915 342(7/2)°	86HUA	86HUA
(72.643)	(1 376 593)	1.45E+10	2 079 472(5/2)	3 456 065(7/2)°	86HUA	86HUA
(73.551)	(1 359 599)	1.11E+8	2 079 472(5/2)	3 439 071(5/2)°	86HUA	86HUA
(73.749)	(1 355 947)	1.86E+10	723 525(3/2)°	2 079 472(5/2)	86HUA	86HUA
(74.604)	(1 340 414)	1.36E+9	1 521 336(5/2)	2 861 750(5/2)°	86HUA	86HUA
(75.240)	(1 329 082)	2.16E+10	1 649 773(3/2)	2 978 855(5/2)°	86HUA	86HUA
(75.859)	(1 318 227)	1.82E+10	2 298 588(5/2)	3 616 815(5/2)°	86HUA	86HUA
(77.426)	(1 291 563)	1.26E+8	723 525(3/2)°	2 015 088(3/2)	86HUA	86HUA
(79.390)	(1 259 604)	5.28E+8	1 426 531(3/2)	2 686 135(5/2)°	86HUA	86HUA
(81.027)	(1 234 164)	1.69E+9	2 490 740(3/2)	3 724 904(5/2)°	86HUA	86HUA
(81.786)	(1 222 698)	1.02E+7	2 015 088(3/2)	3 237 786(5/2)°	86HUA	86HUA
(82.510)	(1 211 977)	5.68E+8	1 649 773(3/2)	2 861 750(5/2)°	86HUA	86HUA
(85.852)	(1 164 799)	4.66E+9	1 521 336(5/2)	2 686 135(5/2)°	86HUA	86HUA
(86.332)	(1 158 314)	3.58E+9	2 079 472(5/2)	3 237 786(5/2)°	86HUA	86HUA
(86.395)	(1 157 477)	7.05E+7	2 298 588(5/2)	3 456 065(7/2)°	86HUA	86HUA
(87.682)	(1 140 483)	1.09E+9	2 298 588(5/2)	3 439 071(5/2)°	86HUA	86HUA
(88.804)	(1 126 075)	1.66E+9	2 490 740(3/2)	3 616 815(5/2)°	86HUA	86HUA
(96.491)	(1 036 362)	1.17E+9	1 649 773(3/2)	2 686 135(5/2)°	86HUA	86HUA
(100.344)	(996 573)	1.45E+10	723 525(3/2)°	1 720 098(1/2)	86HUA	86HUA
(103.760)	(963 767)	1.52E+8	2 015 088(3/2)	2 978 855(5/2)°	86HUA	86HUA
(105.448)	(948 331)	8.23E+8	2 490 740(3/2)	3 439 071(5/2)°	86HUA	86HUA
(106.474)	(939 198)	1.07E+10	2 298 588(5/2)	3 237 786(5/2)°	86HUA	86HUA
(107.962)	(926 248)	8.44E+9	723 525(3/2)°	1 649 773(3/2)	86HUA	86HUA
(111.187)	(899 383)	8.53E+9	2 079 472(5/2)	2 978 855(5/2)°	86HUA	86HUA
(117.605)	(850 303)	1.32E+10	0(1/2)°	850 303(1/2)	86HUA	86HUA
(118.111)	(846 662)	6.24E+7	2 015 088(3/2)	2 861 750(5/2)°	86HUA	86HUA
(119.636)	(835 870)	7.30E+9	2 079 472(5/2)	2 915 342(7/2)°	86HUA	86HUA
(125.343)	(797 811)	5.58E+9	723 525(3/2)°	1 521 336(5/2)	86HUA	86HUA
(127.832)	(782 278)	1.85E+8	2 079 472(5/2)	2 861 750(5/2)°	86HUA	86HUA
(133.861)	(747 046)	4.25E+9	2 490 740(3/2)	3 237 786(5/2)°	86HUA	86HUA
(138.212)	(723 525)	3.39E+6	0(1/2)°	723 525(3/2)°	86HUA	86HUA
(142.246)	(703 006)	8.12E+8	723 525(3/2)°	1 426 531(3/2)	86HUA	86HUA
(147.001)	(680 267)	2.00E+8	2 298 588(5/2)	2 978 855(5/2)°	86HUA	86HUA
(149.021)	(671 047)	3.57E+9	2 015 088(3/2)	2 686 135(5/2)°	86HUA	86HUA
(149.024)	(671 033)	1.43E+4	850 303(1/2)	1 521 336(5/2)	86HUA	86HUA
(162.139)	(616 754)	1.01E+9	2 298 588(5/2)	2 915 342(7/2)°	86HUA	86HUA
(164.836)	(606 663)	7.50E+5	2 079 472(5/2)	2 686 135(5/2)°	86HUA	86HUA
(173.542)	(576 228)	2.73E+6	850 303(1/2)	1 426 531(3/2)	86HUA	86HUA
(177.569)	(563 162)	2.19E+8	2 298 588(5/2)	2 861 750(5/2)°	86HUA	86HUA
(204.870)	(488 115)	8.93E+7	2 490 740(3/2)	2 978 855(5/2)°	86HUA	86HUA
(258.033)	(387 547)	1.57E+7	2 298 588(5/2)	2 686 135(5/2)°	86HUA	86HUA
(269.535)	(371 010)	7.55E+6	2 490 740(3/2)	2 861 750(5/2)°	86HUA	86HUA
(511.784)	(195 395)	4.36E+4	2 490 740(3/2)	2 686 135(5/2)°	86HUA	86HUA
(788.780)	(126 778)	1.28E+6	723 525(3/2)°	850 303(1/2)	86HUA	86HUA
(1 054.796)	(94 805)	8.71E+3	1 426 531(3/2)	1 521 336(5/2)	86HUA	86HUA

TABLE 48. Energy levels of Cs XLIII

Designation	Configuration	J	Energy (cm^{-1})	Reference
0(1/2)°	$[(3s^2)_0\,3p_{1/2}]^\circ$	1/2	(0)	86HUA
723 525(3/2)°		3/2	(723 525)	86HUA
850 303(1/2)	$[3s\,(3p^2_{1/2})_0]^\circ$	1/2	(850 303)	86HUA
1 426 531(3/2)	$[3s\,(3p_{1/2}3p_{3/2})_2]$	3/2	(1 426 531)	86HUA
1 521 336(5/2)		5/2	(1 521 336)	86HUA
1 649 773(3/2)	$[3s\,(3p_{1/2}3p_{3/2})_1]$	3/2	(1 649 773)	86HUA
1 720 098(1/2)		1/2	(1 720 098)	86HUA
2 015 088(3/2)	$[(3s^2)_0\,3d_{3/2}]^\circ$	3/2	(2 015 088)	86HUA
2 079 472(5/2)		5/2	(2 079 472)	86HUA
2 298 588(5/2)	$[(3p^2_{1/2})_0\,3d_{5/2}]$	5/2	(2 298 588)	86HUA
2 490 740(3/2)		3/2	(2 490 740)	86HUA
2 448 007(1/2)	$[3s\,(3p^2_{3/2})_0]^\circ$	1/2	(2 448 007)	86HUA
2 518 496(3/2)°	$[(3s3p_{1/2})_0\,3d_{3/2}]^\circ$	3/2	(2 518 496)	86HUA
2 621 894(3/2)°	$[(3p^2_{1/2})_0\,3p_{3/2}]^\circ$	3/2	(2 621 894)	86HUA
2 686 135(5/2)°	$[(3s3p_{1/2})_1\,3d_{3/2}]^\circ$	5/2	(2 686 135)	86HUA
2 834 596(1/2)°		1/2	(2 834 596)	86HUA
2 844 883(3/2)°		3/2	(2 844 883)	86HUA
2 861 750(5/2)°	$[(3s3p_{1/2})_0\,3d_{5/2}]^\circ$	5/2	(2 861 750)	86HUA
2 915 342(7/2)°	$[(3s3p_{1/2})_1\,3d_{5/2}]^\circ$	7/2	(2 915 342)	86HUA
2 978 855(5/2)°		5/2	(2 978 855)	86HUA
2 993 327(3/2)°		3/2	(2 993 327)	86HUA
3 237 786(5/2)°	$[3p_{1/2}\,(3p^2_{3/2})_2]^\circ$	5/2	(3 237 786)	86HUA
3 288 499(3/2)°		3/2	(3 288 499)	86HUA
3 324 411(1/2)°	$[(3s3p_{3/2})_2\,3d_{3/2}]^\circ$	1/2	(3 324 411)	86HUA
3 434 023(3/2)°		3/2	(3 434 023)	86HUA
3 439 071(5/2)°		5/2	(3 439 071)	86HUA
3 440 036(1/2)°	$[3p_{1/2}\,(3p^2_{3/2})_0]^\circ$	1/2	(3 440 036)	86HUA
3 456 065(7/2)°	$[(3s3p_{3/2})_2\,3d_{3/2}]^\circ$	7/2	(3 456 065)	86HUA
3 477 312(9/2)°	$[(3s3p_{3/2})_2\,3d_{5/2}]^\circ$	9/2	(3 477 312)	86HUA
3 686 947(3/2)°		3/2	(3 686 947)	86HUA
3 696 620(7/2)°		7/2	(3 696 620)	86HUA
3 724 904(5/2)°		5/2	(3 724 904)	86HUA
3 858 368(1/2)°		1/2	(3 858 368)	86HUA
3 579 977(3/2)°	$[(3s3p_{3/2})_1\,3d_{3/2}]^\circ$	3/2	(3 579 977)	86HUA
3 616 815(5/2)°		5/2	(3 616 815)	86HUA
3 739 809(1/2)°		1/2	(3 739 809)	86HUA
3 793 803(7/2)°	$[(3s3p_{3/2})_1\,3d_{5/2}]^\circ$	7/2	(3 793 803)	86HUA
3 908 308(3/2)°		3/2	(3 908 308)	86HUA
3 924 078(5/2)°		5/2	(3 924 078)	86HUA
4 157 203(3/2)°	$[3p_{1/2}\,(3d^2_{3/2})_2]^\circ$	3/2	(4 157 203)	86HUA
Cs XLIV $(3s^2\,{}^1S_0)$		*Limit*	(25 920 000)	04ROD/IND

References for Cs XLIII

86HUA K.-N. Huang, Atom. Data Nucl. Data Tables **34**, 1 (1986).

94GEB/MIG R. Gebarowski, J. Migdalek, and J. R. Bieroń, J. Phys. B **27**, 3315 (1994).

97LAV/ALV C. Lavin, A. B. Alvarez, and I. Martin, J. Quant. Spectrosc. Radiat. Transf. **57**, 831 (1997).

00ROD/OUR G. C. Rodrigues, M. A. Ourdane, J. Bieroń, P. Indelicato, and E. Lindroth, Phys. Rev. A **63**, 012510 (2000).

03CHA/LOP E. Charro, S. López-Ferrero, and I. Martín, Astron. Astrophys **406**, 741 (2003).

03SAF/SAT U. I. Safronova, M. Sataka, J. R. Albritton, W. R. Johnson, and M. S. Safronova, Atom. Data Nucl. Data Tables **84**, 1 (2003).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

6.44. Cs XLIV

Mg isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s^2\ {}^1S_0$
Ionization energy: (27 360 000 cm^{-1}); (3392 eV)

The experimental research on the Cs XLIV spectrum has been summarized by Ekberg *et al.* [91EKB/FEL], who irradiated coated spherical targets with a high—intensity pulsed laser and recorded the resulting spectra on a 3 m grazing-incidence spectrograph, as described in Seely *et al.* [88SEE/FEL]. Ekberg *et al.* [91EKB/FEL] also used experimental data along the Mg isoelectronic sequence to produce fitted values for the energy levels. In addition, Seely *et al.* [88SEE/EKB] used fitting along the isoelectronic sequence to predict the wavelength for the $3s^2\,(1/2,1/2)_0 – 3s3p\,(1/2,1/2)_1$ transition. In Tables 49 and 50 we report experimental values for the wavelengths and wave numbers, where available, and fitted values for the energy levels. The fitted values are enclosed in square brackets. The calculated ionization energy retained here is taken from Rodrigues *et al.* [04ROD/IND]. A transition probability has been calculated for the $3p3d\,(3/2,5/2)_3 – 3d^2\,(5/2,5/2)_4$ line at 84.159 Å by Wang *et al.* [06WAN/CHE]. The value obtained using the MCDF method is $A_{ki} = 1.41 \times 10^{11}$ s^{-1}. The online database associated with Wang *et al.* [05WAN/CHE], which gives additional transition probabilities as well as wavelengths and energy levels, has recently been updated.

References for Cs XLIV

88SEE/EKB J. F. Seely, J. O. Ekberg, U. Feldman, J. L. Schwob, S. Suckewer, and A. Wouters, J. Opt. Soc. Am **5**, 602 (1988).

88SEE/FEL J. F. Seely, U. Feldman, C. M. Brown, M. C. Richardson, D. D. Dietrich, and W. E. Behring, J. Opt. Soc. Am **5**, 785 (1988).

91EKB/FEL J. O. Ekberg, U. Feldman, J. F. Seely, C. M. Brown, B. J. MacGowan, D. R. Kania, and C. J. Keane, Phys. Scr. **43**, 19 (1991).
04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).
06WAN/CHE W. Wang, X. L. Cheng, and X. D. Yang, Phys. Scr. **73**, 565 (2006).

TABLE 49. Observed spectral lines of Cs XLIV

λ (Å)	Unc. (Å)	σ (cm⁻¹)	Int.	Line Code	Lower Level	Upper Level	λ Ref.
51.447	0.02	1 943 750	1		$3p3d(1/2,3/2)^{\circ}_{2}$	$3d^2(3/2,3/2)_2$	91EKB/FEL
52.044	0.02	1 921 450	2		$3p3d(1/2,5/2)^{\circ}_{2}$	$3d^2(3/2,5/2)_1$	91EKB/FEL
52.411	0.02	1 908 000	2	h	$3p^2(1/2,3/2)_2$	$3p3d(3/2,3/2)^{\circ}_{3}$	91EKB/FEL
52.610	0.02	1 900 780	3	h	$3s3p(1/2,1/2)^{\circ}_{1}$	$3s3d(1/2,3/2)_2$	91EKB/FEL
52.958	0.02	1 888 290	4	h	$3p^2(1/2,1/2)_0$	$3p3d(1/2,3/2)^{\circ}_{1}$	91EKB/FEL
54.092	0.02	1 848 700	2	w	$3p^2(1/2,3/2)_2$	$3p3d(3/2,3/2)^{\circ}_{2}$	91EKB/FEL
54.304	0.02	1 841 480	2	h	$3p^2(1/2,3/2)_1$	$3p3d(3/2,3/2)^{\circ}_{2}$	91EKB/FEL
54.847	0.02	1 823 250	1	h	$3p3d(1/2,5/2)^{\circ}_{3}$	$3d^2(3/2,5/2)_3$	91EKB/FEL
56.716	0.02	1 763 170	1	h	$3p3d(1/2,3/2)^{\circ}_{1}$	$3d^2(3/2,3/2)_2$	91EKB/FEL
56.911	0.02	1 757 130	2		$3s3p(1/2,3/2)^{\circ}_{2}$	$3p^2(3/2,3/2)_2$	91EKB/FEL
59.756	0.02	1 673 470	7	b,h	$3s3p(1/2,1/2)^{\circ}_{0}$	$3p^2(1/2,3/2)_1$	91EKB/FEL
59.756	0.02	1 673 470	7	b,h	$3s^2(1/2,1/2)_0$	$3s3p(1/2,3/2)^{\circ}_{1}$	91EKB/FEL
60.799	0.02	1 644 760	1	h	$3s3d(1/2,3/2)_1$	$3p3d(3/2,3/2)^{\circ}_{1}$	91EKB/FEL
61.907	0.02	1 615 330	2	h	$3s3p(1/2,3/2)^{\circ}_{1}$	$3p^2(3/2,3/2)_0$	91EKB/FEL
62.416	0.02	1 602 150	3	b,w	$3s3d(1/2,3/2)_2$	$3p3d(3/2,3/2)^{\circ}_{3}$	91EKB/FEL
62.416	0.02	1 602 150	3	b,w	$3s3p(1/2,1/2)^{\circ}_{1}$	$3p^2(1/2,3/2)_1$	91EKB/FEL
62.664	0.02	1 595 810	3	h	$3s3p(1/2,1/2)^{\circ}_{1}$	$3p^2(1/2,3/2)_2$	91EKB/FEL
64.746	0.02	1 544 570	5	w	$3s3p(1/2,3/2)^{\circ}_{1}$	$3p^2(3/2,3/2)_2$	91EKB/FEL
65.810	0.02	1 519 530	4		$3s3d(1/2,5/2)_3$	$3p3d(3/2,5/2)^{\circ}_{4}$	91EKB/FEL
65.921	0.02	1 516 970	2	w	$3s3d(1/2,5/2)_2$	$3p3d(3/2,5/2)^{\circ}_{2}$	91EKB/FEL
69.588	0.02	1 437 030	5	w	$3s3p(1/2,3/2)^{\circ}_{2}$	$3s3d(1/2,5/2)_2$	91EKB/FEL
73.572	0.02	1 359 210	2	h	$3s3p(1/2,3/2)^{\circ}_{2}$	$3s3d(1/2,5/2)_3$	91EKB/FEL
75.937	0.02	1 316 880	5	h	$3p^2(3/2,3/2)_2$	$3p3d(3/2,5/2)^{\circ}_{3}$	91EKB/FEL
76.422	0.02	1 308 520	1	b,h	$3p^2(1/2,3/2)_2$	$3p3d(1/2,5/2)^{\circ}_{3}$	91EKB/FEL
76.422	0.02	1 308 520	1	b,h	$3p^2(3/2,3/2)_0$	$3p3d(3/2,5/2)^{\circ}_{1}$	91EKB/FEL
76.881	0.02	1 300 710	3	h	$3p^2(1/2,3/2)_1$	$3p3d(1/2,5/2)^{\circ}_{2}$	91EKB/FEL
77.302	0.02	1 293 630	4		$3p3d(3/2,3/2)^{\circ}_{3}$	$3d^2(3/2,5/2)_4$	91EKB/FEL
84.159	0.02	1 188 230	2		$3p3d(3/2,5/2)^{\circ}_{3}$	$3d^2(5/2,5/2)_4$	91EKB/FEL
[126.371]		[791 320]			$3s^2(1/2,1/2)_0$	$3s3p(1/2,1/2)^{\circ}_{1}$	88SEE/EKB

TABLE 50. Energy levels of Cs XLIV

Configuration	Term	J	Energy (cm⁻¹)	Uncertainty (cm⁻¹)	Reference
$3s^2$	(1/2,1/2)	0	[0]	500	91EKB/FEL
3s3p	$(1/2,1/2)^{\circ}$	0	[718 460]	500	91EKB/FEL
	$(1/2,1/2)^{\circ}$	1	[791 340]	500	91EKB/FEL
3s3p	$(1/2,3/2)^{\circ}$	2	[1 460 610]	500	91EKB/FEL
	$(1/2,3/2)^{\circ}$	1	[1 673 520]	500	91EKB/FEL
$3p^2$	(1/2,1/2)	0	[1 723 410]	500	91EKB/FEL
$3p^2$	(1/2,3/2)	2	[2 386 540]	500	91EKB/FEL
	(1/2,3/2)	1	[2 392 980]	500	91EKB/FEL
$3p^2$	(3/2,3/2)	2	[3 218 010]	500	91EKB/FEL
	(3/2,3/2)	0	[3 288 820]	500	91EKB/FEL
3s3d	(1/2,3/2)	1	[2 653 240]	500	91EKB/FEL
	(1/2,3/2)	2	[2 692 120]	500	91EKB/FEL
3s3d	(1/2,5/2)	3	[2 819 640]	500	91EKB/FEL

TABLE 50. Energy levels of Cs XLIV—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference
	(1/2,5/2)	2	[2 897 640]	500	91EKB/FEL
3p3d	$(1/2,3/2)^\circ$	2	[3 431 100]	500	91EKB/FEL
	$(1/2,3/2)^\circ$	1	[3 611 220]	500	91EKB/FEL
3p3d	$(1/2,5/2)^\circ$	2	[3 694 050]	500	91EKB/FEL
	$(1/2,5/2)^\circ$	3	[3 695 550]	500	91EKB/FEL
3p3d	$(3/2,3/2)^\circ$	2	[4 234 550]	500	91EKB/FEL
	$(3/2,3/2)^\circ$	3	[4 293 710]	500	91EKB/FEL
	$(3/2,3/2)^\circ$	0	[4 296 600]	500	91EKB/FEL
	$(3/2,3/2)^\circ$	1	[4 297 900]	500	91EKB/FEL
3p3d	$(3/2,5/2)^\circ$	4	[4 338 860]	500	91EKB/FEL
	$(3/2,5/2)^\circ$	2	[4 413 880]	500	91EKB/FEL
	$(3/2,5/2)^\circ$	3	[4 534 670]	500	91EKB/FEL
	$(3/2,5/2)^\circ$	1	[4 596 810]	500	91EKB/FEL
$3d^2$	(3/2,3/2)	2	[5 374 640]	500	91EKB/FEL
	(3/2,3/2)	0	[5 508 280]	500	91EKB/FEL
$3d^2$	(3/2,5/2)	3	[5 519 300]	500	91EKB/FEL
	(3/2,5/2)	4	[5 587 490]	500	91EKB/FEL
	(3/2,5/2)	2	[5 590 900]	500	91EKB/FEL
	(3/2,5/2)	1	[5 615 580]	500	91EKB/FEL
$3d^2$	(5/2,5/2)	4	[5 722 810]	500	91EKB/FEL
	(5/2,5/2)	2	[5 770 480]	500	91EKB/FEL
Cs XLV (3s $^2S_{1/2}$)		*Limit*	(27 360 000)		04ROD/IND

6.45. Cs XLV

Na isoelectronic sequence
Ground state: $1s^2 2s^2 2p^6 3s\ ^2S_{1/2}$
Ionization energy: [28 105 700 cm^{-1}]; [3484.66 eV]

Transitions in the Cs XLV spectrum have been reported by three teams of researchers, beginning with Seely *et al.* [88SEE/FEL], who irradiated spherical targets using a laser beam divided and recombined in a nearly spherically symmetric pattern. Seely and Wagner [90SEE/WAG] analyzed quantum electrodynamic (QED) contributions to theoretical calculations for $3s-3p$ transitions for the Na isoelectronic sequence and Seely *et al.* [91SEE/BRO] reported predicted values for energy levels by using a polynomial to fit the isoelectronic values. Matsushima *et al.* [91MAT/GEI] made more accurate measurements of sodiumlike Cd, In, Sb, and Te and refitted the isoelectronic sequence, producing most of the values cited in Tables 51 and 52. Kato *et al.* [06KAT/NAK], measured one transition of the Cs XLV spectrum on the Tokyo EBIT, yielding a value for the $3s\ ^2S_{1/2}-2p^5(^2P_{3/2})3s3d\ (^2D_{5/2})^\circ_{3/2}$ wavelength.

Where available, the transition probabilities in Table 51 are taken from Johnson *et al.* [96JOH/LIU], who used third-order many-body perturbation theory. Otherwise the reported values are from Sampson *et al.* [90SAM/ZHA], who used a fully relativistic distorted wave approach. The values of [96JOH/LIU] and [90SAM/ZHA] differ by less than 5% for the transitions calculated in both papers. The ionization energy is taken from Matsushima *et al.* [91MAT/GEI], who used isoelectronic fitting.

References for Cs XLV

88SEE/FEL J. F. Seely, U. Feldman, C. M. Brown, M. C. Richardson, D. D. Dietrich, and W. E. Behring, J. Opt. Soc. Am. **5**, 785 (1988).

90SEE/WAG J. F. Seely and R. A. Wagner, Phys. Rev. A **41**, 5246 (1990).

90SAM/ZHA D. H. Sampson, H. L. Zhang, and C. J. Fontes, Atom. Data Nucl. Data Tables **44**, 209 (1990).

91MAT/GEI I. Matsushima, J.-P. Geindre, C. Chenais-Popovics, J.-C. Gauthier, and J.-F. Wyart, Phys. Scr. **43**, 33 (1991).

91SEE/BRO J. F. Seely, C. M. Brown, U. Feldman, J. O. Ekberg, C. J. Keane, B. J. MacGowan, D. R. Kania, and W. E. Behring, Atom. Data Nucl. Data Tables **47**, 1 (1991).

96JOH/LIU W. R. Johnson, Z. W. Liu, and J. Sapirstein, Atom. Data Nucl. Data Tables **64**, 279 (1996).

06KAT/NAK D. Kato, N. Nakamura, and S. Ohtani, J. Plasma Fusion Res. Ser. **7**, 190 (2006).

TABLE 51. Spectral lines of Cs XLV

λ (Å)	Unc. (Å)	σ (cm−1)	A_{ki} (s−1)	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
2.625 6	0.000 4	38 087 000		3s $^2S_{1/2}$	$2p^5(^2P_{3/2})3s3d(^2D_{5/2})^{\circ}_{3/2}$	06KAT/NAK	
[7.425]	0.002	[13 468 290]	1.13E+13	3s $^2S_{1/2}$	4p $^2P^{\circ}_{3/2}$	91MAT/GEI	90SAM/ZHA
[7.598]	0.002	[13 161 430]	1.42E+13	3s $^2S_{1/2}$	4p $^2P^{\circ}_{1/2}$	91MAT/GEI	90SAM/ZHA
[7.671]	0.002	[13 036 110]	2.32E+13	3p $^2P^{\circ}_{1/2}$	4d $^2D_{3/2}$	91MAT/GEI	90SAM/ZHA
[8.101]	0.002	[12 344 420]	2.88E+13	3p $^2P^{\circ}_{3/2}$	4d $^2D_{5/2}$	91MAT/GEI	90SAM/ZHA
[8.342]	0.003	[11 987 500]	4.32E+12	3p $^2P^{\circ}_{1/2}$	4s $^2S_{1/2}$	91MAT/GEI	96JOH/LIU
[8.684]	0.003	[11 515 640]	5.59E+13	3d $^2D_{3/2}$	4f $^2F^{\circ}_{5/2}$	91MAT/GEI	90SAM/ZHA
[8.789]	0.003	[11 377 650]	5.93E+13	3d $^2D_{5/2}$	4f $^2F^{\circ}_{7/2}$	91MAT/GEI	90SAM/ZHA
[8.911]	0.003	[11 222 160]	1.06E+13	3p $^2P^{\circ}_{3/2}$	4s $^2S_{1/2}$	91MAT/GEI	96JOH/LIU
[17.030]	0.005	[5 871 990]		4p $^2P^{\circ}_{1/2}$	5d $^2D_{3/2}$	91MAT/GEI	
[17.847]	0.005	[5 603 210]		4p $^2P^{\circ}_{3/2}$	5d $^2D_{5/2}$	91MAT/GEI	
[18.836]	0.006	[5 309 010]		4d $^2D_{3/2}$	5f $^2F^{\circ}_{5/2}$	91MAT/GEI	
[19.042]	0.006	[5 251 540]		4d $^2D_{5/2}$	5f $^2F^{\circ}_{7/2}$	91MAT/GEI	
[19.767]	0.006	[5 059 030]		4f $^2F^{\circ}_{5/2}$	5g $^2G_{7/2}$	91MAT/GEI	
[19.854]	0.006	[5 036 780]		4f $^2F^{\circ}_{7/2}$	5g $^2G_{9/2}$	91MAT/GEI	
[55.50]	0.02	[1 801 690]	1.86E+11	3p $^2P^{\circ}_{1/2}$	3d $^2D_{3/2}$	91MAT/GEI	90SAM/ZHA
[63.14]	0.02	[1 583 900]	1.77E+11	3s $^2S_{1/2}$	3p $^2P^{\circ}_{3/2}$	91MAT/GEI	96JOH/LIU
[82.22]	0.02	[1 216 200]	6.86E+10	3p $^2P^{\circ}_{3/2}$	3d $^2D_{5/2}$	91MAT/GEI	90SAM/ZHA
[120.69]	0.04	[828 560]	2.42E+10	3s $^2S_{1/2}$	3p $^2P^{\circ}_{1/2}$	91MAT/GEI	96JOH/LIU

TABLE 52. Energy levels of Cs XLV

Configuration	Term	J	Energy (cm−1)	Uncertainty (cm−1)	Reference
3s	^2S	1/2	[0]	250	91MAT/GEI
3p	$^2P^{\circ}$	1/2	[828 560]	250	91MAT/GEI
	$^2P^{\circ}$	3/2	[1 583 900]	500	91MAT/GEI
3d	^2D	3/2	[2 630 250]	800	91MAT/GEI
	^2D	5/2	[2 800 100]	800	91MAT/GEI
4s	^2S	1/2	[12 816 060]	1 200	91MAT/GEI
4p	$^2P^{\circ}$	1/2	[13 161 430]	1 200	91MAT/GEI
	$^2P^{\circ}$	3/2	[13 468 290]	1 200	91MAT/GEI
4d	^2D	3/2	[13 864 670]	1 200	91MAT/GEI
	^2D	5/2	[13 938 320]	1 200	91MAT/GEI
4f	$^2F^{\circ}$	5/2	[14 145 890]	1 200	91MAT/GEI
	$^2F^{\circ}$	7/2	[14 177 750]	1 200	91MAT/GEI
5s	^2S	1/2	[18 512 130]	2 400	91MAT/GEI
5p	$^2P^{\circ}$	1/2	[18 685 300]	2 400	91MAT/GEI
	$^2P^{\circ}$	3/2	[18 839 800]	2 400	91MAT/GEI
5d	^2D	3/2	[19 033 420]	2 400	91MAT/GEI
	^2D	5/2	[19 071 500]	2 400	91MAT/GEI
5f	$^2F^{\circ}$	5/2	[19 173 680]	2 400	91MAT/GEI
	$^2F^{\circ}$	7/2	[19 189 860]	2 400	91MAT/GEI
5g	^2G	7/2	[19 204 920]	2 400	91MAT/GEI
	^2G	9/2	[19 214 530]	2 400	91MAT/GEI
6s	^2S	1/2	[21 524 160]	4 500	91MAT/GEI
6p	$^2P^{\circ}$	1/2	[21 623 070]	4 500	91MAT/GEI
	$^2P^{\circ}$	3/2	[21 711 420]	4 500	91MAT/GEI

TABLE 52. Energy levels of Cs XLV—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference
6d	^2D	3/2	[21 821 190]	4 500	91MAT/GEI
	^2D	5/2	[21 843 370]	4 500	91MAT/GEI
6f	$^2F^\circ$	5/2	[21 903 440]	4 500	91MAT/GEI
	$^2F^\circ$	7/2	[21 912 900]	4 500	91MAT/GEI
Cs XLVI ($2p^6\ ^1S_0$)		*Limit*	[28 105 700]		91MAT/GEI
$2p^5(^2P_{3/2})3s3d(^2D_{5/2})$	°	3/2	38 087 000	5 800	06KAT/NAK

6.46. Cs XLVI

Ne isoelectronic sequence
Ground state: $1s^22s^22p^6\ ^1S_0$
Ionization energy: (64 441 000 cm^{-1}); (7990 eV)

Because Cs XLVI is in the neon isoelectronic sequence and it has potential for use in developing an x-ray laser, its spectrum has been a subject of interest for several research groups. Theoretical calculations of the energy levels, lines, and transition probabilities were performed by Zhang and Sampson [89ZHA/SAM] and Ivanova and Gulov [91IVA/GUL], while Nilsen *et al.* [96NIL/BEI] calculated values for the $n=4$ levels with $J=1$. Quinet *et al.* [91QUI/GOR] reported transition probabilities for transitions whose upper level has $n=3$. Aglitskii *et al.* [89AGL/IVA] used a low-inductance vacuum spark to measure seven resonance lines from $J=1$ levels in the $2p^53s$, $2p^53d$, and $2s2p^63p$ configurations and compared them with theoretical values. In addition, the hyperfine splittings of the levels involved in potential lasing transitions were calculated by Schofield and Nilsen [94SCH/NIL]. Beiersdorfer *et al.* [96BEI/OST] studied the linewidths for transitions to the ground state from the $2p^53s\ (1/2,1/2)^\circ_1$ and $2p^53d\ (3/2,5/2)^\circ_1$ states. The most accurate experimental wavelength measurements to date have been performed on the Tokyo EBIT by Ohtani and coworkers [99NIL/BEI, 00NAK/KAT, 01KAT/NAK, 06KAT/NAK].

In order to present a consistent set of energy level values, we report the [91IVA/GUL] values, which best match the experimental and most recently calculated values. Although Ivanova and Gulag [91IVA/GUL] did not estimate the uncertainty of their values, comparison with [06KAT/NAK] data for levels with $n=3$ indicates agreement within about 4000 cm^{-1}. For levels with $n=4$ the only indication of accuracy of the [91IVA/GUL] data is a comparison with the MCDF calculations of [96NIL/BEI]. [96NIL/BEI] reports agreement within 10 000 cm^{-1} with experimental values from several nearby ions in the neon sequence. The agreement between [91IVA/GUL] and [96NIL/BEI] is within 20 000 cm^{-1}, which is the uncertainty we assign to the [91IVA/GUL] energy levels for $n=4$.

To avoid unnecessary clutter in Tables 53 and 54, full shells are not included in the designations, except for the ground state. Thus levels with a $2s^22p^5$ core are denoted as $2p^5nl$ and those with a $2s2p^6$ core are labeled $2snl$. The wavelengths reported are from [06KAT/NAK] or [89AGL/IVA] where available. Otherwise they are calculated from the [91IVA/GUL] levels. Transition probabilities are mostly from [91QUI/GOR], and from [91IVA/GUL] where there are no [91QUI/GOR] values. All hyperfine splitting constants are from [94SCH/NIL]. The calculated ionization energy retained is taken from Huang *et al.* [06HUA/JIA], which is within ±11 000 cm^{-1} of calculations by Gu [05GU] and Rodrigues *et al.* [04ROD/IND] and 60 000 cm^{-1} less than the value calculated by Ivanova and Gulov [91IVA/GUL].

TABLE 53. Observed spectral lines of Cs XLVI

λ (Å)	Unc. (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(1.828 2)		(54 697 500)	7.6E+13	$2p^6\ ^1S_0$	$2s4p\ (1/2,3/2)^\circ_1$	91IVA/GUL	91IVA/GUL
(1.839 2)		(54 370 800)	3.7E+13	$2p^6\ ^1S_0$	$2s4p\ (1/2,1/2)^\circ_1$	91IVA/GUL	91IVA/GUL
(1.940 7)		(51 526 900)	5.4E+12	$2p^6\ ^1S_0$	$2p^54s\ (1/2,1/2)^\circ_1$	91IVA/GUL	91IVA/GUL
(2.057 4)		(48 604 600)	1.1E+13	$2p^6\ ^1S_0$	$2p^54s\ (3/2,1/2)^\circ_1$	91IVA/GUL	91IVA/GUL
2.357 7	0.0017	42414 000	1.2E+14	$2p^6\ ^1S_0$	$2s3p\ (1/2,3/2)^\circ_1$	89AGL/IVA	91IVA/GUL
2.402 5	0.0017	41623 000	4.4E+13	$2p^6\ ^1S_0$	$2s3p\ (1/2,1/2)^\circ_1$	89AGL/IVA	91IVA/GUL
2.445 2	0.0018	40896 000	5.40E+14	$2p^6\ ^1S_0$	$2p^53d\ (1/2,3/2)^\circ_1$	89AGL/IVA	91QUI/GOR
2.607 6	0.0003	38 349 000	2.50E+14	$2p^6\ ^1S_0$	$2p^53s\ (1/2,1/2)^\circ_1$	06KAT/NAK	91QUI/GOR
2.614 9	0.0003	38 242 000	5.00E+14	$2p^6\ ^1S_0$	$2p^53d\ (3/2,5/2)^\circ_1$	06KAT/NAK	91QUI/GOR
2.642 7	0.0004	37 840 000	1.69E+12	$2p^6\ ^1S_0$	$2p^53d\ (3/2,3/2)^\circ_1$	06KAT/NAK	91QUI/GOR
2.825 3	0.002	35 390 000	3.68E+13	$2p^6\ ^1S_0$	$2p^53s\ (3/2,1/2)^\circ_1$	89AGL/IVA	91QUI/GOR
(20.650)		(4 842 500)		$2p^53p(3/2,1/2)_2$	$2p^53d\ (1/2,5/2)^\circ_3$	91IVA/GUL	
(20.665)		(4 839 200)		$2p^53p(3/2,1/2)_1$	$2p^53d\ (1/2,5/2)^\circ_2$	91IVA/GUL	

TABLE 53. Observed spectral lines of Cs XLVI—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(20.747)		(4 819 900)		$2p^53p(3/2,1/2)_2$	$2p^53d(1/2,5/2)^{\circ}_2$	91IVA/GUL	
(20.877)		(4 790 000)	2.55E+9	$2p^53p(3/2,1/2)_1$	$2p^53d(1/2,3/2)^{\circ}_1$	91IVA/GUL	91QUI/GOR
(20.961)		(4 770 700)	1.21E+10	$2p^53p(3/2,1/2)_2$	$2p^53d(1/2,3/2)^{\circ}_1$	91IVA/GUL	91QUI/GOR
(21.516)		(4 647 600)		$2p^53p(3/2,1/2)_1$	$2p^53d(1/2,3/2)^{\circ}_2$	91IVA/GUL	
(21.606)		(4 628 300)		$2p^53p(3/2,1/2)_2$	$2p^53d(1/2,3/2)^{\circ}_2$	91IVA/GUL	
(22.277)		(4 489 000)		$2p^53s(3/2,1/2)^{\circ}_2$	$2p^53p(1/2,3/2)_2$	91IVA/GUL	
(22.395)		(4 465 300)	1.86E+10	$2p^53s(3/2,1/2)^{\circ}_2$	$2p^53p(1/2,3/2)_1$	91IVA/GUL	91QUI/GOR
(22.507)		(4 443 000)		$2p^53s(3/2,1/2)^{\circ}_1$	$2p^53p(1/2,3/2)_2$	91IVA/GUL	
(22.628)		(4 419 300)	4.34E+9	$2p^53s(3/2,1/2)^{\circ}_1$	$2p^53p(1/2,3/2)_1$	91IVA/GUL	91QUI/GOR
(24.443)		(4 091 200)		$2p^53p(3/2,3/2)_3$	$2p^53d(1/2,5/2)^{\circ}_3$	91IVA/GUL	
(24.578)		(4 068 600)	2.43E+9	$2p^53p(3/2,3/2)_3$	$2p^53d(1/2,5/2)^{\circ}_2$	91IVA/GUL	91QUI/GOR
(24.581)		(4 068 200)	2.21E+8	$2p^53p(3/2,3/2)_1$	$2p^53d(1/2,5/2)^{\circ}_2$	91IVA/GUL	91QUI/GOR
(24.859)		(4 022 700)		$2p^53p(3/2,3/2)_2$	$2p^53d(1/2,5/2)^{\circ}_3$	91IVA/GUL	
(24.882)		(4 019 000)		$2p^53p(3/2,3/2)_1$	$2p^53d(1/2,3/2)^{\circ}_1$	91IVA/GUL	
(24.999)		(4 000 100)	1.49E+9	$2p^53p(3/2,3/2)_2$	$2p^53d(1/2,5/2)^{\circ}_2$	91IVA/GUL	91QUI/GOR
(25.311)		(3 950 900)		$2p^53p(3/2,3/2)_2$	$2p^53d(1/2,3/2)^{\circ}_1$	91IVA/GUL	
(25.615)		(3 904 000)	2.74E+10	$2p^53s(3/2,1/2)^{\circ}_1$	$2p^53p(1/2,1/2)_0$	91IVA/GUL	91QUI/GOR
(25.793)		(3 877 000)		$2p^53p(3/2,3/2)_3$	$2p^53d(1/2,3/2)^{\circ}_2$	91IVA/GUL	
(25.796)		(3 876 600)		$2p^53p(3/2,3/2)_1$	$2p^53d(1/2,3/2)^{\circ}_2$	91IVA/GUL	
(26.257)		(3 808 500)		$2p^53p(3/2,3/2)_2$	$2p^53d(1/2,3/2)^{\circ}_2$	91IVA/GUL	
(27.129)		(3 686 100)	9.06E+8	$2p^53s(3/2,1/2)^{\circ}_2$	$2p^53p(1/2,1/2)_1$	91IVA/GUL	91QUI/GOR
(27.391)		(3 650 800)	2.07E+10	$2p^53p(3/2,3/2)_0$	$2p^53d(1/2,3/2)^{\circ}_1$	91IVA/GUL	91QUI/GOR
(27.472)		(3 640 100)	2.95E+8	$2p^53s(3/2,1/2)^{\circ}_1$	$2p^53p(1/2,1/2)_1$	91IVA/GUL	91QUI/GOR
(45.090)		(2 217 800)	3.39E+9	$2p^53p(3/2,1/2)_1$	$2p^53s(1/2,1/2)^{\circ}_1$	91IVA/GUL	91QUI/GOR
(45.486)		(2 198 500)	5.37E+8	$2p^53p(3/2,1/2)_2$	$2p^53s(1/2,1/2)^{\circ}_1$	91IVA/GUL	91QUI/GOR
(46.288)		(2 160 400)	2.80E+9	$2p^53p(3/2,1/2)_1$	$2p^53s(1/2,1/2)^{\circ}_0$	91IVA/GUL	91QUI/GOR
(47.348)		(2 112 000)	6.74E+9	$2p^53p(3/2,1/2)_1$	$2p^53d(3/2,5/2)^{\circ}_1$	91IVA/GUL	91QUI/GOR
(47.785)		(2 092 700)	2.92E+9	$2p^53p(3/2,1/2)_2$	$2p^53d(3/2,5/2)^{\circ}_1$	91IVA/GUL	91QUI/GOR
(48.862)		(2 046 600)	2.79E+8	$2p^53d(3/2,3/2)^{\circ}_0$	$2p^53p(1/2,3/2)_1$	91IVA/GUL	91QUI/GOR
(49.480)		(2 021 000)	1.09E+8	$2p^53d(3/2,3/2)^{\circ}_1$	$2p^53p(1/2,3/2)_2$	91IVA/GUL	91QUI/GOR
(50.068)		(1 997 300)	1.77E+8	$2p^53d(3/2,3/2)^{\circ}_1$	$2p^53p(1/2,3/2)_1$	91IVA/GUL	91QUI/GOR
(50.168)		(1 993 300)		$2p^53d(3/2,3/2)^{\circ}_3$	$2p^53p(1/2,3/2)_2$	91IVA/GUL	
(51.057)		(1 958 600)	1.02E+8	$2p^53d(3/2,5/2)^{\circ}_2$	$2p^53p(1/2,3/2)_2$	91IVA/GUL	91QUI/GOR
(51.062)		(1 958 400)	7.31E+7	$2p^53p(3/2,1/2)_2$	$2p^53d(3/2,5/2)^{\circ}_3$	91IVA/GUL	91QUI/GOR
(51.682)		(1 934 900)		$2p^53d(3/2,5/2)^{\circ}_2$	$2p^53p(1/2,3/2)_1$	91IVA/GUL	
(52.062)		(1 920 800)	9.52E+10	$2p^53p(3/2,1/2)_1$	$2p^53d(3/2,3/2)^{\circ}_2$	91IVA/GUL	91QUI/GOR
(52.119)		(1 918 700)		$2p^53p(1/2,1/2)_1$	$2p^53d(1/2,5/2)^{\circ}_2$	91IVA/GUL	
(52.590)		(1 901 500)	9.07E+10	$2p^53p(3/2,1/2)_2$	$2p^53d(3/2,3/2)^{\circ}_2$	91IVA/GUL	91QUI/GOR
(53.490)		(1 869 500)	4.69E+10	$2p^53p(1/2,1/2)_1$	$2p^53d(1/2,3/2)^{\circ}_1$	91IVA/GUL	91QUI/GOR
(53.798)		(1 858 800)	2.30E+11	$2p^53s(3/2,1/2)^{\circ}_1$	$2p^53p(3/2,3/2)_0$	91IVA/GUL	91QUI/GOR
(55.475)		(1 802 600)		$2p^53d(3/2,3/2)^{\circ}_2$	$2p^53p(1/2,3/2)_2$	91IVA/GUL	
(56.215)		(1 778 900)		$2p^53d(3/2,3/2)^{\circ}_2$	$2p^53p(1/2,3/2)_1$	91IVA/GUL	
(56.664)		(1 764 800)	4.57E+8	$2p^53p(3/2,1/2)_1$	$2p^53d(3/2,5/2)^{\circ}_2$	91IVA/GUL	91QUI/GOR
(57.284)		(1 745 700)	1.22E+8	$2p^53d(3/2,5/2)^{\circ}_3$	$2p^53p(1/2,3/2)_2$	91IVA/GUL	91QUI/GOR
(57.290)		(1 745 500)	1.50E+9	$2p^53p(3/2,1/2)_2$	$2p^53d(3/2,5/2)^{\circ}_2$	91IVA/GUL	91QUI/GOR
(57.901)		(1 727 100)	1.63E+11	$2p^53p(1/2,1/2)_1$	$2p^53d(1/2,3/2)^{\circ}_2$	91IVA/GUL	91QUI/GOR
(58.452)		(1 710 800)	1.65E+11	$2p^53p(3/2,1/2)_2$	$2p^53d(3/2,3/2)^{\circ}_3$	91IVA/GUL	91QUI/GOR
(58.741)		(1 702 400)	1.18E+11	$2p^53p(3/2,1/2)_1$	$2p^53d(3/2,3/2)^{\circ}_1$	91IVA/GUL	91QUI/GOR
(59.414)		(1 683 100)	1.97E+10	$2p^53p(3/2,1/2)_2$	$2p^53d(3/2,3/2)^{\circ}_1$	91IVA/GUL	91QUI/GOR
(60.492)		(1 653 100)	1.39E+11	$2p^53p(3/2,1/2)_1$	$2p^53d(3/2,3/2)^{\circ}_0$	91IVA/GUL	91QUI/GOR
(62.058)		(1 611 400)	7.85E+10	$2p^53d(3/2,5/2)^{\circ}_1$	$2p^53p(1/2,3/2)_2$	91IVA/GUL	91QUI/GOR
(62.282)		(1 605 600)	5.75E+10	$2p^53p(1/2,1/2)_0$	$2p^53d(1/2,3/2)^{\circ}_1$	91IVA/GUL	91QUI/GOR
(62.317)		(1 604 700)	8.04E+10	$2p^53s(3/2,1/2)^{\circ}_2$	$2p^53p(3/2,3/2)_2$	91IVA/GUL	91QUI/GOR
(62.984)		(1 587 700)	1.92E+10	$2p^53d(3/2,5/2)^{\circ}_1$	$2p^53p(1/2,3/2)_1$	91IVA/GUL	91QUI/GOR
(64.156)		(1 558 700)	8.11E+10	$2p^53s(3/2,1/2)^{\circ}_1$	$2p^53p(3/2,3/2)_2$	91IVA/GUL	91QUI/GOR
(64.965)		(1 539 300)	9.68E+10	$2p^53s(1/2,1/2)^{\circ}_0$	$2p^53p(1/2,3/2)_1$	91IVA/GUL	91QUI/GOR
(65.079)		(1 536 600)	1.69E+10	$2p^53s(3/2,1/2)^{\circ}_2$	$2p^53p(3/2,3/2)_1$	91IVA/GUL	91QUI/GOR
(65.096)		(1 536 200)	1.69E+11	$2p^53s(3/2,1/2)^{\circ}_2$	$2p^53p(3/2,3/2)_3$	91IVA/GUL	91QUI/GOR
(66.419)		(1 505 600)	8.68E+10	$2p^53s(1/2,1/2)^{\circ}_1$	$2p^53p(1/2,3/2)_2$	91IVA/GUL	91QUI/GOR
(67.087)		(1 490 600)	1.27E+11	$2p^53s(3/2,1/2)^{\circ}_1$	$2p^53p(3/2,3/2)_1$	91IVA/GUL	91QUI/GOR

TABLE 53. Observed spectral lines of Cs XLVI—Continued

λ (Å)	Unc. (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(67.476)		(1 482 000)		$2p^53p(1/2,1/2)_0$	$2p^53d\,(3/2,3/2)^\circ_1$	91IVA/GUL	
(67.481)		(1 481 900)	2.38E+10	$2p^53s\,(1/2,1/2)^\circ_1$	$2p^53p(1/2,3/2)_1$	91IVA/GUL	91QUI/GOR
(69.118)		(1 446 800)	1.18E+10	$2p^53p(3/2,3/2)_1$	$2p^53s\,(1/2,1/2)^\circ_1$	91IVA/GUL	91QUI/GOR
(71.974)		(1 389 400)		$2p^53s\,(1/2,1/2)^\circ_0$	$2p^53p(3/2,3/2)_1$	91IVA/GUL	
(72.532)		(1 378 700)	1.39E+9	$2p^53p(3/2,3/2)_2$	$2p^53s\,(1/2,1/2)^\circ_1$	91IVA/GUL	91QUI/GOR
(74.571)		(1 341 000)	1.02E+10	$2p^53p(3/2,3/2)_1$	$2p^53d\,(3/2,5/2)^\circ_1$	91IVA/GUL	91QUI/GOR
(78.561)		(1 272 900)	2.16E+8	$2p^53p(3/2,3/2)_2$	$2p^53d\,(3/2,5/2)^\circ_1$	91IVA/GUL	91QUI/GOR
(78.902)		(1 267 400)		$2p^53p(1/2,1/2)_1$	$2p^53d\,(3/2,3/2)^\circ_0$	91IVA/GUL	
(82.095)		(1 218 100)		$2p^53p(1/2,1/2)_1$	$2p^53d\,(3/2,3/2)^\circ_1$	91IVA/GUL	
(82.843)		(1 207 100)	1.06E+10	$2p^53p(3/2,3/2)_3$	$2p^53d\,(3/2,5/2)^\circ_3$	91IVA/GUL	91QUI/GOR
(86.528)		(1 155 700)		$2p^53p(1/2,1/2)_1$	$2p^53d\,(3/2,5/2)^\circ_2$	91IVA/GUL	
(86.941)		(1 150 200)	2.10E+9	$2p^53p(3/2,3/2)_3$	$2p^53d\,(3/2,3/2)^\circ_2$	91IVA/GUL	91QUI/GOR
(86.972)		(1 149 800)	1.64E+9	$2p^53p(3/2,3/2)_1$	$2p^53d\,(3/2,3/2)^\circ_2$	91IVA/GUL	91QUI/GOR
(87.758)		(1 139 500)	4.75E+10	$2p^53p(1/2,3/2)_1$	$2p^53d\,(1/2,5/2)^\circ_2$	91IVA/GUL	91QUI/GOR
(87.827)		(1 138 600)	4.58E+10	$2p^53p(3/2,3/2)_2$	$2p^53d\,(3/2,5/2)^\circ_3$	91IVA/GUL	91QUI/GOR
(87.843)		(1 138 400)	5.72E+10	$2p^53p(1/2,3/2)_2$	$2p^53d\,(1/2,5/2)^\circ_3$	91IVA/GUL	91QUI/GOR
(89.622)		(1 115 800)	4.24E+9	$2p^53p(1/2,3/2)_2$	$2p^53d\,(1/2,5/2)^\circ_2$	91IVA/GUL	91QUI/GOR
(89.638)		(1 115 600)	5.78E+10	$2p^53p(3/2,3/2)_3$	$2p^53d\,(3/2,5/2)^\circ_4$	91IVA/GUL	91QUI/GOR
(91.718)		(1 090 300)	4.52E+9	$2p^53p(1/2,3/2)_1$	$2p^53d\,(1/2,3/2)^\circ_1$	91IVA/GUL	91QUI/GOR
(92.447)		(1 081 700)	5.01E+9	$2p^53p(3/2,3/2)_2$	$2p^53d\,(3/2,3/2)^\circ_2$	91IVA/GUL	91QUI/GOR
(92.713)		(1 078 600)	5.61E+9	$2p^53p(3/2,3/2)_0$	$2p^53s\,(1/2,1/2)^\circ_1$	91IVA/GUL	91QUI/GOR
(93.249)		(1 072 400)	3.58E+10	$2p^53d\,(3/2,5/2)^\circ_1$	$2p^53p(1/2,1/2)_0$	91IVA/GUL	91QUI/GOR
(93.756)		(1 066 600)	1.04E+9	$2p^53p(1/2,3/2)_2$	$2p^53d\,(1/2,3/2)^\circ_1$	91IVA/GUL	91QUI/GOR
(100.030)		(999 700)	8.89E+7	$2p^53d\,(3/2,3/2)^\circ_2$	$2p^53p(1/2,1/2)_1$	91IVA/GUL	91QUI/GOR
(100.583)		(994 200)	4.09E+8	$2p^53p(3/2,3/2)_3$	$2p^53d\,(3/2,5/2)^\circ_2$	91IVA/GUL	91QUI/GOR
(100.624)		(993 800)	2.79E+10	$2p^53p(3/2,3/2)_1$	$2p^53d\,(3/2,5/2)^\circ_2$	91IVA/GUL	91QUI/GOR
(102.796)		(972 800)	4.10E+9	$2p^53p(3/2,3/2)_0$	$2p^53d\,(3/2,5/2)^\circ_1$	91IVA/GUL	91QUI/GOR
(103.455)		(966 600)	3.24E+9	$2p^53s\,(1/2,1/2)^\circ_1$	$2p^53p(1/2,1/2)_0$	91IVA/GUL	91QUI/GOR
(104.221)		(959 500)	4.41E+9	$2p^53p(3/2,3/2)_3$	$2p^53d\,(3/2,3/2)^\circ_3$	91IVA/GUL	91QUI/GOR
(105.496)		(947 900)	6.59E+8	$2p^53p(1/2,3/2)_1$	$2p^53d\,(1/2,3/2)^\circ_2$	91IVA/GUL	91QUI/GOR
(107.365)		(931 400)	2.12E+9	$2p^53p(3/2,3/2)_1$	$2p^53d\,(3/2,3/2)^\circ_1$	91IVA/GUL	91QUI/GOR
(108.026)		(925 700)	1.04E+10	$2p^53p(3/2,3/2)_2$	$2p^53d\,(3/2,5/2)^\circ_2$	91IVA/GUL	91QUI/GOR
(108.202)		(924 200)	4.47E+9	$2p^53p(1/2,3/2)_2$	$2p^53d\,(1/2,3/2)^\circ_2$	91IVA/GUL	91QUI/GOR
(112.233)		(891 000)	8.62E+8	$2p^53p(3/2,3/2)_2$	$2p^53d\,(3/2,3/2)^\circ_3$	91IVA/GUL	91QUI/GOR
(113.366)		(882 100)	2.34E+9	$2p^53p(3/2,3/2)_1$	$2p^53d\,(3/2,3/2)^\circ_0$	91IVA/GUL	91QUI/GOR
(115.835)		(863 300)	3.08E+9	$2p^53p(3/2,3/2)_2$	$2p^53d\,(3/2,3/2)^\circ_1$	91IVA/GUL	91QUI/GOR
(123.686)		(808 500)	5.49E+9	$2p^53d\,(3/2,5/2)^\circ_1$	$2p^53p(1/2,1/2)_1$	91IVA/GUL	91QUI/GOR
(127.405)		(784 900)	9.25E+9	$2p^53s\,(3/2,1/2)^\circ_2$	$2p^53p(3/2,1/2)_2$	91IVA/GUL	91QUI/GOR
(130.617)		(765 600)	1.36E+10	$2p^53s\,(3/2,1/2)^\circ_2$	$2p^53p(3/2,1/2)_1$	91IVA/GUL	91QUI/GOR
(131.562)		(760 100)	6.80E+9	$2p^53s\,(1/2,1/2)^\circ_0$	$2p^53p(1/2,1/2)_1$	91IVA/GUL	91QUI/GOR
(135.336)		(738 900)	9.95E+9	$2p^53s\,(3/2,1/2)^\circ_1$	$2p^53p(3/2,1/2)_2$	91IVA/GUL	91QUI/GOR
(138.966)		(719 600)	1.63E+9	$2p^53s\,(3/2,1/2)^\circ_1$	$2p^53p(3/2,1/2)_1$	91IVA/GUL	91QUI/GOR
(142.308)		(702 700)	6.78E+9	$2p^53s\,(1/2,1/2)^\circ_1$	$2p^53p(1/2,1/2)_1$	91IVA/GUL	91QUI/GOR
(177.557)		(563 200)		$2p^53p(3/2,3/2)_0$	$2p^53d\,(3/2,3/2)^\circ_1$	91IVA/GUL	

TABLE 54. Energy levels of Cs XLVI

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Hyperfine Constant *A* (MHz)	Reference
$2p^6$	^1S	0	(0)	4 000		91IVA/GUL
$2p^53s$	$(3/2,1/2)^\circ$	2	(35 367 900)	4 000		91IVA/GUL
	$(3/2,1/2)^\circ$	1	(35 413 900)	4 000	4.570E+4	91IVA/GUL
	$(1/2,1/2)^\circ$	0	(38 293 900)	4 000		91IVA/GUL
	$(1/2,1/2)^\circ$	1	(38 351 300)	4 000	1.162E+6	91IVA/GUL
$2p^53p$	(3/2,1/2)	1	(36 133 500)	4 000		91IVA/GUL
	(3/2,1/2)	2	(36 152 800)	4 000	3.678E+5	91IVA/GUL
	(3/2,3/2)	3	(36 904 100)	4 000		91IVA/GUL

TABLE 54. Energy levels of Cs XLVI—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Hyperfine Constant A (MHz)	Reference
	(3/2,3/2)	1	(36 904 500)	4 000	2.009E+5	91IVA/GUL
	(3/2,3/2)	2	(36 972 600)	4 000	1.951E+5	91IVA/GUL
	(3/2,3/2)	0	(37 272 700)	4 000		91IVA/GUL
	(1/2,1/2)	1	(39 054 000)	4 000		91IVA/GUL
	(1/2,1/2)	0	(39 317 900)	4 000		91IVA/GUL
	(1/2,3/2)	1	(39 833 200)	4 000		91IVA/GUL
	(1/2,3/2)	2	(39 856 900)	4 000	5.794E+5	91IVA/GUL
$2p^53d$	$(3/2,3/2)^\circ$	0	(37 786 600)	4 000		91IVA/GUL
	$(3/2,3/2)^\circ$	1	(37 835 900)	4 000		91IVA/GUL
	$(3/2,3/2)^\circ$	3	(37 863 600)	4 000		91IVA/GUL
	$(3/2,5/2)^\circ$	2	(37 898 300)	4 000		91IVA/GUL
	$(3/2,5/2)^\circ$	4	(38 019 700)	4 000		91IVA/GUL
	$(3/2,3/2)^\circ$	2	(38 054 300)	4 000		91IVA/GUL
	$(3/2,5/2)^\circ$	3	(38 111 200)	4 000		91IVA/GUL
	$(3/2,5/2)^\circ$	1	(38 245 500)	4 000		91IVA/GUL
	$(1/2,3/2)^\circ$	2	(40 781 100)	4 000		91IVA/GUL
	$(1/2,3/2)^\circ$	1	(40 923 500)	4 000		91IVA/GUL
	$(1/2,5/2)^\circ$	2	(40 972 700)	4 000		91IVA/GUL
	$(1/2,5/2)^\circ$	3	(40 995 300)	4 000		91IVA/GUL
2s3s	(1/2,1/2)	1	(40 862 400)	4 000		91IVA/GUL
	(1/2,1/2)	0	(41 020 400)	4 000		91IVA/GUL
2s3p	$(1/2,1/2)^\circ$	0	(41 629 700)	4 000		91IVA/GUL
	$(1/2,1/2)^\circ$	1	(41 646 000)	4 000		91IVA/GUL
	$(1/2,3/2)^\circ$	2	(42 405 500)	4 000		91IVA/GUL
	$(1/2,3/2)^\circ$	1	(42 439 500)	4 000		91IVA/GUL
2s3d	(1/2,3/2)	1	(43 325 400)	4 000		91IVA/GUL
	(1/2,3/2)	2	(43 353 300)	4 000		91IVA/GUL
	(1/2,5/2)	3	(43 508 500)	4 000		91IVA/GUL
	(1/2,5/2)	2	(43 605 200)	4 000		91IVA/GUL
$2p^54s$	$(3/2,1/2)^\circ$	2	(48 589 900)	20 000		91IVA/GUL
	$(3/2,1/2)^\circ$	1	(48 604 600)	20 000		91IVA/GUL
	$(1/2,1/2)^\circ$	0	(51 520 500)	20 000		91IVA/GUL
	$(1/2,1/2)^\circ$	1	(51 526 900)	20 000		91IVA/GUL
$2p^54p$	(3/2,1/2)	1	(48 902 800)	20 000		91IVA/GUL
	(3/2,1/2)	2	(48 908 100)	20 000		91IVA/GUL
	(3/2,3/2)	1	(49 220 000)	20 000		91IVA/GUL
	(3/2,3/2)	3	(49 218 600)	20 000		91IVA/GUL
	(3/2,3/2)	2	(49 242 700)	20 000		91IVA/GUL
	(3/2,3/2)	0	(49 339 200)	20 000		91IVA/GUL
	(1/2,1/2)	1	(51 830 500)	20 000		91IVA/GUL
	(1/2,1/2)	0	(51 906 500)	20 000		91IVA/GUL
	(1/2,3/2)	1	(52 153 500)	20 000		91IVA/GUL
	(1/2,3/2)	2	(52 158 200)	20 000		91IVA/GUL
$2p^54d$	$(3/2,3/2)^\circ$	0	(49 561 500)	20 000		91IVA/GUL
	$(3/2,3/2)^\circ$	1	(49 578 900)	20 000		91IVA/GUL
	$(3/2,3/2)^\circ$	3	(49 586 200)	20 000		91IVA/GUL
	$(3/2,3/2)^\circ$	2	(49 598 500)	20 000		91IVA/GUL
	$(3/2,5/2)^\circ$	4	(49 658 200)	20 000		91IVA/GUL
	$(3/2,5/2)^\circ$	2	(49 670 600)	20 000		91IVA/GUL
	$(3/2,5/2)^\circ$	3	(49 689 600)	20 000		91IVA/GUL
	$(3/2,5/2)^\circ$	1	(49 747 200)	20 000		91IVA/GUL
	$(1/2,3/2)^\circ$	2	(52 513 500)	20 000		91IVA/GUL
	$(1/2,3/2)^\circ$	1	(52 561 800)	20 000		91IVA/GUL

TABLE 54. Energy levels of Cs XLVI—Continued

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Hyperfine Constant A (MHz)	Reference
	$(1/2,5/2)^{\circ}$	2	(52 598 600)	20 000		91IVA/GUL
	$(1/2,5/2)^{\circ}$	3	(52 605 600)	20 000		91IVA/GUL
2s4s	$(1/2,1/2)$	1	(54 050 800)	20 000		91IVA/GUL
	$(1/2,1/2)$	0	(54 102 400)	20 000		91IVA/GUL
2s4p	$(1/2,1/2)^{\circ}$	0	(54 367 200)	20 000		91IVA/GUL
	$(1/2,1/2)^{\circ}$	1	(54 370 800)	20 000		91IVA/GUL
	$(1/2,3/2)^{\circ}$	2	(54 686 200)	20 000		91IVA/GUL
	$(1/2,3/2)^{\circ}$	1	(54 697 500)	20 000		91IVA/GUL
2s4d	$(1/2,3/2)$	1	(55 042 200)	20 000		91IVA/GUL
	$(1/2,3/2)$	2	(55 052 100)	20 000		91IVA/GUL
	$(1/2,5/2)$	3	(55 123 500)	20 000		91IVA/GUL
	$(1/2,5/2)$	2	(55 153 200)	20 000		91IVA/GUL
Cs XLVII ($2p^5\ ^2P^{\circ}_{3/2}$)		*Limit*	(64 441 000)			06HUA/JIA

References for Cs XLVI

89AGL/IVA E. V. Aglitskii, E. P. Ivanova, S. A. Panin, U. I. Safronova, S. I. Ulityn, L. A. Vainshtein, and J.-F. Wyart, Phys. Scr. **40**, 601 (1989).

89ZHA/SAM H. L. Zhang and D. H. Sampson, Atom. Data Nucl. Data Tables **43**, 1 (1989).

91IVA/GUL E. P. Ivanova and A. V. Gulov, Atom. Data Nucl. Data Tables **49**, 1 (1991).

91QUI/GOR P. Quinet, T. Gorlia, and E. Biémont, Phys. Scr. **44**, 164 (1991).

94SCH/NIL J. H. Schofield and J. Nilsen, Phys. Rev. A **49**, 2381 (1994).

96BEI/OST P. Beiersdorfer, A. L. Osterheld, V. Decaux, and K. Widmann, Phys. Rev. Lett. **77**, 5353 (1996).

96NIL/BEI J. Nilsen, P. Beiersdorfer, K. Widmann, V. Decaux, and S. R. Elliott, Phys. Scr. **54**, 183 (1996).

99NIL/BEI N. Nakamura, D. Kato, E. Nokijawa, F. J. Currell, A. Ya. Faenov, T. A. Pikuz, and S. Ohtani, Phys. Scr., T **T80**, 443 (1999).

00NAK/KAT N. Nakamura, D. Kato, and S. Ohtani, Phys. Rev. A **61**, 052510 (2000).

01KAT/NAK D. Kato, N. Nakamura, S. Ohtani, and A. Sasaki, Phys. Scr., T **T92**, 126 (2001).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

05GU M. F. Gu, At. Data Nucl. Data Tables **89**, 267 (2005).

06HUA/JIA J. Huang, G. Jiang, and Q. Zhao, Chin. Phys. Lett. **23**, 69 (2006).

06KAT/NAK D. Kato, N. Nakamura, and S. Ohtani, J. Plasma Fusion Res. Ser. **7**, 190 (2006).

6.47. Cs XLVII

F isoelectronic sequence
Ground state: $1s^2 2s^2 2p^5\ ^2P^{\circ}_{3/2}$
Ionization energy: (66 335 000 cm^{-1}); (8224 eV)

The Cs XLVII spectrum has not yet been observed, but Sampson *et al.* [91SAM/ZHA] used the relativistic distorted wave method to calculate most of the energy levels, wavelengths, and transition probabilities given in Tables 55 and 56. In addition, Feldman *et al.* [91FEL/EKB] combined measurements of $2s^2 2p^5 - 2s2p^6$ transitions in isoelectronic ions with $26 \leqslant Z \leqslant 50$ with theoretical calculations to obtain predictions for the ground state splitting and the position of the $2s2p^6$ level. Ivanova and Gulov [91IVA/GUL] used relativistic perturbation theory with a model potential to calculate the three lowest energy levels, with results within $\pm 1500\ cm^{-1}$ of the [91FEL/EKB] values. The calculated ionization energy is taken from Huang *et al.* [06HUA/JIA] and is within $\pm 10\,000\ cm^{-1}$ of calculations by Gu [05GU] and Rodrigues *et al.* [04ROD/IND].

TABLE 55. Spectral lines of Cs XLVII

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(2.143)	(46 667 036)	1.89E+12	$2s^2 2p^5\ (0,1/2)^{\circ}_{1/2}$	$2p^6 3d\ (0,3/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.252)	(44 398 274)	2.76E+12	$2s^2 2p^5\ (0,1/2)^{\circ}_{1/2}$	$2p^6 3s\ (0,1/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.296)	(43 560 560)	6.58E+12	$2s^2 2p^5\ (0,3/2)^{\circ}_{3/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\ (1,3/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.304)	(43 395 080)	4.31E+13	$2s^2 2p^5\ (0,3/2)^{\circ}_{3/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\ (1,3/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA

TABLE 55. Spectral lines of Cs XLVII—Continued

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(2.306)	(43 362 709)	7.15E+13	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\,(1,3/2)_{5/2}$	91SAM/ZHA	91SAM/ZHA
(2.310)	(43 297 855)	9.19E+13	$2s2p^6\,(1/2,0)_{1/2}$	$2p^63p\,(0,3/2)^{\circ}_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.312)	(43 254 839)	9.08E+13	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s2p_{1/2}2p^4_{3/2})3p\,(1,3/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.313)	(43 226 857)	1.31E+14	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s2p_{1/2}2p^4_{3/2})3p\,(1,3/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.321)	(43 079 264)	1.31E+14	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\,(2,3/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.327)	(42 966 567)	5.99E+13	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\,(2,3/2)_{5/2}$	91SAM/ZHA	91SAM/ZHA
(2.327)	(42 976 333)	4.39E+13	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s2p_{1/2}2p^4_{3/2})3p\,(0,3/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.329)	(42 934 305)	1.03E+14	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\,(2,3/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.344)	(42 654 372)	5.20E+13	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s2p_{1/2}2p^4_{3/2})3p\,(1,1/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.349)	(42 565 706)	5.80E+13	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\,(1,1/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.349)	(42 569 328)	2.51E+13	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\,(1,1/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.353)	(42 505 352)	7.48E+13	$2s2p^6\,(1/2,0)_{1/2}$	$2p^63p\,(0,1/2)^{\circ}_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.357)	(42 427 441)	5.15E+13	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s2p_{1/2}2p^4_{3/2})3p\,(1,1/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.370)	(42 187 122)	4.41E+13	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s2p_{1/2}2p^4_{3/2})3p\,(0,1/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.373)	(42 141 912)	2.81E+13	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\,(2,1/2)_{5/2}$	91SAM/ZHA	91SAM/ZHA
(2.374)	(42 130 170)	6.15E+12	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\,(2,1/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.376)	(42 093 299)	4.35E+13	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(2,5/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.378)	(42 047 320)	2.96E+13	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(2,5/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.388)	(41 869 002)	4.30E+14	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s^22p^4_{3/2})3d\,(0,3/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.393)	(41 786 262)	5.91E+13	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(1,5/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.393)	(41 789 883)	4.58E+14	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(2,3/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.393)	(41 781 653)	2.55E+14	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(2,3/2)_{5/2}$	91SAM/ZHA	91SAM/ZHA
(2.394)	(41 769 802)	1.85E+14	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(1,5/2)_{5/2}$	91SAM/ZHA	91SAM/ZHA
(2.395)	(41 751 915)	1.37E+13	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p_{1/2}2p^4_{3/2})3d\,(1,5/2)^{\circ}_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.396)	(41 743 246)	4.76E+14	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(2,3/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.403)	(41 616 283)	6.11E+14	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p_{1/2}2p^4_{3/2})3d\,(1,3/2)^{\circ}_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.403)	(41 608 053)	4.19E+14	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p_{1/2}2p^4_{3/2})3d\,(1,3/2)^{\circ}_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.404)	(41 592 032)	1.41E+14	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(1,3/2)_{5/2}$	91SAM/ZHA	91SAM/ZHA
(2.407)	(41 545 285)	8.63E+12	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(1,3/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.423)	(41 269 741)	7.66E+13	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p_{1/2}2p^4_{3/2})3d\,(0,3/2)^{\circ}_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.461)	(40 631 854)	3.19E+12	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\,(1,3/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.471)	(40 466 484)	1.86E+12	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\,(1,3/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.523)	(39 636 891)	2.62E+12	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\,(1,1/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.523)	(39 640 622)	2.83E+12	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\,(1,1/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.534)	(39 458 682)	8.00E+12	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s^22p^4_{3/2})3s\,(0,1/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.542)	(39 344 668)	8.60E+12	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p_{1/2}2p^3_{3/2})3s\,(2,1/2)_{5/2}$	91SAM/ZHA	91SAM/ZHA
(2.548)	(39 243 273)	7.60E+12	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p_{1/2}2p^3_{3/2})3s\,(1,1/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.551)	(39 193 673)	6.46E+12	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p_{1/2}2p^3_{3/2})3s\,(1,1/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.551)	(39 201 464)	9.74E+11	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3p\,(2,1/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.551)	(39 195 758)	1.99E+13	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p_{1/2}2p^4_{3/2})3s\,(1,1/2)^{\circ}_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.552)	(39 184 785)	3.11E+14	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p^2_{1/2}2p^2_{3/2})3d\,(0,5/2)_{5/2}$	91SAM/ZHA	91SAM/ZHA
(2.553)	(39 164 484)	8.49E+14	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(2,5/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.556)	(39 118 615)	7.55E+14	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(2,5/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.561)	(39 042 459)	4.45E+14	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p^2_{1/2}2p^2_{3/2})3d\,(2,5/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.563)	(39 010 636)	4.18E+14	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p^2_{1/2}2p^2_{3/2})3d\,(2,5/2)_{5/2}$	91SAM/ZHA	91SAM/ZHA
(2.563)	(39 021 280)	5.87E+14	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3d\,(1,5/2)^{\circ}_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.568)	(38 935 029)	7.28E+12	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p_{1/2}2p^4_{3/2})3s\,(0,1/2)^{\circ}_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.570)	(38 904 084)	7.33E+13	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p^2_{1/2}2p^2_{3/2})3d\,(0,3/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.572)	(38 875 882)	2.37E+14	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p^2_{1/2}2p^2_{3/2})3d\,(2,5/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.574)	(38 857 556)	4.00E+13	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(1,5/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.576)	(38 814 540)	1.51E+12	$2s^22p^5\,(0,1/2)^{\circ}_{1/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(2,3/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.579)	(38 767 574)	4.25E+13	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3d\,(1,3/2)^{\circ}_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.582)	(38 735 531)	6.46E+14	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3d\,(2,5/2)^{\circ}_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.585)	(38 690 430)	7.06E+13	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3d\,(1,3/2)^{\circ}_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.589)	(38 631 832)	5.27E+13	$2s^22p^5\,(0,3/2)^{\circ}_{3/2}$	$(2s^22p^2_{1/2}2p^2_{3/2})3d\,(2,3/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA

TABLE 55. Spectral lines of Cs XLVII—Continued

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(2.590)	(38 611 641)	3.71E+12	$2s^22p^5\,(0,3/2)^\circ_{3/2}$	$(2s^22p^2_{1/2}2p^2_{3/2})3d\,(2,3/2)_{5/2}$	91SAM/ZHA	91SAM/ZHA
(2.590)	(38 616 579)	1.69E+12	$2s^22p^5\,(0,1/2)^\circ_{1/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(1,3/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.591)	(38 599 351)	3.08E+12	$2s^22p^5\,(0,3/2)^\circ_{3/2}$	$(2s^22p^2_{1/2}2p^2_{3/2})3d\,(2,3/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.593)	(38 566 650)	1.39E+14	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3d\,(2,5/2)^\circ_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.594)	(38 549 641)	5.06E+12	$2s^22p^5\,(0,1/2)^\circ_{1/2}$	$(2s^22p_{1/2}2p^3_{3/2})3d\,(1,3/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.616)	(38 229 765)	2.88E+12	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3d\,(2,3/2)^\circ_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.732)	(36 600 316)	2.77E+13	$2s^22p^5\,(0,3/2)^\circ_{3/2}$	$(2s^22p^2_{1/2}2p^2_{3/2})3s\,(0,1/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.744)	(36 436 592)	3.77E+13	$2s^22p^5\,(0,1/2)^\circ_{1/2}$	$(2s^22p_{1/2}2p^3_{3/2})3s\,(2,1/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.746)	(36 412 341)	4.02E+13	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3s\,(1,1/2)^\circ_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.753)	(36 327 406)	5.41E+13	$2s^22p^5\,(0,3/2)^\circ_{3/2}$	$(2s^22p^2_{1/2}2p^2_{3/2})3s\,(2,1/2)_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.754)	(36 314 568)	3.66E+13	$2s^22p^5\,(0,1/2)^\circ_{1/2}$	$(2s^22p_{1/2}2p^3_{3/2})3s\,(1,1/2)_{1/2}$	91SAM/ZHA	91SAM/ZHA
(2.758)	(36 264 638)	8.48E+12	$2s^22p^5\,(0,3/2)^\circ_{3/2}$	$(2s^22p^2_{1/2}2p^2_{3/2})3s\,(2,1/2)_{5/2}$	91SAM/ZHA	91SAM/ZHA
(2.774)	(36 048 790)	3.32E+13	$2s2p^6\,(1/2,0)_{1/2}$	$(2s2p^2_{1/2}2p^3_{3/2})3s\,(2,1/2)^\circ_{3/2}$	91SAM/ZHA	91SAM/ZHA
(2.803)	(35 680 082)	1.78E+12	$2s2p^6\,(1/2,0)_{1/2}$	$(2s^22p_{1/2}2p^3_{3/2})3p\,(2,3/2)^\circ_{1/2}$	91SAM/ZHA	91SAM/ZHA
[18.353]	[5 448 700]	2.18E+12	$2s^22p^5\,(0,3/2)^\circ_{3/2}$	$2s2p^6\,(1/2,0)_{1/2}$	91FEL/EKB	91SAM/ZHA
[34.07]	[2 935 100]		$2s^22p^5\,(0,3/2)^\circ_{3/2}$	$2s^22p^5\,(0,1/2)^\circ_{1/2}$	91FEL/EKB	
[39.784]	[2 513 600]	1.01E+11	$2s^22p^5\,(0,1/2)^\circ_{1/2}$	$2s2p^6\,(1/2,0)_{1/2}$	91FEL/EKB	91SAM/ZHA

TABLE 56. Energy levels of Cs XLVII

Configuration	Term	J	Energy (cm^{-1})	Reference
$2s^22p^5$	$(0,3/2)^\circ$	3/2	[0]	
	$(0,1/2)^\circ$	1/2	[2 935 100]	91FEL/EKB
$2s2p^6$	$(1/2,0)$	1/2	[5 448 700]	91FEL/EKB
$(2s^22p^2_{1/2}2p^2_{3/2})3s$	$(2,1/2)$	5/2	(36 264 638)	91SAM/ZHA
	$(2,1/2)$	3/2	(36 327 406)	91SAM/ZHA
	$(0,1/2)$	1/2	(36 600 316)	91SAM/ZHA
$(2s^22p^2_{1/2}2p^2_{3/2})3p$	$(2,1/2)^\circ$	3/2	(36 973 962)	91SAM/ZHA
	$(2,1/2)^\circ$	5/2	(36 994 922)	91SAM/ZHA
	$(0,1/2)^\circ$	1/2	(37 291 644)	91SAM/ZHA
	$(2,3/2)^\circ$	5/2	(37 776 012)	91SAM/ZHA
	$(2,3/2)^\circ$	7/2	(37 780 512)	91SAM/ZHA
	$(2,3/2)^\circ$	1/2	(37 787 754)	91SAM/ZHA
	$(2,3/2)^\circ$	3/2	(38 040 802)	91SAM/ZHA
	$(0,3/2)^\circ$	3/2	(38 168 204)	91SAM/ZHA
$(2s^22p^2_{1/2}2p^2_{3/2})3d$	$(2,3/2)$	3/2	(38 599 351)	91SAM/ZHA
	$(2,3/2)$	5/2	(38 611 641)	91SAM/ZHA
	$(2,3/2)$	1/2	(38 631 832)	91SAM/ZHA
	$(2,3/2)$	7/2	(38 634 027)	91SAM/ZHA
	$(2,5/2)$	7/2	(38 790 618)	91SAM/ZHA
	$(2,5/2)$	9/2	(38 799 397)	91SAM/ZHA
	$(2,5/2)$	1/2	(38 875 882)	91SAM/ZHA
	$(0,3/2)$	3/2	(38 904 084)	91SAM/ZHA
	$(2,5/2)$	5/2	(39 010 636)	91SAM/ZHA
	$(2,5/2)$	3/2	(39 042 459)	91SAM/ZHA
	$(0,5/2)$	5/2	(39 184 785)	91SAM/ZHA
$(2s^22p_{1/2}2p^3_{3/2})3s$	$(1,1/2)$	3/2	(39 193 673)	91SAM/ZHA
	$(1,1/2)$	1/2	(39 243 273)	91SAM/ZHA
	$(2,1/2)$	5/2	(39 344 668)	91SAM/ZHA
	$(2,1/2)$	3/2	(39 365 298)	91SAM/ZHA
$(2s^22p_{1/2}2p^3_{3/2})3p$	$(1,1/2)^\circ$	1/2	(39 875 235)	91SAM/ZHA

TABLE 56. Energy levels of Cs XLVII—Continued

Configuration	Term	J	Energy (cm^{-1})	Reference
	(1, 1/2)°	3/2	(39 923 518)	91SAM/ZHA
	(2, 1/2)°	5/2	(40 030 070)	91SAM/ZHA
	(2, 1/2)°	3/2	(40 244 930)	91SAM/ZHA
	(1, 3/2)°	5/2	(40 674 870)	91SAM/ZHA
	(1, 3/2)°	1/2	(40 720 300)	91SAM/ZHA
	(1, 3/2)°	3/2	(40 734 676)	91SAM/ZHA
	(2, 3/2)°	7/2	(40 828 389)	91SAM/ZHA
	(2, 3/2)°	3/2	(40 830 254)	91SAM/ZHA
	(2, 3/2)°	5/2	(40 884 354)	91SAM/ZHA
	(2, 3/2)°	1/2	(41 160 665)	91SAM/ZHA
$(2s2p_{1/2}^2 2p_{3/2}^3)3s$	(2, 1/2)°	5/2	(41 398 350)	91SAM/ZHA
	(2, 1/2)°	3/2	(41 529 373)	91SAM/ZHA
	(1, 1/2)°	1/2	(41 892 924)	91SAM/ZHA
	(1, 1/2)°	3/2	(41 905 873)	91SAM/ZHA
$(2s^2 2p_{1/2} 2p_{3/2}^3)3d$	(1, 3/2)	1/2	(41 478 347)	91SAM/ZHA
	(1, 3/2)	3/2	(41 545 285)	91SAM/ZHA
	(1, 3/2)	5/2	(41 592 032)	91SAM/ZHA
	(2, 3/2)	7/2	(41 661 384)	91SAM/ZHA
	(1, 5/2)	7/2	(41 699 901)	91SAM/ZHA
	(2, 3/2)	1/2	(41 743 246)	91SAM/ZHA
	(1, 5/2)	5/2	(41 769 802)	91SAM/ZHA
	(2, 3/2)	5/2	(41 781 653)	91SAM/ZHA
	(1, 5/2)	3/2	(41 786 262)	91SAM/ZHA
	(2, 3/2)	3/2	(41 789 883)	91SAM/ZHA
	(2, 5/2)	9/2	(41 845 628)	91SAM/ZHA
	(2, 5/2)	5/2	(41 888 534)	91SAM/ZHA
	(2, 5/2)	7/2	(41 929 685)	91SAM/ZHA
	(2, 5/2)	3/2	(42 047 320)	91SAM/ZHA
	(2, 5/2)	1/2	(42 093 299)	91SAM/ZHA
$(2s2p_{1/2}^2 2p_{3/2}^3)3p$	(2, 1/2)	3/2	(42 130 170)	91SAM/ZHA
	(2, 1/2)	5/2	(42 141 912)	91SAM/ZHA
	(1, 1/2)	1/2	(42 565 706)	91SAM/ZHA
	(1, 1/2)	3/2	(42 569 328)	91SAM/ZHA
	(2, 3/2)	7/2	(42 887 887)	91SAM/ZHA
	(2, 3/2)	3/2	(42 934 305)	91SAM/ZHA
	(2, 3/2)	5/2	(42 966 567)	91SAM/ZHA
	(2, 3/2)	1/2	(43 079 264)	91SAM/ZHA
	(1, 3/2)	5/2	(43 362 709)	91SAM/ZHA
	(1, 3/2)	3/2	(43 395 080)	91SAM/ZHA
	(1, 3/2)	1/2	(43 560 560)	91SAM/ZHA
$(2s^2 2p_{3/2}^4)3s$	(0, 1/2)	1/2	(42 387 388)	91SAM/ZHA
$(2s^2 2p_{3/2}^4)3p$	(0, 1/2)°	1/2	(43 171 770)	91SAM/ZHA
	(0, 3/2)°	3/2	(43 869 353)	91SAM/ZHA
$(2s2p_{1/2}^2 2p_{3/2}^3)3d$	(2, 3/2)°	1/2	(43 660 089)	91SAM/ZHA
	(2, 3/2)°	3/2	(43 710 238)	91SAM/ZHA
	(2, 3/2)°	7/2	(43 749 742)	91SAM/ZHA
	(2, 3/2)°	5/2	(43 761 264)	91SAM/ZHA
	(2, 5/2)°	9/2	(43 867 817)	91SAM/ZHA
	(2, 5/2)°	5/2	(43 971 845)	91SAM/ZHA
	(2, 5/2)°	7/2	(43 987 757)	91SAM/ZHA
	(2, 5/2)°	3/2	(44 047 233)	91SAM/ZHA
	(1, 3/2)°	1/2	(44 170 904)	91SAM/ZHA
	(1, 3/2)°	5/2	(44 201 300)	91SAM/ZHA

TABLE 56. Energy levels of Cs XLVII—Continued

Configuration	Term	J	Energy (cm^{-1})	Reference
	$(2,5/2)^{\circ}$	1/2	(44 216 004)	91SAM/ZHA
	$(1,3/2)^{\circ}$	3/2	(44 248 157)	91SAM/ZHA
	$(1,5/2)^{\circ}$	7/2	(44 388 836)	91SAM/ZHA
	$(1,5/2)^{\circ}$	5/2	(44 422 415)	91SAM/ZHA
	$(1,5/2)^{\circ}$	3/2	(44 501 753)	91SAM/ZHA
$(2s2p_{1/2}2p^4_{3/2})3s$	$(0,1/2)^{\circ}$	1/2	(44 415 612)	91SAM/ZHA
	$(1,1/2)^{\circ}$	3/2	(44 676 341)	91SAM/ZHA
	$(1,1/2)^{\circ}$	1/2	(44 772 907)	91SAM/ZHA
$(2s^22p^4_{3/2})3d$	$(0,3/2)$	3/2	(44 797 598)	91SAM/ZHA
	$(0,5/2)$	5/2	(44 911 392)	91SAM/ZHA
$(2s2p_{1/2}2p^4_{3/2})3p$	$(0,1/2)$	1/2	(45 115 718)	91SAM/ZHA
	$(1,1/2)$	3/2	(45 356 147)	91SAM/ZHA
	$(1,1/2)$	1/2	(45 583 078)	91SAM/ZHA
	$(0,3/2)$	3/2	(45 905 149)	91SAM/ZHA
	$(1,3/2)$	1/2	(46 155 563)	91SAM/ZHA
	$(1,3/2)$	5/2	(46 162 586)	91SAM/ZHA
	$(1,3/2)$	3/2	(46 183 655)	91SAM/ZHA
$(2s2p_{1/2}2p^4_{3/2})3d$	$(0,3/2)^{\circ}$	3/2	(46 750 214)	91SAM/ZHA
	$(0,5/2)^{\circ}$	5/2	(46 910 537)	91SAM/ZHA
	$(1,3/2)^{\circ}$	5/2	(47 002 604)	91SAM/ZHA
	$(1,3/2)^{\circ}$	3/2	(47 088 526)	91SAM/ZHA
	$(1,3/2)^{\circ}$	1/2	(47 096 756)	91SAM/ZHA
	$(1,5/2)^{\circ}$	7/2	(47 167 645)	91SAM/ZHA
	$(1,5/2)^{\circ}$	5/2	(47 231 620)	91SAM/ZHA
	$(1,5/2)^{\circ}$	3/2	(47 232 498)	91SAM/ZHA
$2p^63s$	$(0,1/2)$	1/2	(47 326 979)	91SAM/ZHA
$2p^63p$	$(0,1/2)^{\circ}$	1/2	(47 985 826)	91SAM/ZHA
	$(0,3/2)^{\circ}$	3/2	(48 778 329)	91SAM/ZHA
$2p^63d$	$(0,3/2)$	3/2	(49 595 741)	91SAM/ZHA
	$(0,5/2)$	5/2	(49 787 996)	91SAM/ZHA
Cs XLVIII $(2p^2_{1/2}2p^2_{3/2})_2$		*Limit*	(66 335 000)	06HUA/JIA

References for Cs XLVII

91FEL/EKB U. Feldman, J. O. Ekberg, J. F. Seely, C. M. Brown, D. R. Kania, B. J. MacGowan, and C. J. Keane, J. Opt. Soc. Am. B **8**, 531 (1991).

91IVA/GUL E. P. Ivanova and A. V. Gulov, Atom. Data Nucl. Data Tables **49**, 1 (1991).

91SAM/ZHA D. H. Sampson, H. L. Zhang, and C. J. Fontes, Atom. Data Nucl. Data Tables **48**, 25 (1991).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

05GU M. F. Gu, At. Data Nucl. Data Tables **89**, 267 (2005).

06HUA/JIA J. Huang, G. Jiang, and Q. Zhao, Chin. Phys. Lett. **23**, 69 (2006).

6.48. Cs XLVIII

O isoelectronic sequence
Ground state: $1s^22s^2(2p^2_{1/2}2p^2_{3/2})\ (0,2)_2$
Ionization energy: (68 427 200 cm^{-1}); (8484 eV)

There are no observations of the energy levels or wavelengths of the Cs XLVIII spectrum. Zhang and Sampson [02ZHA/SAM] used the MCDF method to calculate transition probabilities for 16 transitions between the $2s^22p^4$, $2s2p^5$, and $2p^6$ configurations, as well as the energies of the transitions (see Tables 57 and 58). The calculated ionization energy cited is taken from Huang *et al.* [06HUA/JIA] and is within $\pm 1600\ cm^{-1}$ of calculations by Gu [05GU] and Rodrigues *et al.* [04ROD/IND].

References for Cs XLVIII

02ZHA/SAM H. L. Zhang and D. H. Sampson, Atom. Data Nucl. Data Tables **82**, 357 (2002).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. San-

TABLE 57. Spectral lines of Cs XLVIII

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(11.988)	(8 342 000)	4.13E+10	$2s^2(2p_{1/2}^2 2p_{3/2}^2)\ (0,2)_2$	$2s(2p_{1/2}2p_{3/2}^4)\ (1/2,1/2)^\circ_1$	02ZHA/SAM	02ZHA/SAM
(12.454)	(8 029 500)	1.23E+9	$2s^2(2p_{1/2}^2 2p_{3/2}^2)\ (0,0)_0$	$2s(2p_{1/2}2p_{3/2}^4)\ (1/2,1/2)^\circ_1$	02ZHA/SAM	02ZHA/SAM
(18.067)	(5 535 100)	1.74E+12	$2s^2(2p_{1/2}^2 2p_{3/2}^2)\ (0,2)_2$	$2s(2p_{1/2}^2 2p_{3/2}^3)\ (1/2,3/2)^\circ_1$	02ZHA/SAM	02ZHA/SAM
(18.460)	(5 417 000)	2.86E+11	$2s^2(2p_{1/2}2p_{3/2}^3)\ (0,1)_1$	$2s(2p_{1/2}2p_{3/2}^4)\ (1/2,1/2)^\circ_1$	02ZHA/SAM	02ZHA/SAM
(18.654)	(5 360 900)	3.53E+12	$2s(2p_{1/2}^2 2p_{3/2}^3)\ (1/2,3/2)^\circ_1$	$2p_{1/2}^2 2p_{3/2}^4\ (0,0)_0$	02ZHA/SAM	02ZHA/SAM
(18.940)	(5 279 900)	1.87E+12	$2s^2(2p_{1/2}2p_{3/2}^3)\ (0,2)_2$	$2s(2p_{1/2}2p_{3/2}^4)\ (1/2,1/2)^\circ_1$	02ZHA/SAM	02ZHA/SAM
(19.148)	(5 222 600)	5.42E+11	$2s^2(2p_{1/2}^2 2p_{3/2}^2)\ (0,0)_0$	$2s(2p_{1/2}^2 2p_{3/2}^3)\ (1/2,3/2)^\circ_1$	02ZHA/SAM	02ZHA/SAM
(19.411)	(5 151 800)	1.78E+12	$2s^2(2p_{1/2}2p_{3/2}^3)\ (0,1)_1$	$2s(2p_{1/2}2p_{3/2}^4)\ (1/2,1/2)^\circ_0$	02ZHA/SAM	02ZHA/SAM
(19.659)	(5 086 800)	9.04E+11	$2s^2(2p_{1/2}^2 2p_{3/2}^2)\ (0,2)_2$	$2s(2p_{1/2}^2 2p_{3/2}^3)\ (1/2,3/2)^\circ_2$	02ZHA/SAM	02ZHA/SAM
(38.313)	(2 610 100)	2.46E+10	$2s^2(2p_{1/2}2p_{3/2}^3)\ (0,1)_1$	$2s(2p_{1/2}^2 2p_{3/2}^3)\ (1/2,3/2)^\circ_1$	02ZHA/SAM	02ZHA/SAM
(39.154)	(2 554 000)	3.15E+11	$2s(2p_{1/2}2p_{3/2}^4)\ (1/2,1/2)^\circ_1$	$2p_{1/2}^2 2p_{3/2}^4\ (0,0)_0$	02ZHA/SAM	02ZHA/SAM
(40.437)	(2 473 000)	5.74E+10	$2s^2(2p_{1/2}2p_{3/2}^3)\ (0,2)_2$	$2s(2p_{1/2}^2 2p_{3/2}^3)\ (1/2,3/2)^\circ_1$	02ZHA/SAM	02ZHA/SAM
(44.605)	(2 241 900)	3.69E+10	$2s^2 2p_{3/2}^4\ (0,0)_0$	$2s(2p_{1/2}2p_{3/2}^4)\ (1/2,1/2)^\circ_1$	02ZHA/SAM	02ZHA/SAM
(46.258)	(2 161 800)	3.05E+10	$2s^2(2p_{1/2}2p_{3/2}^3)\ (0,1)_1$	$2s(2p_{1/2}^2 2p_{3/2}^3)\ (1/2,3/2)^\circ_2$	02ZHA/SAM	02ZHA/SAM
(49.390)	(2 024 700)	2.23E+10	$2s^2(2p_{1/2}2p_{3/2}^3)\ (0,2)_2$	$2s(2p_{1/2}^2 2p_{3/2}^3)\ (1/2,3/2)^\circ_2$	02ZHA/SAM	02ZHA/SAM
(176.99)	(565 000)	7.28E+7	$2s(2p_{1/2}^2 2p_{3/2}^3)\ (1/2,3/2)^\circ_1$	$2s^2 2p_{3/2}^4\ (0,0)_0$	02ZHA/SAM	02ZHA/SAM

tos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

05GU M. F. Gu, At. Data Nucl. Data Tables **89**, 267 (2005).

06HUA/JIA J. Huang, G. Jiang, and Q. Zhao, Chin. Phys. Lett. **23**, 69 (2006).

TABLE 58. Energy levels of Cs XLVIII

Configuration	Term	J	Energy (cm^{-1})	Reference
$2s^2(2p_{1/2}^2 2p_{3/2}^2)$	(0,2)	2	(0)	02ZHA/SAM
	(0,0)	0	(312 500)	02ZHA/SAM
$2s^2(2p_{1/2}2p_{3/2}^3)$	(0,1)	1	(2 925 000)	02ZHA/SAM
	(0,2)	2	(3 062 100)	02ZHA/SAM
$2s(2p_{1/2}^2 2p_{3/2}^3)$	$(1/2,3/2)^\circ$	2	(5 086 800)	02ZHA/SAM
	$(1/2,3/2)^\circ$	1	(5 535 100)	02ZHA/SAM
$2s^2 2p_{3/2}^4$	(0,0)	0	(6 100 100)	02ZHA/SAM
$2s(2p_{1/2}2p_{3/2}^4)$	$(1/2,1/2)^\circ$	0	(8 076 800)	02ZHA/SAM
	$(1/2,1/2)^\circ$	1	(8 342 000)	02ZHA/SAM
$2p_{1/2}^2 2p_{3/2}^4$	(0,0)	0	(10 896 000)	02ZHA/SAM
Cs XLIX $(2p_{1/2}^2 2p_{3/2})^\circ_{3/2}$		*Limit*	(68 427 200)	06HUA/JIA

6.49. Cs XLIX

N isoelectronic sequence
Ground state: $1s^2 2s^2 2p_{1/2}^2 2p_{3/2}\ (0,3/2)^\circ_{3/2}$
Ionization energy: (70 380 000 cm^{-1}); (8726 eV)

No energy levels or wavelengths have been measured for the Cs XLIX spectrum. Zhang and Sampson [99ZHA/SAM] reported calculated transition energies and oscillator strengths for transitions between the $2s^2 2p^3$, $2s2p^4$, and $2p^5$ configurations based on the relativistic Dirac-Fock method (see Tables 59 and 60). The calculated ionization energy cited is taken from Gu [05GU] and Rodrigues *et al.* [04ROD/IND] and is 3800 cm^{-1} lower than that given by Huang *et al.* [06HUA/JIA].

References for Cs XLIX

99ZHA/SAM H. L. Zhang and D. H. Sampson, Atom. Data Nucl. Data Tables **72**, 153 (1999).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

05GU M. F. Gu, At. Data Nucl. Data Tables **89**, 267 (2005).

06HUA/JIA J. Huang, G. Jiang, and Q. Zhao, Chin. Phys. Lett. **23**, 69 (2006).

TABLE 59. Spectral lines of Cs XLIX

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(8.945)	(11 179 200)	1.18E+7	$2s^22p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	$2s2p^4_{3/2}\,(1/2,0)_{1/2}$	99ZHA/SAM	99ZHA/SAM
(11.977)	(8 349 600)	2.58E+10	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	$2s2p^4_{3/2}\,(1/2,0)_{1/2}$	99ZHA/SAM	99ZHA/SAM
(12.039)	(8 306 100)	2.32E+10	$2s^22p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(12.175)	(8 213 600)	3.56E+10	$2s^22p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{1/2}$	99ZHA/SAM	99ZHA/SAM
(12.336)	(8 106 200)	1.57E+9	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,0)_{1/2}$	$2p_{1/2}2p^4_{3/2}\,(1/2,0)^\circ_{1/2}$	99ZHA/SAM	99ZHA/SAM
(12.364)	(8 088 100)	4.36E+10	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,2)_{3/2}$	$2p_{1/2}2p^4_{3/2}\,(1/2,0)^\circ_{1/2}$	99ZHA/SAM	99ZHA/SAM
(12.613)	(7 928 300)	5.62E+8	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,0)^\circ_{1/2}$	$2s2p^4_{3/2}\,(1/2,0)_{1/2}$	99ZHA/SAM	99ZHA/SAM
(12.654)	(7 902 800)	5.17E+8	$2s^22p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{5/2}$	99ZHA/SAM	99ZHA/SAM
(13.105)	(7 630 600)	1.32E+10	$2s^22p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(0,3/2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(17.586)	(5 686 300)	7.72E+10	$(2s2p_{1/2})2p^3_{3/2}\,(0,3/2)_{3/2}$	$2p_{1/2}2p^4_{3/2}\,(1/2,0)^\circ_{1/2}$	99ZHA/SAM	99ZHA/SAM
(17.604)	(5 680 400)	4.78E+11	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,2)_{5/2}$	$2p^2_{1/2}2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	99ZHA/SAM	99ZHA/SAM
(18.260)	(5 476 500)	4.36E+10	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(18.574)	(5 384 000)	1.59E+12	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{1/2}$	99ZHA/SAM	99ZHA/SAM
(18.829)	(5 311 000)	1.69E+12	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{5/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(19.125)	(5 228 800)	1.65E+12	$2s^22p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(19.191)	(5 210 700)	9.63E+11	$2s^22p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,0)_{1/2}$	99ZHA/SAM	99ZHA/SAM
(19.584)	(5 106 300)	3.23E+11	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,0)_{1/2}$	$2p^2_{1/2}2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	99ZHA/SAM	99ZHA/SAM
(19.595)	(5 103 300)	9.57E+11	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{1/2}$	$2p_{1/2}2p^4_{3/2}\,(1/2,0)^\circ_{1/2}$	99ZHA/SAM	99ZHA/SAM
(19.652)	(5 088 500)	1.91E+12	$2s^22p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	$2s2p^4_{3/2}\,(1/2,0)_{1/2}$	99ZHA/SAM	99ZHA/SAM
(19.653)	(5 088 200)	1.53E+12	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,2)_{3/2}$	$2p^2_{1/2}2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	99ZHA/SAM	99ZHA/SAM
(19.711)	(5 073 200)	4.18E+10	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{5/2}$	99ZHA/SAM	99ZHA/SAM
(19.782)	(5 055 200)	4.61E+11	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,0)^\circ_{1/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(19.957)	(5 010 800)	2.24E+12	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{3/2}$	$2p_{1/2}2p^4_{3/2}\,(1/2,0)^\circ_{1/2}$	99ZHA/SAM	99ZHA/SAM
(20.150)	(4 962 700)	5.78E+11	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,0)^\circ_{1/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{1/2}$	99ZHA/SAM	99ZHA/SAM
(20.376)	(4 907 700)	7.92E+11	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{5/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{5/2}$	99ZHA/SAM	99ZHA/SAM
(20.829)	(4 801 000)	7.95E+11	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(0,3/2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(21.568)	(4 636 600)	2.26E+11	$2s^22p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,2)_{5/2}$	99ZHA/SAM	99ZHA/SAM
(21.573)	(4 635 500)	2.99E+10	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{5/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(0,3/2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(22.833)	(4 379 700)	7.04E+9	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,0)^\circ_{1/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(0,3/2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(37.225)	(2 686 400)	3.94E+10	$(2s2p_{1/2})2p^3_{3/2}\,(0,3/2)_{3/2}$	$2p^2_{1/2}2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	99ZHA/SAM	99ZHA/SAM
(41.422)	(2 414 200)	1.10E+11	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{5/2}$	$2p^2_{1/2}2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	99ZHA/SAM	99ZHA/SAM
(41.681)	(2 399 200)	1.44E+10	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(41.997)	(2 381 100)	5.90E+8	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,0)_{1/2}$	99ZHA/SAM	99ZHA/SAM
(44.769)	(2 233 700)	3.85E+10	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{5/2}$	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(45.139)	(2 215 400)	2.69E+10	$2s^22p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(46.779)	(2 137 700)	7.77E+10	$2s2p^4_{3/2}\,(1/2,0)_{1/2}$	$2p_{1/2}2p^4_{3/2}\,(1/2,0)^\circ_{1/2}$	99ZHA/SAM	99ZHA/SAM
(47.105)	(2 122 900)	1.90E+10	$2s^22p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{1/2}$	99ZHA/SAM	99ZHA/SAM
(47.542)	(2 103 400)	2.58E+10	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{1/2}$	$2p^2_{1/2}2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	99ZHA/SAM	99ZHA/SAM
(49.729)	(2 010 900)	3.86E+10	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{3/2}$	$2p^2_{1/2}2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	99ZHA/SAM	99ZHA/SAM
(50.559)	(1 977 900)	2.58E+8	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,0)^\circ_{1/2}$	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(51.026)	(1 959 800)	3.69E+10	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,0)^\circ_{1/2}$	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,0)_{1/2}$	99ZHA/SAM	99ZHA/SAM
(55.185)	(1 812 100)	1.87E+10	$2s^22p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(1,3/2)_{5/2}$	99ZHA/SAM	99ZHA/SAM
(55.340)	(1 807 000)	1.84E+10	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,2)_{5/2}$	99ZHA/SAM	99ZHA/SAM
(60.920)	(1 641 500)	9.20E+9	$2s^22p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{5/2}$	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,2)_{5/2}$	99ZHA/SAM	99ZHA/SAM
(64.939)	(1 539 900)	2.04E+9	$2s^22p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p^3_{3/2}\,(0,3/2)_{3/2}$	99ZHA/SAM	99ZHA/SAM
(68.771)	(1 454 100)	1.41E+8	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,2)_{5/2}$	$2s^22p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	99ZHA/SAM	99ZHA/SAM
(113.636)	(880 000)	2.84E+7	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,0)_{1/2}$	$2s^22p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	99ZHA/SAM	99ZHA/SAM
(115.982)	(862 200)	1.57E+8	$2p^2_{1/2}2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	$2s2p^4_{3/2}\,(1/2,0)_{1/2}$	99ZHA/SAM	99ZHA/SAM
(116.023)	(861 900)	1.41E+8	$2s2p^2_{1/2}(2p^2_{3/2})\,(1/2,2)_{3/2}$	$2s^22p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	99ZHA/SAM	99ZHA/SAM

TABLE 60. Energy levels of Cs XLIX

Configuration	Term	J	Energy (cm^{-1})	Reference
$2s^22p_{1/2}^22p_{3/2}$	$(0,3/2)^\circ$	3/2	(0)	99ZHA/SAM
$2s^22p_{1/2}(2p_{3/2}^2)$	$(1/2,2)^\circ$	3/2	(2 829 600)	99ZHA/SAM
	$(1/2,2)^\circ$	5/2	(2 995 100)	99ZHA/SAM
	$(1/2,0)^\circ$	1/2	(3 250 900)	99ZHA/SAM
$2s2p_{1/2}^2(2p_{3/2}^2)$	(1/2,2)	5/2	(4 636 600)	99ZHA/SAM
	(1/2,0)	1/2	(5 210 700)	99ZHA/SAM
	(1/2,2)	3/2	(5 228 800)	99ZHA/SAM
$2s^22p_{3/2}^3$	$(0,3/2)^\circ$	3/2	(6 090 700)	99ZHA/SAM
$(2s2p_{1/2})2p_{3/2}^3$	(0,3/2)	3/2	(7 630 600)	99ZHA/SAM
	(1,3/2)	5/2	(7 902 800)	99ZHA/SAM
	(1,3/2)	1/2	(8 213 600)	99ZHA/SAM
	(1,3/2)	3/2	(8 306 100)	99ZHA/SAM
$2p_{1/2}^22p_{3/2}^3$	$(0,3/2)^\circ$	3/2	(10 317 000)	99ZHA/SAM
$2s2p_{3/2}^4$	(1/2,0)	1/2	(11 179 200)	99ZHA/SAM
$2p_{1/2}2p_{3/2}^4$	$(1/2,0)^\circ$	1/2	(13 316 900)	99ZHA/SAM
Cs L $(2p^2\ ^3P_0)$		*Limit*	(70 380 000)	04ROD/IND,05GU

6.50. Cs L

C isoelectronic sequence
Ground state: $1s^22s^22p^2\ ^3P_0$
Ionization energy: (75 417 000 cm^{-1}); (9351 eV)

There are no observations of the energy levels or wavelengths of the Cs L spectrum. The ground state has been assigned by analogy with Xe XLIX, as calculated by Saloman [04SAL]. The calculated ionization energy cited is taken from Huang *et al.* [06HUA/JIA] and is within $\pm$10 000 cm^{-1} of calculations by Gu [05GU] and Rodrigues *et al.* [04ROD/IND].

References for Cs L

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).
04SAL E. B. Saloman J. Phys. Chem. Ref. Data **33**, 765 (2004).
05GU M. F. Gu, At. Data Nucl. Data Tables **89**, 267 (2005).
06HUA/JIA J. Huang, G. Jiang, and Q. Zhao, Chin. Phys. Lett. **23**, 69 (2006).

6.51. Cs LI

B isoelectronic sequence
Ground state: $1s^22s^22p\ (0,1/2)^\circ_{1/2}$
Ionization energy: (77 658 000 cm^{-1}); (9628 eV)

There are no observations of the energy levels or wavelengths of the Cs LI spectrum. Zhang and Sampson [94ZHA/SAM] calculated energies and oscillator strengths for transitions between the $2s^22p$ and $2p^3$ configurations and $2s2p^2$ using the relativistic Dirac-Fock method. Koc [05KOC] also reported energies for the $2s^22p_{3/2}$ and $2s2p_{1/2}^2$ states using the Dirac-Coulomb-Breit formulation with QED corrections. The results are within $\pm$5000 cm^{-1} of the [94ZHA/SAM] values. To have a consistent set of levels, we retain the [94ZHA/SAM] values in Tables 61 and 62. A value for the transition probability of the forbidden $2s^22p_{1/2}$–$2s^22p_{3/2}$ transition was obtained by Charro *et al.* [01CHA/LOP] using the RQDO method. The ionization energy retained was calculated by Huang *et al.* [06HUA/JIA]. Rodrigues *et al.* [04ROD/IND] obtained a very similar value; however, Gu [05GU] gave an ionization energy 38 000 cm^{-1} lower.

References for Cs LI

94ZHA/SAM H. L. Zhang and D. H. Sampson, Atom. Data Nucl. Data Tables **56**, 41 (1994).
01CHA/LOP E. Charro, S. López, and I. Martín, J. Phys. B **34**, 4243 (2001).
04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).
05GU M. F. Gu, At. Data Nucl. Data Tables **89**, 267 (2005).
05KOC K. Koc, Nucl. nstnm. Methods Phys. Res. B **235**, 46 (2005).
06HUA/JIA J. Huang, G. Jiang, and Q. Zhao, Chin. Phys. Lett. **23**, 69 (2006).

TABLE 61. Spectral lines of Cs LI

λ (Å)	σ (cm⁻¹)	A_{ki} (s⁻¹)	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(8.992)	(11 120 500)	3.35E+6	$2s2p^2_{1/2}\,(1/2,0)_{1/2}$	$2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(11.898)	(8 404 700)	4.06E+9	$(2s2p_{1/2})2p_{3/2}\,(0,3/2)_{3/2}$	$2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(12.191)	(8 202 600)	4.67E+8	$2s2p^2_{1/2}\,(1/2,0)_{1/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,0)^\circ_{1/2}$	94ZHA/SAM	94ZHA/SAM
(12.287)	(8 138 700)	9.21E+8	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{5/2}$	$2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(12.526)	(7 983 100)	1.85E+10	$2s^22p_{1/2}\,(0,1/2)^\circ_{1/2}$	$2s2p^2_{3/2}\,(1/2,2)_{3/2}$	94ZHA/SAM	94ZHA/SAM
(12.549)	(7 968 900)	7.50E+7	$2s^22p_{1/2}\,(0,1/2)^\circ_{1/2}$	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{1/2}$	94ZHA/SAM	94ZHA/SAM
(12.957)	(7 717 900)	1.27E+10	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{1/2}$	$2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(12.957)	(7 717 600)	1.57E+10	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{3/2}$	$2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(12.959)	(7 716 400)	1.52E+10	$2s2p^2_{1/2}\,(1/2,0)_{1/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(18.226)	(5 486 800)	1.22E+10	$(2s2p_{1/2})2p_{3/2}\,(0,3/2)_{3/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,0)^\circ_{1/2}$	94ZHA/SAM	94ZHA/SAM
(19.351)	(5 167 700)	1.26E+10	$(2s2p_{1/2})2p_{3/2}\,(0,3/2)_{3/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{5/2}$	94ZHA/SAM	94ZHA/SAM
(19.520)	(5 123 000)	4.20E+11	$2s2p^2_{3/2}\,(1/2,2)_{5/2}$	$2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(19.998)	(5 000 600)	6.72E+11	$(2s2p_{1/2})2p_{3/2}\,(0,3/2)_{3/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(20.401)	(4 901 700)	5.93E+11	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{5/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{5/2}$	94ZHA/SAM	94ZHA/SAM
(20.604)	(4 853 400)	5.98E+11	$2s2p^2_{1/2}\,(1/2,0)_{1/2}$	$2p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(20.612)	(4 851 600)	1.42E+12	$2s^22p_{3/2}\,(0,3/2)^\circ_{3/2}$	$2s2p^2_{3/2}\,(1/2,2)_{3/2}$	94ZHA/SAM	94ZHA/SAM
(20.672)	(4 837 400)	8.43E+11	$2s^22p_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{1/2}$	94ZHA/SAM	94ZHA/SAM
(20.833)	(4 800 000)	4.40E+11	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{1/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,0)^\circ_{1/2}$	94ZHA/SAM	94ZHA/SAM
(20.835)	(4 799 700)	1.05E+12	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{3/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,0)^\circ_{1/2}$	94ZHA/SAM	94ZHA/SAM
(21.007)	(4 760 300)	8.16E+11	$2s^22p_{1/2}\,(0,1/2)^\circ_{1/2}$	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{3/2}$	94ZHA/SAM	94ZHA/SAM
(21.008)	(4 760 000)	1.01E+12	$2s^22p_{1/2}\,(0,1/2)^\circ_{1/2}$	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{1/2}$	94ZHA/SAM	94ZHA/SAM
(21.121)	(4 734 600)	8.03E+10	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{5/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(22.178)	(4 509 000)	2.60E+11	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{1/2}$	$2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(22.248)	(4 494 800)	1.25E+12	$2s2p^2_{3/2}\,(1/2,2)_{3/2}$	$2p^3_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(22.318)	(4 480 600)	5.20E+11	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{3/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{5/2}$	94ZHA/SAM	94ZHA/SAM
(23.181)	(4 313 800)	4.41E+11	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{1/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(23.183)	(4 313 500)	7.64E+10	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{3/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(23.678)	(4 223 400)	1.79E+11	$2s^22p_{3/2}\,(0,3/2)^\circ_{3/2}$	$2s2p^2_{3/2}\,(1/2,2)_{5/2}$	94ZHA/SAM	94ZHA/SAM
(24.551)	(4 073 200)	3.98E+9	$2s^22p_{1/2}\,(0,1/2)^\circ_{1/2}$	$(2s2p_{1/2})2p_{3/2}\,(0,3/2)_{3/2}$	94ZHA/SAM	94ZHA/SAM
(31.933)	(3 131 500)	1.46E+8	$2s^22p_{1/2}\,(0,1/2)^\circ_{1/2}$	$2s^22p_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	01CHA/LOP
(46.781)	(2 137 600)	1.56E+10	$(2s2p_{1/2})2p_{3/2}\,(0,3/2)_{3/2}$	$2p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(53.022)	(1 886 000)	2.34E+10	$2s2p^2_{3/2}\,(1/2,2)_{5/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{5/2}$	94ZHA/SAM	94ZHA/SAM
(53.430)	(1 871 600)	4.70E+10	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{5/2}$	$2p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(56.367)	(1 774 100)	6.57E+8	$2s2p^2_{1/2}\,(1/2,0)_{1/2}$	$2s^22p_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(56.424)	(1 772 300)	1.50E+9	$2p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	$2s2p^2_{3/2}\,(1/2,2)_{3/2}$	94ZHA/SAM	94ZHA/SAM
(56.880)	(1 758 100)	9.24E+8	$2p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{1/2}$	94ZHA/SAM	94ZHA/SAM
(58.177)	(1 718 900)	2.33E+10	$2s2p^2_{3/2}\,(1/2,2)_{5/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(61.395)	(1 628 800)	6.14E+9	$2s^22p_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{3/2}$	94ZHA/SAM	94ZHA/SAM
(61.406)	(1 628 500)	9.13E+9	$2s^22p_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{1/2}$	94ZHA/SAM	94ZHA/SAM
(62.850)	(1 591 100)	2.67E+10	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{1/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,0)^\circ_{1/2}$	94ZHA/SAM	94ZHA/SAM
(63.416)	(1 576 900)	1.80E+8	$2s2p^2_{3/2}\,(1/2,2)_{3/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,0)^\circ_{1/2}$	94ZHA/SAM	94ZHA/SAM
(68.927)	(1 450 800)	8.91E+9	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{1/2}$	$2p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(68.942)	(1 450 500)	9.30E+9	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{3/2}$	$2p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(73.670)	(1 357 400)	1.02E+10	$2s^22p_{1/2}\,(0,1/2)^\circ_{1/2}$	$2s2p^2_{1/2}\,(1/2,0)_{1/2}$	94ZHA/SAM	94ZHA/SAM
(79.504)	(1 257 800)	7.67E+9	$2s2p^2_{3/2}\,(1/2,2)_{3/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{5/2}$	94ZHA/SAM	94ZHA/SAM
(82.802)	(1 207 700)	4.42E+9	$2s^22p_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{5/2}$	94ZHA/SAM	94ZHA/SAM
(87.405)	(1 144 100)	7.86E+7	$2p^2_{1/2}2p_{3/2}\,(0,3/2)^\circ_{3/2}$	$2s2p^2_{3/2}\,(1/2,2)_{5/2}$	94ZHA/SAM	94ZHA/SAM
(90.506)	(1 104 900)	2.81E+7	$(2s2p_{1/2})2p_{3/2}\,(1,3/2)_{1/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(91.684)	(1 090 700)	1.35E+9	$2s2p^2_{3/2}\,(1/2,2)_{3/2}$	$2p_{1/2}(2p^2_{3/2})\,(1/2,2)^\circ_{3/2}$	94ZHA/SAM	94ZHA/SAM
(106.191)	(941 700)	4.03E+8	$2s^22p_{3/2}\,(0,3/2)^\circ_{3/2}$	$(2s2p_{1/2})2p_{3/2}\,(0,3/2)_{3/2}$	94ZHA/SAM	94ZHA/SAM

TABLE 62. Energy levels of Cs LI

Configuration	Term	J	Energy (cm^{-1})	Reference
$2s^22p_{1/2}$	$(0,1/2)^{\circ}$	1/2	(0)	94ZHA/SAM
$2s2p_{1/2}^2$	(1/2,0)	1/2	(1 357 400)	94ZHA/SAM
$2s^22p_{3/2}$	$(0,3/2)^{\circ}$	3/2	(3 131 500)	94ZHA/SAM
$(2s2p_{1/2})2p_{3/2}$	(0,3/2)	3/2	(4 073 200)	94ZHA/SAM
	(1,3/2)	5/2	(4 339 200)	94ZHA/SAM
	(1,3/2)	1/2	(4 760 000)	94ZHA/SAM
	(1,3/2)	3/2	(4 760 300)	94ZHA/SAM
$2p_{1/2}^22p_{3/2}$	$(0,3/2)^{\circ}$	3/2	(6 210 800)	94ZHA/SAM
$2s2p_{3/2}^2$	(1/2,2)	5/2	(7 354 900)	94ZHA/SAM
	(1/2,0)	1/2	(7 968 900)	94ZHA/SAM
	(1/2,2)	3/2	(7 983 100)	94ZHA/SAM
$2p_{1/2}(2p_{3/2}^2)$	$(1/2,2)^{\circ}$	3/2	(9 073 800)	94ZHA/SAM
	$(1/2,2)^{\circ}$	5/2	(9 240 900)	94ZHA/SAM
	$(1/2,0)^{\circ}$	1/2	(9 560 000)	94ZHA/SAM
$2p_{3/2}^3$	$(0,3/2)^{\circ}$	3/2	(12 477 900)	94ZHA/SAM
Cs LII ($2s^2\ ^1S_0$)		*Limit*	(77 658 000)	06HUA/JIA

6.52. Cs LII

Be isoelectronic sequence
Ground state: $1s^22s^2\ ^1S_0$
Ionization energy: (80 448 000 cm^{-1}); (9974 eV)

The Cs LII spectrum has not been observed experimentally, but Zhang and Sampson [92ZHA/SAM] used the relativistic Dirac-Fock method to calculate transition energies and oscillator strengths for transitions between the $2s^2$, $2p^2$, and $2s2p$ configurations. Majumder and Das [00MAJ/DAS] calculated a value for the $2s2p\ (1/2,3/2)_2$ energy level (which agrees with the [92ZHA/SAM] value to 0.03%) and a transition probability for the forbidden transition to the ground state. Cheng *et al.* [08CHE/CHE] calculated the four $2s2p$ energy levels using the relativistic configuration interaction method. In papers discussing the hyperfine quenching of transition rates Marques *et al.* [93MAR/PAR] gave lifetimes for the $2s2p\ (1/2,1/2)_{0,1}$ levels. Cheng *et al.* [08CHE/CHE] presented probabilities for the four $2s^2$–$2s2p$ transitions. In Tables 63 and 64 we include the [92ZHA/SAM] energy level

TABLE 63. Spectral lines of Cs LII

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(13.054)	(7 660 500)	1.17E+10	$2s2p_{1/2}\ (1/2,1/2)^{\circ}_1$	$2p_{3/2}^2\ (3/2,3/2)_2$	92ZHA/SAM	92ZHA/SAM
(21.435)	(4 665 200)	5.94E+11	$2s2p_{3/2}\ (1/2,3/2)^{\circ}_2$	$2p_{3/2}^2\ (3/2,3/2)_2$	92ZHA/SAM	92ZHA/SAM
(21.790)	(4 589 200)	3.96E+11	$2s2p_{1/2}\ (1/2,1/2)^{\circ}_0$	$2p_{1/2}2p_{3/2}\ (1/2,3/2)_1$	92ZHA/SAM	92ZHA/SAM
(21.800)	(4 587 200)	7.90E+11	$2s^2\ ^1S_0$	$2s2p_{3/2}\ (1/2,3/2)^{\circ}_1$	92ZHA/SAM	08CHE/CHE
(22.047)	(4 535 700)	1.35E+12	$2s2p_{3/2}\ (1/2,3/2)^{\circ}_1$	$2p_{3/2}^2\ (3/2,3/2)_0$	92ZHA/SAM	92ZHA/SAM
(22.084)	(4 528 100)	4.96E+11	$2s2p_{1/2}\ (1/2,1/2)^{\circ}_1$	$2p_{1/2}2p_{3/2}\ (1/2,3/2)_2$	92ZHA/SAM	92ZHA/SAM
(22.744)	(4 396 800)	1.96E+11	$2s2p_{1/2}\ (1/2,1/2)^{\circ}_1$	$2p_{1/2}2p_{3/2}\ (1/2,3/2)_1$	92ZHA/SAM	92ZHA/SAM
(24.194)	(4 133 300)	4.55E+11	$2s2p_{3/2}\ (1/2,3/2)^{\circ}_1$	$2p_{3/2}^2\ (3/2,3/2)_2$	92ZHA/SAM	92ZHA/SAM
(24.659)	(4 055 300)	6.22E+4	$2s^2\ ^1S_0$	$2s2p_{3/2}\ (1/2,3/2)^{\circ}_2$	92ZHA/SAM	08CHE/CHE
(48.160)	(2 076 400)	6.71E+8	$2p_{1/2}^2\ (1/2,1/2)_0$	$2s2p_{3/2}\ (1/2,3/2)^{\circ}_1$	92ZHA/SAM	92ZHA/SAM
(65.240)	(1 532 800)	1.13E+10	$2s2p_{3/2}\ (1/2,3/2)^{\circ}_2$	$2p_{1/2}2p_{3/2}\ (1/2,3/2)_2$	92ZHA/SAM	92ZHA/SAM
(68.927)	(1 450 800)	4.25E+10	$2s2p_{1/2}\ (1/2,1/2)^{\circ}_1$	$2p_{1/2}^2\ (1/2,1/2)_0$	92ZHA/SAM	92ZHA/SAM
(71.352)	(1 401 500)	1.31E+10	$2s2p_{3/2}\ (1/2,3/2)^{\circ}_2$	$2p_{1/2}2p_{3/2}\ (1/2,3/2)_1$	92ZHA/SAM	92ZHA/SAM
(94.340)	(1 060 000)	2.28E+9	$2s^2\ ^1S_0$	$2s2p_{1/2}\ (1/2,1/2)^{\circ}_1$	92ZHA/SAM	08CHE/CHE
(99.910)	(1 000 900)	3.33E+9	$2s2p_{3/2}\ (1/2,3/2)^{\circ}_1$	$2p_{1/2}2p_{3/2}\ (1/2,3/2)_2$	92ZHA/SAM	92ZHA/SAM
(114.995)	(869 600)	4.54E+8	$2s2p_{3/2}\ (1/2,3/2)^{\circ}_1$	$2p_{1/2}2p_{3/2}\ (1/2,3/2)_1$	92ZHA/SAM	92ZHA/SAM
(115.260)	(867 600)	1.98E+3	$2s^2\ ^1S_0$	$2s2p_{1/2}\ (1/2,1/2)^{\circ}_0$	92ZHA/SAM	08CHE/CHE

TABLE 64. Energy levels of Cs LII

Configuration	Term	J	Energy (cm^{-1})	Reference
$2s^2$	^1S	0	(0)	
$2s2p_{1/2}$	$(1/2,1/2)^{\circ}$	0	(867 600)	92ZHA/SAM
	$(1/2,1/2)^{\circ}$	1	(1 060 000)	92ZHA/SAM
$2p_{1/2}^2$	$(1/2,1/2)$	0	(2 510 800)	92ZHA/SAM
$2s2p_{3/2}$	$(1/2,3/2)^{\circ}$	2	(4 055 300)	92ZHA/SAM
	$(1/2,3/2)^{\circ}$	1	(4 587 200)	92ZHA/SAM
$2p_{1/2}2p_{3/2}$	$(1/2,3/2)$	1	(5 456 800)	92ZHA/SAM
	$(1/2,3/2)$	2	(5 588 100)	92ZHA/SAM
$2p_{3/2}^2$	$(3/2,3/2)$	2	(8 720 500)	92ZHA/SAM
	$(3/2,3/2)$	0	(9 122 900)	92ZHA/SAM
Cs LIII ($2s\ ^2S_{1/2}$)		*Limit*	(80 448 000)	06HUA/JIA

and wavelength values. We retain the [08CHE/CHE] transition probabilities for the $2s^2-2s2p$ transitions, which agree with the [92ZHA/SAM] values to within 1%, and otherwise cite the [92ZHA/SAM] results. The calculated ionization energy cited is taken from Huang *et al.* [06HUA/JIA]. Rodrigues *et al.* [04ROD/IND] obtained a very similar value. However, Gu [05GU] gave an ionization energy 86 000 cm^{-1} higher.

References for Cs LII

92ZHA/SAM H. L. Zhang and D. H. Sampson, Atom. Data Nucl. Data Tables **52**, 143 (1992).

93MAR/PAR J. P. Marques, F. Parente, and P. Indelicato, Phys. Rev. A **47**, 929 (1993).

00MAJ/DAS S. Majumder and B. P. Das, Phys. Rev. A **62**, 042508 (2000).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

05GU M. F. Gu, At. Data Nucl. Data Tables **89**, 267 (2005).

06HUA/JIA J. Huang, G. Jiang, and Q. Zhao, Chin. Phys. Lett. **23**, 69 (2006).

08CHE/CHE K. T. Cheng, M. H. Chen, and W. R. Johnson, Phys. Rev. A **77**, 052504 (2008).

6.53. Cs LIII

Li isoelectronic sequence
Ground state: $1s^2 2s\ ^2S_{1/2}$
Ionization energy: (82 347 000 cm^{-1}); (10 210 eV)

No experimental observations of the Cs LIII spectrum have been made; however, theoretical interest in the Li-like ion has been considerable. Zhang *et al.* [90ZHA/SAM] used the relativistic Dirac-Fock method to calculate energies for levels with $2 \leqslant n \leqslant 5$ and oscillator strengths for transitions to the ground state and the $2p\ ^2P^o$ configuration. Johnson *et al.* [96JOH/LIU] used third-order many-body perturbation theory to calculate transition probabilities for the $2p-2s$ and $3s-2p$ transitions. In addition, the semiempirical Coulomb approximation was used by Theodosiou *et al.* [91THE/CUR] to obtain values for the $2p$ levels, lifetimes for them, and the ionization potential. The $2p$ level values were also calculated by Kim *et al.* [91KIM/BAI] using Dirac-Fock energies with QED corrections and Yerokhin *et al.* [07YER/ART], who combined a local model potential with QED corrections and also performed an estimate of the errors in their calculations. The agreement between [90ZHA/SAM] and [96JOH/LIU] transition probabilities is within 1%; [91THE/CUR] and [90ZHA/SAM] agree within 2%.

The wavelengths reported in Table 65 are calculated from the energy levels of Table 66, which are taken from [90ZHA/SAM] in order to have a consistent set of level values. The [96JOH/LIU] probabilities are given for those transitions for which they are available and [90ZHA/SAM] listed otherwise. Shabaev *et al.* [98SHA/SHA] calculated the hyperfine splitting of the ground state, including relativistic, QED, nuclear, and many-body corrections. In an independent calculation Boucard and Indelicato [00BOU/IND] obtained a splitting just 3.1 cm^{-1} lower. Korzinin *et al.* [05KOR/ORE] calculated the magnetic dipole and electric quadrupole constants for the $2p$ levels given in Table 66. Theodosiou *et al.* [91THE/CUR], Huang *et al.* [06HUA/JIA], Gu [05GU], and Yerokhin *et al.* [07YER/ART] all calculated ionization energies for Cs LIII. We have given the average value of the first three, since all are within $\pm 15\,000$ cm^{-1} thereof. Yerokhin *et al.* [07YER/ART] produced a value 46 000 cm^{-1} higher than the average of the other three.

References for Cs LIII

90ZHA/SAM H. L. Zhang, D. H. Sampson, and C. J. Fontes, Atom. Data Nucl. Data Tables **44**, 31 (1990).

TABLE 65. Spectral lines of Cs LIII

λ (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(1.4293)	(69 963 000)	3.98E+13	2s $^2S_{1/2}$	5p $^2P^{\circ}_{3/2}$	90ZHA/SAM	90ZHA/SAM
(1.4336)	(69 753 000)	4.25E+13	2s $^2S_{1/2}$	5p $^2P^{\circ}_{1/2}$	90ZHA/SAM	90ZHA/SAM
(1.4494)	(68 993 550)	7.11E+13	2p $^2P^{\circ}_{1/2}$	5d $^2D_{3/2}$	90ZHA/SAM	90ZHA/SAM
(1.4555)	(68 704 550)	4.09E+12	2p $^2P^{\circ}_{1/2}$	5s $^2S_{1/2}$	90ZHA/SAM	90ZHA/SAM
(1.5196)	(65 804 700)	7.74E+13	2p $^2P^{\circ}_{3/2}$	5d $^2D_{5/2}$	90ZHA/SAM	90ZHA/SAM
(1.5211)	(65 740 700)	1.18E+13	2p $^2P^{\circ}_{3/2}$	5d $^2D_{3/2}$	90ZHA/SAM	90ZHA/SAM
(1.5278)	(65 451 700)	1.03E+13	2p $^2P^{\circ}_{3/2}$	5s $^2S_{1/2}$	90ZHA/SAM	90ZHA/SAM
(1.5896)	(62 909 000)	7.67E+13	2s $^2S_{1/2}$	4p $^2P^{\circ}_{3/2}$	90ZHA/SAM	90ZHA/SAM
(1.6001)	(62 497 000)	8.39E+13	2s $^2S_{1/2}$	4p $^2P^{\circ}_{1/2}$	90ZHA/SAM	90ZHA/SAM
(1.6140)	(61 959 550)	1.53E+14	2p $^2P^{\circ}_{1/2}$	4d $^2D_{3/2}$	90ZHA/SAM	90ZHA/SAM
(1.6289)	(61 391 550)	8.30E+12	2p $^2P^{\circ}_{1/2}$	4s $^2S_{1/2}$	90ZHA/SAM	90ZHA/SAM
(1.6998)	(58 829 700)	1.69E+14	2p $^2P^{\circ}_{3/2}$	4d $^2D_{5/2}$	90ZHA/SAM	90ZHA/SAM
(1.7034)	(58 706 700)	2.62E+13	2p $^2P^{\circ}_{3/2}$	4d $^2D_{3/2}$	90ZHA/SAM	90ZHA/SAM
(1.7200)	(58 138 700)	2.12E+13	2p $^2P^{\circ}_{3/2}$	4s $^2S_{1/2}$	90ZHA/SAM	90ZHA/SAM
(2.0982)	(47 659 000)	1.69E+14	2s $^2S_{1/2}$	3p $^2P^{\circ}_{3/2}$	90ZHA/SAM	90ZHA/SAM
(2.1382)	(46 767 550)	4.55E+14	2p $^2P^{\circ}_{1/2}$	3d $^2D_{3/2}$	90ZHA/SAM	90ZHA/SAM
(2.1423)	(46 679 000)	1.98E+14	2s $^2S_{1/2}$	3p $^2P^{\circ}_{1/2}$	90ZHA/SAM	90ZHA/SAM
(2.2022)	(45 408 550)	2.10E+13	2p $^2P^{\circ}_{1/2}$	3s $^2S_{1/2}$	90ZHA/SAM	96JOH/LIU
(2.2828)	(43 806 700)	5.17E+14	2p $^2P^{\circ}_{3/2}$	3d $^2D_{5/2}$	90ZHA/SAM	90ZHA/SAM
(2.2981)	(43 514 700)	8.37E+13	2p $^2P^{\circ}_{3/2}$	3d $^2D_{3/2}$	90ZHA/SAM	90ZHA/SAM
(2.3722)	(42 155 700)	5.42E+13	2p $^2P^{\circ}_{3/2}$	3s $^2S_{1/2}$	90ZHA/SAM	96JOH/LIU
(23.567)	(4 243 300)	4.63E+11	2s $^2S_{1/2}$	2p $^2P^{\circ}_{3/2}$	90ZHA/SAM	96JOH/LIU
(100.964)	(990 450)	5.46E+9	2s $^2S_{1/2}$	2p $^2P^{\circ}_{1/2}$	90ZHA/SAM	96JOH/LIU

TABLE 66. Energy levels of Cs LIII

Configuration	Term	J	Energy (cm^{-1})	Reference	Hyperfine Constants A (MHz)	Hyperfine Constants B (MHz)	Hyperfine Reference
2s	^2S	1/2	(0)		701.7(11)		98SHA/SHA
2p	$^2P^{\circ}$	1/2	(990 450)	90ZHA/SAM	98.33(8)		05KOR/ORE
	$^2P^{\circ}$	3/2	(4 243 300)	90ZHA/SAM	41.54(16)	−0.018 55(7)	05KOR/ORE
3s	^2S	1/2	(46 399 000)	90ZHA/SAM			
3p	$^2P^{\circ}$	1/2	(46 679 000)	90ZHA/SAM			
	$^2P^{\circ}$	3/2	(47 659 000)	90ZHA/SAM			
3d	^2D	3/2	(47 758 000)	90ZHA/SAM			
	^2D	5/2	(48 050 000)	90ZHA/SAM			
4s	^2S	1/2	(62 382 000)	90ZHA/SAM			
4p	$^2P^{\circ}$	1/2	(62 497 000)	90ZHA/SAM			
	$^2P^{\circ}$	3/2	(62 909 000)	90ZHA/SAM			
4d	^2D	3/2	(62 950 000)	90ZHA/SAM			
	^2D	5/2	(63 073 000)	90ZHA/SAM			
4f	$^2F^{\circ}$	5/2	(63 077 000)	90ZHA/SAM			
	$^2F^{\circ}$	7/2	(63 137 000)	90ZHA/SAM			
5s	^2S	1/2	(69 695 000)	90ZHA/SAM			
5p	$^2P^{\circ}$	1/2	(69 753 000)	90ZHA/SAM			
	$^2P^{\circ}$	3/2	(69 963 000)	90ZHA/SAM			
5d	^2D	3/2	(69 984 000)	90ZHA/SAM			
	^2D	5/2	(70 048 000)	90ZHA/SAM			
5f	$^2F^{\circ}$	5/2	(70 049 000)	90ZHA/SAM			
	$^2F^{\circ}$	7/2	(70 080 000)	90ZHA/SAM			
5g	^2G	7/2	(70 081 000)	90ZHA/SAM			
	^2G	9/2	(70 099 000)	90ZHA/SAM			
Cs LIV ($1s^2\ ^1S_0$)		*Limit*	(82 347 000)	91THE/CUR,05GU,06HUA/JIA			

91KIM/BAI Y.-K. Kim, D. H. Baik, P. Indelicato, and J. P. Desclaux, Phys. Rev. A **44**, 148 (1991).
91THE/CUR C. E. Theodosiou, L. J. Curtis, and M. El-Mekki, Phys. Rev. A **44**, 7144 (1991).
96JOH/LIU W. R. Johnson, Z. W. Liu, and J. Sapirstein, Atom. Data Nucl. Data Tables **64**, 279 (1996).
98SHA/SHA V. M. Shabaev, M. B. Shabaeva, I. I. Tupitsyn, V. A. Yerokhin, A. N. Artemyev, T. Kühl, M. Tomaselli, and O. M. Zherebtsov, Phys. Rev. A **57**, 149 (1998).
00BOU/IND S. Boucard and P. Indelicato, Eur. Phys. J. D **8**, 59 (2000).
05GU M. F. Gu, At. Data Nucl. Data Tables **89**, 267 (2005).
05KOR/ORE E. Y. Korzinin, N. S. Oreshkina, and V. M. Shabaev, Phys. Scr. **71**, 464 (2005).
06HUA/JIA J. Huang, G. Jiang, and Q. Zhao, Chin. Phys. Lett. **23**, 69 (2006).
07YER/ART V. A. Yerokhin, A. N. Artemyev, and V. M. Shabaev, Phys. Rev. A **75**, 062501 (2007).

6.54. Cs LIV

He isoelectronic sequence
Ground state: $1s^2\ ^1S_0$
Ionization energy: (337 625 500 ± 1100 cm^{-1}); (41 860.22 ± 0.14 eV)

The Cs LIV spectrum has not been experimentally observed. The wavelength and energy level values reported in Tables 67 and 68 are from the theoretical calculations of Drake [88DRA], who determined the energy level values retained for the $n=1$ and $n=2$ levels of heliumlike cesium and the ionization energy using the unified-theory method. The fine structure splitting between levels in the $1s2p$ configuration was also calculated by Johnson *et al.* [97JOH/CHE], with agreement within ±3000 cm^{-1}. Kagawa and Safronova [92KAG/SAF] used the relativistic perturbation method to obtain levels in the $1s^2$, $1s2s$, and $1s2p$ configurations. The Cs LIV ionization energy has also been calculated by Rodrigues *et al.* [00ROD/OUR] using MCDF theory, with results 3000 cm^{-1} higher than Drake [88DRA].

Johnson *et al.* [95JOH/PLA] used a relativistic, iterative technique to calculate the transition probabilities cited in Table 67. The paper also presents a detailed comparison of several methods of calculating transition probabilities for

TABLE 67. Spectral lines of Cs LIV

λ (Å)	Unc. (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(0.389 302)	0.000 002	(256 869 700)	7.24E+15	$1s^2\ ^1S_0$	$1s2p\ ^1P^\circ_1$	88DRA	95JOH/PLA
(0.389 749)	0.000 002	(256 575 200)	8.17E+11	$1s^2\ ^1S_0$	$1s2p\ ^3P^\circ_2$	88DRA	98DER/SAV
(0.394 880)	0.000 002	(253 241 400)	7.56E+12	$1s^2\ ^1S_0$	$1s2p\ ^3P^\circ_0$	88DRA	89IND/PAR
(0.394 970)	0.000 002	(253 183 600)	3.29E+15	$1s^2\ ^1S_0$	$1s2p\ ^3P^\circ_1$	88DRA	95JOH/PLA
(0.395 967)	0.000 002	(252 546 600)	4.66E+11	$1s^2\ ^1S_0$	$1s2s\ ^3S_1$	88DRA	95JOH/PLA,04DUN
(23.132)	0.006	(4 323 100)	1.42E+11	$1s2s\ ^3S_1$	$1s2p\ ^1P^\circ_1$	88DRA	95JOH/PLA
(24.823)	0.007	(4 028 600)	3.82E+11	$1s2s\ ^3S_1$	$1s2p\ ^3P^\circ_2$	88DRA	95JOH/PLA
(27.671)	0.008	(3 613 900)	1.95E+11	$1s2s\ ^1S_0$	$1s2p\ ^1P^\circ_1$	88DRA	95JOH/PLA
(143.9)	0.2	(694 800)	1.79E+9	$1s2s\ ^3S_1$	$1s2p\ ^3P^\circ_0$	88DRA	95JOH/PLA
(157.0)	0.3	(637 000)	9.75E+8	$1s2s\ ^3S_1$	$1s2p\ ^3P^\circ_1$	88DRA	95JOH/PLA

TABLE 68. Energy levels of Cs LIV

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference
$1s^2$	^1S	0	(0)	1 100	88DRA
1s2s	^3S	1	(252 546 600)	1 100	88DRA
1s2p	$^3P^\circ$	1	(253 183 600)	1 100	88DRA
	$^3P^\circ$	0	(253 241 400)	1 100	88DRA
	$^3P^\circ$	2	(256 575 200)	1 100	88DRA
1s2s	^1S	0	(253 255 800)	1 100	88DRA
1s2p	$^1P^\circ$	1	(256 869 700)	1 100	88DRA
Cs LV ($1s\ ^2S_{1/2}$)		*Limit*	(337 625 500)	1 100	88DRA

He-like ions. Indelicato *et al.* [89IND/PAR] studied the effect of hyperfine interaction on the lifetimes of the $1s2p\ ^2P_1^o$ and $1s2p\ ^2P_0^o$ levels and reported less than a 0.2% difference in $1s2p\ ^2P_1^o$ but a substantial change in the $1s2p\ ^2P_0^o$ lifetime. The effects of two-photon E1M2 decay on the lifetime of the $1s2s\ ^3S_1$ level were investigated by Dunford [04DUN], who obtained a probability similar to that in [95JOH/PLA]. Two-photon effects on the decay of the $1s2p\ ^2P_0^o$ were determined by Savukov and Johnson [02SAV/JOH] to be just 0.51% of its transition probability. Derevianko *et al.* [98DER/SAV] investigated the effect of negative-energy contributions to the transition amplitudes, obtaining the magnetic dipole line strength for the $1s2p\ ^2P_2-1s^2\ ^1S_0$ transition given in Table 67.

References for Cs LIV

88DRA	G. W. F. Drake, Can. J. Phys. **66**, 586 (1988).
89IND/PAR	P. Indelicato, F. Parente, and R. Marrus, Phys. Rev. A **40**, 3505 (1989).
92KAG/SAF	T. Kagawa and U. I. Safronova, Phys. Scr. **45**, 569 (1992).
95JOH/PLA	W. R. Johnson, D. R. Plante, and J. Sapirstein, Adv. At. Mol. Opt. Phys. **35**, 255 (1995).
97JOH/CHE	W. R. Johnson, K. T. Cheng, and D. R. Plante, Phys. Rev. A **55**, 2728 (1997).
98DER/SAV	A. Derevianko, I. M. Savukov, W. R. Johnson, and D. R. Plante, Phys. Rev. A **58**, 4453 (1998).
00ROD/OUR	G. C. Rodrigues, M. A. Ourdane, J. Bierón, P. Indelicato, and E. Lindroth, Phys. Rev. A **63**, 012510 (2000).
02SAV/JOH	I. M. Savukov and W. R. Johnson, Phys. Rev. A **66**, 062507 (2002).
04DUN	R. W. Dunford, Phys. Rev. A **69**, 062502 (2004).

6.55. Cs LV

H isoelectronic sequence
Ground state: $1s\ ^2S_{1/2}$
Ionization energy: (346 116 600 ± 400 cm^{-1});
(42 912.98 ± 0.05 eV)

No experimental measurements of the Cs LV spectrum have been made; however, Erickson [77ERI] calculated energy levels of cesium for levels with $1 \leqslant n \leqslant 3$. Later Johnson and Soff [85JOH/SOF] calculated the $n=1$ and $n=2$ levels with reduced uncertainties. The $n=1$ and 2 level values and ionization energy used in Tables 69 and 70 are taken from Johnson and Soff [85JOH/SOF], corrected for the latest CODATA internationally recommended value of the Rydberg constant $R = 109\,737.315\,685\,25(73)$ cm^{-1}. The $n=3$ levels are obtained by combining the Johnson and Soff [85JOH/SOF] ionization energy with Erickson's binding energies [77ERI]. The uncertainties given are with respect to the ionization limit. The wavelengths listed in Table 69 are computed using the differences between the level values. Their uncertainties are calculated from those of the energy levels except for transitions between $n=2$ levels, for which Johnson and Soff [85JOH/SOF] give wave number uncertainties.

The transition probabilities in Table 69 were calculated by Jitrik and Bunge [04JIT/BUN] using point-nucleus Dirac eigenfunctions. Shabaev *et al.* [97SHA/TOM] calculated the hyperfine splitting of the ground state of hydrogenlike ions, obtaining a splitting of 5309(9) cm^{-1} for Cs LV.

References for Cs LV

77ERI	G. W. Erickson, J. Phys. Chem. Ref. Data **6**, 831 (1977).
85JOH/SOF	W. R. Johnson and G. Soff, At. Data Nucl. Data Tables **33**, 405 (1985).
97SHA/TOM	V. M. Shabaev, M. Tomaselli, T. Kühl, A. N. Artemyev, and V. A. Yerokhin, Phys. Rev. A **56**, 252 (1997).

TABLE 69. Spectral lines of Cs LV

λ (Å)	Unc. (Å)	σ (cm^{-1})	A_{ki} (s^{-1})	Lower Level	Upper Level	λ Ref.	A_{ki} Ref.
(0.323 911 5)	0.000 000 5	(308 726 300)	1.504E+15	1s $^2S_{1/2}$	3p $^2P^\circ_{3/2}$	77ERI,85JOH/SOF	04JIT/BUN
(0.325 077 0)	0.000 000 5	(307 619 400)	1.486E+15	1s $^2S_{1/2}$	3p $^2P^\circ_{1/2}$	77ERI,85JOH/SOF	04JIT/BUN
(0.381 269 3)	0.000 000 7	(262 281 800)	5.510E+15	1s $^2S_{1/2}$	2p $^2P^\circ_{3/2}$	85JOH/SOF	04JIT/BUN
(0.386 670 3)	0.000 000 7	(258 618 250)	7.591E+11	1s $^2S_{1/2}$	2s $^2S_{1/2}$	85JOH/SOF	04JIT/BUN
(0.386 762 2)	0.000 000 7	(258 556 800)	5.846E+15	1s $^2S_{1/2}$	2p $^2P^\circ_{1/2}$	85JOH/SOF	04JIT/BUN
(1.993 32)	0.000 02	(50 167 540)	5.276E+14	2p $^2P^\circ_{1/2}$	3d $^2D_{3/2}$	77ERI,85JOH/SOF	04JIT/BUN
(1.995 69)	0.000 02	(50 108 050)	1.944E+14	2s $^2S_{1/2}$	3p $^2P^\circ_{3/2}$	77ERI,85JOH/SOF	04JIT/BUN
(2.037 23)	0.000 02	(49 086 300)	2.145E+13	2p $^2P^\circ_{1/2}$	3s $^2S_{1/2}$	77ERI,85JOH/SOF	04JIT/BUN
(2.040 77)	0.000 02	(49 001 150)	2.306E+14	2s $^2S_{1/2}$	3p $^2P^\circ_{1/2}$	77ERI,85JOH/SOF	04JIT/BUN
(2.137 54)	0.000 02	(46 782 850)	5.877E+14	2p $^2P^\circ_{3/2}$	3d $^2D_{5/2}$	77ERI,85JOH/SOF	04JIT/BUN
(2.153 20)	0.000 02	(46 442 540)	9.758E+13	2p $^2P^\circ_{3/2}$	3d $^2D_{3/2}$	77ERI,85JOH/SOF	04JIT/BUN
(2.204 54)	0.000 02	(45 360 900)	5.790E+13	2p $^2P^\circ_{3/2}$	3s $^2S_{1/2}$	77ERI,85JOH/SOF	04JIT/BUN
(26.845 7)	0.000 2	(3 724 990)	4.520E+8	2p $^2P^\circ_{1/2}$	2p $^2P^\circ_{3/2}$	85JOH/SOF	04JIT/BUN
(27.295 9)	0.000 6	(3 663 540)	2.923E+11	2s $^2S_{1/2}$	2p $^2P^\circ_{3/2}$	85JOH/SOF	04JIT/BUN

TABLE 70. Energy levels of Cs LV

Configuration	Term	J	Energy (cm^{-1})	Uncertainty (cm^{-1})	Reference
1s	^2S	1/2	(0)		
2p	$^2P^\circ$	1/2	(258 556 800)	500	85JOH/SOF
	$^2P^\circ$	3/2	(262 281 800)	500	85JOH/SOF
2s	^2S	1/2	(258 618 250)	500	85JOH/SOF
3p	$^2P^\circ$	1/2	(307 619 400)	500	77ERI,85JOH/SOF
	$^2P^\circ$	3/2	(308 726 300)	500	77ERI,85JOH/SOF
3s	^2S	1/2	(307 643 100)	900	77ERI,85JOH/SOF
3d	^2D	3/2	(308 724 340)	20	77ERI,85JOH/SOF
	^2D	5/2	(309 064 650)	20	77ERI,85JOH/SOF
		Limit	(346 114 600)	400	85JOH/SOF

04JIT/BUN O. Jitrik and C. F. Bunge, J. Phys. Chem. Ref. Data **33**, 1059 (2004).

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8. References

24SOM L. A. Sommer, Ann. Phys. **75**, 163 (1924).
32LAP/MIL O. Laport, G. R. Miller, and R. A. Sawyer, Phys. Rev. **39**, 458 (1932).
32OLT/SAW J. Olthoff and R. A. Sawyer, Phys. Rev. **42**, 766 (1932).
34BEU/GUG H. Beutler and K. Guggenheimer, Z. Phys. **88**, 25 (1934).
34FIT/SAW M. A. Fitzgerald and R. A. Sawyer, Phys. Rev. **46**, 576 (1934).
42BOY/SAW R. A. Boyd and R. A. Sawyer, Phys. Rev. **61**, 601 (1942).
42WHE/SAW M. A. Wheatley and R. A. Sawyer, Phys. Rev. **61**, 591 (1942).
49KRA H. R. Kratz, Phys. Rev. **75**, 1844 (1949).
49MCN/MOL J. R. McNally, Jr., J. P. Molnar, W. J. Hitchcock, and N. F. Oliver, J. Opt. Soc. Am. **39**, 57 (1949).
61JOH I. Johansson, Ark. Fys. **20**, 135 (1961).
61KIR/BUN G. Kirchhoff and R. Bunsen, Ann. Phys. Chem. **113**, 337 (1861).
62KLE H. Kleiman, J. Opt. Soc. Am. **52**, 441 (1962).
64ERI/JOH K. B. Eriksson, I. Johansson, and G. Norlén, Ark. Fys. **28**, 233 (1964).
66ZEL/SEM G. Ya. Zelinka and R. I. Semenov, Opt. Spectrosc. **21**, 427 (1966).
69GRU P. F. Gruzdev, Opt. Spectrosc. **27**, 479 (1969).
70CON J. P. Connerade, Astrophys. J. **159**, 685 (1970).
70ERI/WEN K. B. Eriksson and I. Wenåker, Phys. Scr. **1**, 21 (1970).
72PEC/REE E. R. Peck and K. Reeder, J. Opt. Soc. Am. **63**, 958 (1972).
75REA/EPS J. Reader and G. L. Epstein, J. Opt. Soc. Am. **65**, 638 (1975).
76BEL/HOL G. Belin, L. Holmgren, and S. Svanberg, Phys. Scr. **14**, 39 (1976).
76EPS/REA G. L. Epstein and J. Reader, J. Opt. Soc. Am. **66**, 590 (1976).
76FRA/KAR S. Fraga, J. Karwowski, and K. M. S. Saxena, *Handbook of Atomic Data* (Elsevier Scientific, Amsterdam, 1976).
76REA J. Reader, Phys. Rev. A **13**, 507 (1976).
77ERI G. W. Erickson, J. Phys. Chem. Ref. Data **6**, 831 (1977).
77DEE/LUY J. S. Deech, R. Luypaert, L. R. Pendrill, and G. W. Series, J. Phys. B **10**, L137 (1977).
77FAR/TSE J. Farley, P. Tsekeris, and R. Gupta, Phys. Rev. A **15**, 1530 (1977).
77SUG J. Sugar, J. Opt. Soc. Am. **67**, 1518 (1977).
78CAM/DEG E. Campani, G. Degan, G. Gorini, and E. Polacco, Opt. Commun. **24**, 203 (1978).
79ALV/ARN E. Alvarez, A. Arnesen, A. Bengston, R. Hallin, C. Mayige, C. Nordling, T. Noreland, and Ö. Staaf, Opt. Lett. **4**, 268 (1979).
79LOR/NIE C.-J. Lorenzen and K. Niemax, J. Quant. Spectrosc. Radiat. Transf. **22**, 247 (1979).
80ALV/ARN E. Alvarez, A. Arnesen, A. Bengston, J. Campos, R. Hallin, C. Nordling, T. Noreland, and Ö. Staaf, Phys. Rev. A **21**, 710 (1980).
80FRE/LUN K. Frederiksson, H. Lundberg, and S. Svanberg, Phys. Rev. A **21**, 241 (1980).
80LOR/WEB C.-J. Lorenzen, K.-H. Weber, and K. Niemax, Opt. Commun. **33**, 271 (1980).
80SAN/AND C. J. Sansonetti and K. L. Andrew, Phys. Rev. A **22**, 1370 (1980).
81COW R. D. Cowan, *The Theory of Atomic Structure and Spectra* (University of California, Berkeley, CA, 1981).
81KAU/SUG V. Kaufman and J. Sugar, Phys. Scr. **24**, 738 (1981).
81KLE/JOS Th. A. M. van Kleef and Y. N. Joshi, J. Opt. Soc. Am. **71**, 55 (1981).
81NAK/KEL S. Nakayama, F. M. Kelly, and G. W. Series, J. Phys. B **14**, 835 (1981).
81OSU/CAR G. O'Sullivan and P. K. Carroll, J. Opt. Soc. Am. **71**, 227 (1981).
81SAN C. J. Sansonetti, Ph.D. thesis, Purdue University, 1981.
81SAN/AND C. J. Sansonetti, K. L. Andrew, and J. Verges, J. Opt. Soc. Am. **4**, 423 (1981).
82GOY/RAI P. Goy, J. M. Raimond, G. Vitrant, and S. Haroche, Phys. Rev. A **26**, 2733 (1982).
82SUG/KAU J. Sugar and V. Kaufman, Phys. Scr. **26**, 419 (1982).
83GIL/WAT S. L. Gilbert, R. N. Watts, and C. E. Wieman, Phys. Rev. A **27**, 581 (1983).
83HUA/KIM K.-N. Huang, Y.-K. Kim, K. T. Cheng, and J. P. Desclaux, At. Data Nucl. Data Tables **28**, 355 (1983).
83KAU/SUG V. Kaufman, J. Sugar, C. W. Clark, and W. T. Hill, Phys. Rev. A **28**, 2876 (1983).
83KLA/BAU M. Klapisch, J. Bauche, and C. Bauche-Arnoult, Proc. Stapp Car Crash Conf. **T3**, 222 (1983).

83LOR/NIE C.-J. Lorenzen and K. Niemax, Z. Phys. A **311**, 249 (1983).
83OSU/STO M. S. O'Sullivan and B. P. Stoicheff, Can. J. Phys. **61**, 940 (1983).
83REA J. Reader, J. Opt. Soc. Am. **73**, 349 (1983).
84ACQ/REA N. Acquista and J. Reader, J. Opt. Soc. Am. B **1**, 649 (1984).
84HUA K.-N. Huang, At. Data Nucl. Data Tables **30**, 313 (1984).
84KAU/SUG V. Kaufman and J. Sugar, J. Opt. Soc. Am. B **1**, 38 (1984).
84LOR/NIE C.-J. Lorenzen and K. Niemax, Z. Phys. A **315**, 127 (1984).
84SAN/LOR C. J. Sansonetti and C.-J. Lorenzen, Phys. Rev. A **30**, 1805 (1984).
85HUA K.-N. Huang, At. Data Nucl. Data Tables **32**, 503 (1985).
85IVA/IVA E. P. Ivanova, L. N. Ivanov, A. D. Gurchumelya, M. A. Tsirekidze, and T. A. Tsirekidze, J. Phys. B **18**, 1467 (1985).
85JOH/SOF W. R. Johnson and G. Soff, At. Data Nucl. Data Tables **33**, 405 (1985).
86HUA K.-N. Huang, At. Data Nucl. Data Tables **34**, 1 (1986).
86IVA/IVA L. N. Ivanov, E. P. Ivanova, E. Ya. Kononov, S. S. Churilov, and M. A. Tsirekidze, Phys. Scr. **33**, 401 (1986).
86IVA/TSI E. P. Ivanova and M. A. Tsirekidze, Phys. Scr. **43**, 35 (1986).
86MCI/SUG T. J. McIlrath, J. Sugar, V. Kaufman, D. Cooper, and W. T. Hill III, J. Opt. Soc. Am. B **3**, 398 (1986).
86PED/DIM K. D. Pedrotti, D. P. Dimiduk, J. F. Young, and S. E. Harris, Opt. Lett. **11**, 425 (1986).
89SAN/AND C. J. Sansonetti and K. L. Andrew, J. Opt. Soc. Am. B **3**, 386 (1986).
87CUR L. J. Curtis, Phys. Rev. A **35**, 2089 (1987).
87EKB/FEL J. O. Ekberg, U. Feldman, J. F. Seely, C. M. Brown, J. Reader, and N. Acquista, J. Opt. Soc. Am. B **4**, 1913 (1987).
87KAU/SUGa V. Kaufman and J. Sugar, J. Opt. Soc. Am. B **4**, 1924 (1987).
87KAU/SUGb V. Kaufman and J. Sugar, J. Opt. Soc. Am. B **4**, 1919 (1987).
87MEN/BAR A. J. Mendelsohn, C. P. J. Barty, M. H. Sher, J. F. Young, and S. E. Harris, Phys. Rev. A **35**, 2095 (1987).
87WEB/SAN K.-H. Weber and C. J. Sansonetti, Phys. Rev. A **35**, 4650 (1987).
88BIE E. Biémont, At. Data Nucl. Data Tables **39**, 157 (1988).
88DRA G. W. F. Drake, Can. J. Phys. **66**, 586 (1988).
88EKB/FEL J. O. Ekberg, U. Feldman, and J. Reader, J. Opt. Soc. Am. B **5**, 1275 (1988).
88SAN/AND C. J. Sansonetti, K. L. Andrew, and J.-F. Wyart, J. Opt. Soc. Am. B **5**, 2076 (1988).
88SEE/EKB J. F. Seely, J. O. Ekberg, U. Feldman, J. L. Schwob, S. Suckewer, and A. Wouters, J. Opt. Soc. Am. B **5**, 602 (1988).
88SEE/FEL J. F. Seely, U. Feldman, C. M. Brown, M. C. Richardson, D. D. Dietrich, and W. E. Behring, J. Opt. Soc. Am. B **5**, 785 (1988).
88TAN/WIE C. E. Tanner and C. Wieman, Phys. Rev. A **38**, 1616 (1988).
89AGL/IVA E. V. Aglitskii, E. P. Ivanova, S. A. Panin, U. I. Safronova, S. I. Ulityn, L. A. Vainshtein, and J.-F. Wyart, Phys. Scr. **40**, 601 (1989).
89BIE E. Biémont, At. Data Nucl. Data Tables **43**, 163 (1989).
89BIE/HAN E. Biémont and J. E. Hansen, At. Data Nucl. Data Tables **39**, 308 (1989).
89CUR/THE L. J. Curtis and C. E. Theodosiou, Phys. Rev. A **39**, 605 (1989).
89IND/PAR P. Indelicato, F. Parente, and R. Marrus, Phys. Rev. A **40**, 3505 (1989).
89SAL/KIM E. B. Saloman and Y.-K. Kim, At. Data Nucl. Data Tables **41**, 339 (1989).
89SEE/BRO J. F. Seely, C. M. Brown, and U. Feldman, At. Data Nucl. Data Tables **43**, 145 (1989).
89SEE/FEL J. F. Seely, U. Feldman, A. W. Wouters, J. L. Schwob, and S. Suckewer, Phys. Rev. A **40**, 5020 (1989).
89TRA/GEI N. Tragin, J.-P. Geindre, C. Chennais-Popovics, J.-C. Gauthier, J.-F. Wyart, and E. Luc-Koenig, Phys. Rev. A **39**, 2085 (1989).
89ZHA/SAM H. L. Zhang and D. H. Sampson, At. Data Nucl. Data Tables **43**, 1 (1989).
90BIE E. Biémont, Bull. Soc. R. Sci. Liège **59**, 319 (1990).
90SAM/ZHA D. H. Sampson, H. L. Zhang, and C. J. Fontes, At. Data Nucl. Data Tables **44**, 209 (1990).
90SEE/WAG J. F. Seely and R. A. Wagner, Phys. Rev. A **41**, 5246 (1990).
90ZHA/SAM H. L. Zhang, D. H. Sampson, and C. J. Fontes, At. Data Nucl. Data Tables **44**, 31 (1990).
91EKB/FEL J. O. Ekberg, U. Feldman, J. F. Seely, C. M. Brown, B. J. MacGowan, D. R. Kania, and C. J. Keane, Phys. Scr. **43**, 19 (1991).
91FEL/EKB U. Feldman, J. O. Ekberg, J. F. Seely, C. M. Brown, D. R. Kania, B. J. MacGowan, and C. J. Keane, J. Opt. Soc. Am. B **8**, 531 (1991).
91IVA/GUL E. P. Ivanova and A. V. Gulov, At. Data Nucl. Data Tables **49**, 1 (1991).
91JOS/ARC Y. N. Joshi and B. Arcimowicz, Can. J. Phys. **69**, 24 (1991).
91KIM/BAI Y.-K. Kim, D. H. Baik, P. Indelicato, and J. P. Desclaux, Phys. Rev. A **44**, 148 (1991).
91MAT/GEI I. Matsushima, J.-P. Geindre, C. Chenais-Popovics, J.-C. Gauthier, and J.-F. Wyart, Phys. Scr. **43**, 33 (1991).
91QUI/BIE P. Quinet and E. Biémont, Phys. Scr. **43**, 150 (1991).
91QUI/GOR P. Quinet, T. Gorlia, and E. Biémont, Phys. Scr. **44**, 164 (1991).
91SAG/WIJ J. Sagle and W. A. van Wijngaarden, Can. J. Phys. **69**, 808 (1991).
91SAM/ZHA D. H. Sampson, H. L. Zhang, and C. J. Fontes, At. Data Nucl. Data Tables **48**, 25 (1991).
91SEE/BRO J. F. Seely, C. M. Brown, U. Feldman, J. O. Ekberg, C. J. Keane, B. J. MacGowan, D. R. Kania, and W. E. Behring, At. Data Nucl. Data Tables **47**, 1 (1991).
91SUG/KAUa J. Sugar, V. Kaufman, and W. L. Rowan, J. Opt. Soc. Am. B **8**, 2026 (1991).
91SUG/KAUb J. Sugar, V. Kaufman, and W. L. Rowan, J. Opt. Soc. Am. B **8**, 913 (1991).
91SUG/KAUc J. Sugar, V. Kaufman, D. H. Baik, Y.-K. Kim, and W. L. Rowan, J. Opt. Soc. Am. B **8**, 1795 (1991).
91TAU/JOS A. Tauheed, Y. N. Joshi, and V. Kaufman, Phys. Scr. **44**, 579 (1991).
91THE/CUR C. E. Theodosiou, L. J. Curtis, and M. El-Mekki, Phys. Rev. A **44**, 7144 (1991).
92ALI/KIM M. A. Ali and Y.-K. Kim, J. Opt. Soc. Am. B **9**, 185 (1992).
92BAR/YIN C. P. J. Barty, G. Y. Yin, J. E. Field, D. A. King, K. H. Hahn, J. F. Young, and S. E. Harris, Phys. Rev. A **46**, 4286 (1992).
92CHE/HUA T.-C. Cheng and K.-N. Huang, Phys. Rev. A **45**, 4367 (1992).
92CUR L. J. Curtis, J. Opt. Soc. Am. B **9**, 5 (1992).
92KAG/SAF T. Kagawa and U. I. Safronova, Phys. Scr. **45**, 569 (1992).
92SCH/MAC J. H. Schofield and B. J. MacGowan, Phys. Scr. **46**, 361 (1992).
92SUG/KAU J. Sugar, V. Kaufman, and W. L. Rowan, J. Opt. Soc. Am. B **9**, 1959 (1992).
92TAN/LIV C. E. Tanner, A. E. Livingston, R. J. Rafac, F. G. Serpa, K. W. Kukla, H. G. Berry, L. Young, and C. A. Kurtz, Phys. Rev. Lett. **69**, 2765 (1992).
92TAU/JOS A. Tauheed, Y. N. Joshi, and E. H. Pinnington, J. Phys. B **25**, L561 (1992).
92ZHA/SAM H. L. Zhang and D. H. Sampson, At. Data Nucl. Data Tables **52**, 143 (1992).
93LAV/MAR C. Lavín, P. Martin, I. Martin, and J. Karwowski, Int. J. Quantum Chem. **27**, 385 (1993).
93MAR/PAR J. P. Marques, F. Parente, and P. Indelicato, Phys. Rev. A **47**, 929 (1993).
93TAU/JOS A. Tauheed and Y. N. Joshi, Phys. Scr. **47**, 550 (1993).
94BRO/SEE C. M. Brown, J. F. Seely, D. R. Kania, B. A. Hammel, C.

A. Back, R. W. Lee, A. Bar-Shalom, and W. E. Behring, At. Data Nucl. Data Tables **58**, 203 (1994).

94CHO/CHI H.-S. Chou, H.-C. Chi, and K.-N. Huang, Phys. Rev. A **49**, 2394 (1994).

94CHU/JOS S. S. Churilov, Y. N. Joshi, and A. N. Ryabtsev, J. Phys. B **27**, 5485 (1994).

94GEB/MIG R. Gebarowski, J. Migdalek, and J. R. Bieroń, J. Phys. B **27**, 3315 (1994).

94GEO/POL N. Ph. Georgiades, E. S. Polzik, and H. J. Kimble, Opt. Lett. **19**, 1474 (1994).

94LAV/MAR C. Lavín and I. Martin, J. Quant. Spectrosc. Radiat. Transf. **52**, 21 (1994).

94MAR/MIG R. Marcinek and J. Migdalek, J. Phys. B **27**, 5587 (1994).

94PAR/MAR P. Parente, J. P. Marques, and P. Indelicato, Europhys. Lett. **26**, 437 (1994).

94RAF/TAN R. J. Rafac, C. E. Tanner, A. E. Livingston, K. W. Kukla, H. G. Berry, and C. A. Kurtz, Phys. Rev. A **50**, R1976 (1994).

94SCH/NIL J. H. Schofield and J. Nilsen, Phys. Rev. A **49**, 2381 (1994).

94TAU/JOS A. Tauheed and Y. N. Joshi, J. Phys. B **27**, 405 (1994).

94YOU/HIL L. Young, W. T. Hill III, S. J. Sibener, S. D. Price, C. E. Tanner, C. E. Wieman, and S. R. Leone, Phys. Rev. A **50**, 2174 (1994).

94ZHA/SAM H. L. Zhang and D. H. Sampson, At. Data Nucl. Data Tables **56**, 41 (1994).

95BIE/HAN E. Biémont, J. E. Hansen, P. Quinet, and C. J. Zeippen, Astron. Astrophys. **111**, 333 (1995).

95FOR/CAT C. Fort, F. S. Cataliotti, P. Raspollini, G. M. Tino, and M. Inguscio, Z. Phys. D: At., Mol. Clusters **34**, 91 (1995).

95FOR/ING C. Fort, M. Inguscio, P. Raspollini, F. Baldes, and A. Sasso, Appl. Phys. B: Lasers Opt. **61**, 467 (1995).

95JOH/PLA W. R. Johnson, D. R. Plante, and J. Sapirstein, Adv. At., Mol., Opt. Phys. **35**, 255 (1995).

95LAV/ALM C. Lavín, M. A. Almaraz, and I. Martin, Z. Phys. D: At., Mol. Clusters **34**, 143 (1995).

95MAR/ALM I. Martin, M. A. Almaraz, and C. Lavín, Z. Phys. D: At., Mol. Clusters **35**, 239 (1995).

96BAI/MAH M. A. Baig, M. S. Mahmood, M. Akram, and J. Hormes, J. Phys. B **29**, 3871 (1996).

96BEI/OST P. Beiersdorfer, A. L. Osterheld, V. Decaux, and K. Widmann, Phys. Rev. Lett. **77**, 5353 (1996).

96CAT/FOR F. S. Cataliotti, C. Fort, F. S. Pavone, and M. Inguscio, Z. Phys. D: At., Mol. Clusters **38**, 31 (1996).

96CHO/CHA H.-S. Chou, J.-Y. Chang, Y.-H. Chang, and K.-N. Huang, At. Data Nucl. Data Tables **62**, 77 (1996).

96JOH/LIU W. R. Johnson, Z. W. Liu, and J. Sapirstein, At. Data Nucl. Data Tables **64**, 279 (1996).

96NIL/BEI J. Nilsen, P. Beiersdorfer, K. Widmann, V. Decaux, and S. R. Elliott, Phys. Scr. **54**, 183 (1996).

96TER/PAP S. A. Ter-Avetisyan, V. O. Papanyan, and A. G. Maloyan, Opt. Spectrosc. **81**, 515 (1996).

97ALI M. A. Ali, Phys. Scr. **55**, 159 (1997).

97CUM/OSU A. Cummings and G. O'Sullivan, J. Phys. B **30**, 5599 (1997).

97JOH/CHE W. R. Johnson, K. T. Cheng, and D. R. Plante, Phys. Rev. A **55**, 2728 (1997).

97LAV/ALV C. Lavin, A. B. Alvarez, and I. Martin, J. Quant. Spectrosc. Radiat. Transf. **57**, 831 (1997).

97RAF/TAN R. J. Rafac and C. E. Tanner, Phys. Rev. A **56**, 1027 (1997).

97SHA/TOM V. M. Shabaev, M. Tomaselli, T. Kühl, A. N. Artemyev, and V. A. Yerokhin, Phys. Rev. A **56**, 252 (1997).

98CHA/MAR E. Charro and I. Martín, Astron. Astrophys. Suppl. Ser. **131**, 523 (1998).

98DER/SAV A. Derevianko, I. M. Savukov, W. R. Johnson, and D. R. Plante, Phys. Rev. A **58**, 4453 (1998).

98DIB/TAN D. DiBerardino, C. E. Tanner, and A. Sieradzan, Phys. Rev. A **57**, 4204 (1998).

98GAY/JOS R. Gayasov and Y. N. Joshi, J. Phys. B **31**, L705 (1998).

98SHA/SHA V. M. Shabaev, M. B. Shabaeva, I. I. Tupitsyn, V. A. Yerokhin, A. N. Artemyev, T. Kühl, M. Tomaselli, and O. M. Zherebtsov, Phys. Rev. A **57**, 149 (1998).

98YEI/SIE W. Yei, A. Sieradzan, E. Cerasuolo, and M. D. Havey, Phys. Rev. A **57**, 3419 (1998).

99GAY/JOSa R. Gayasov and Y. N. Joshi, Phys. Scr. **60**, 312 (1999).

99GAY/JOSb R. Gayasov and Y. N. Joshi, J. Opt. Soc. Am. B **16**, 1280 (1999).

99HAG/NES G. Hagel, C. Nesi, L. Jozefowski, C. Schwob, F. Nez, and F. Biraben, Opt. Commun. **160**, 1 (1999).

99KAT/YAM D. Kato, C. Yamada, T. Fukami, I. Ikuta, H. Watanabe, K. Okazaki, S. Tsurubuchi, K. Mohohashi, and S. Ohtani, Phys. Scr., T **T80**, 446 (1999).

99NAK/KAT N. Nakamura, D. Kato, E. Nokijawa, F. J. Currell, A. Ya. Faenov, T. A. Pikuz, and S. Ohtani, Phys. Scr., T **T80**, 443 (1999).

99RAF/TAN R. J. Rafac, C. E. Tanner, A. E. Livingston, and H. G. Berry, Phys. Rev. A **60**, 3648 (1999).

99UDE/REI T. Udem, J. Reichert, R. Holzwarth, and T. W. Hänsch, Phys. Rev. Lett. **82**, 3568 (1999).

99ZHA/SAM H. L. Zhang and D. H. Sampson, At. Data Nucl. Data Tables **72**, 153 (1999).

00BOU/IND S. Boucard and P. Indelicato, Eur. Phys. J. D **8**, 59 (2000).

00CHA/MAR E. Charro, I. Martín, and M. A. Serna, J. Phys. B **33**, 1753 (2000).

00CUR/MAT L. J. Curtis, R. Matulioniene, D. G. Ellis, and C. Froese Fischer, Phys. Rev. A **62**, 052513 (2000).

00LIU/BAI Y.-W. Liu and P. E. G. Baird, Appl. Phys. B: Lasers Opt. **71**, 567 (2000).

00MAJ/DAS S. Majumder and B. P. Das, Phys. Rev. A **62**, 042508 (2000).

00MIG/GAR J. Migdalek and M. Garmulewicz, J. Phys. B **33**, 1735 (2000).

00MOR D. C. Morton, Astrophys. J., Suppl. Ser. **130**, 403 (2000).

00NAK/KAT N. Nakamura, D. Kato, and S. Ohtani, Phys. Rev. A **61**, 052510 (2000).

00ROD/OUR G. C. Rodrigues, M. A. Ourdane, J. Bieroń, P. Indelicato, and E. Lindroth, Phys. Rev. A **63**, 012510 (2000).

00SAF/JOH U. I. Safronova, W. R. Johnson, and J. R. Albritton, Phys. Rev. A **62**, 052505 (2000).

00UDE/REI T. Udem, J. Reichert, T. W. Hänsch, and M. Kourogi, Phys. Rev. A **62**, 031801 (2000).

01BEI/TRA E. Biémont, E. Träbert, and C. J. Zeippen, J. Phys. B **34**, 1941 (2001).

01CHA/LOP E. Charro, S. López, and I. Martín, J. Phys. B **34**, 4243 (2001).

01CUM/OSU A. Cummings and G. O'Sullivan, J. Phys. B **34**, 199 (2001).

01KAT/NAK D. Kato, N. Nakamura, S. Ohtani, and A. Sasaki, Phys. Scr., T **T92**, 126 (2001).

01KAT/TON D. Kato, X.-M. Tong, H. Watanabe, T. Fukami, T. Kinugawa, C. Yamada, S. Ohtani, and T. Watanabe, J. Chin. Chem. Soc. (Taipei) **48**, 525 (2001).

01POR/KIN J. V. Porto, I. Kink, and J. D. Gillaspy, Phys. Rev. A **61**, 054501 (2001).

01WAT/CRO H. Watanabe, D. Crosby, F. J. Currell, T. Fukami, D. Kato, S. Ohtani, J. D. Silver, and C. Yamada, Phys. Rev. A **63**, 042513 (2001).

01WAT/CUR H. Watanabe, F. J. Currell, T. Fukami, D. Kato, S. Ohtani, and C. Yamada, Phys. Scr., T **T92**, 122 (2001).

02CHA/CUR E. Charro, Z. Curiel, and I. Martín, Astron. Astrophys. **387**, 1146 (2002).

02CHA/MAR E. Charro and I. Martín, Astron. Astrophys. **395**, 719 (2002).

02CHU/RYAa S. S. Churilov, A. N. Ryabtsev, W.-Ü. L. Tchang-Brillet, and J.-F. Wyart, Phys. Scr., T **T100**, 98 (2002).

02CHU/RYAb S. S. Churilov, A. N. Ryabtsev, W.-Ü. L. Tchang-Brillet, and J.-F. Wyart, Phys. Scr. **66**, 293 (2002).

02DER/POR A. Derevianko and S. G. Porsev, Phys. Rev. A **65**, 053403 (2002).

02SAV/JOH I. M. Savukov and W. R. Johnson, Phys. Rev. A **66**, 062507 (2002).

02VAS/SAV A. A. Vasilyev, I. M. Savukov, M. S. Safronova, and H. G. Berry, Phys. Rev. A **66**, 020101 (2002).

02ZHA/SAM H. L. Zhang and D. H. Sampson, At. Data Nucl. Data Tables **82**, 357 (2002).

02ZIL V. A. Zilitis, Opt. Spectrosc. **92**, 353 (2002).

03CHA/LOP E. Charro, S. López-Ferrero, and I. Martín, Astron. Astrophys. **406**, 741 (2003).

03GER/DER V. Gerginov, A. Derevianko, and C. E. Tanner, Phys. Rev. Lett. **91**, 072501 (2003).

03GLO/MIG L. Glowacki and J. Migdalek, J. Phys. B **36**, 3629 (2003).

03SAF/SAT U. I. Safronova, M. Sataka, J. R. Albritton, W. R. Johnson, and M. S. Safronova, At. Data Nucl. Data Tables **84**, 1 (2003).

03SAF/SAV U. I. Safronova, I. M. Savukov, M. S. Safronova, and W. R. Johnson, Phys. Rev. A **68**, 062505 (2003).

04CHU/JOS S. S. Churilov, Y. N. Joshi, J. Reader, and R. R. Kildiyarova, Phys. Scr. **70**, 126 (2004).

04DUN R. W. Dunford, Phys. Rev. A **69**, 062502 (2004).

04GER/TAN V. Gerginov, C. E. Tanner, S. Diddams, A. Bartels, and L. Holberg, Phys. Rev. A **70**, 042505 (2004).

04JIT/BUN O. Jitrik and C. F. Bunge, J. Phys. Chem. Ref. Data **33**, 1059 (2004).

04JOH/HO W. R. Johnson, H. C. Ho, C. E. Tanner, and A. Derevianko, Phys. Rev. A **70**, 014501 (2004).

04ROD/IND G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, and F. Parente, At. Data Nucl. Data Tables **86**, 117 (2004).

04SAF/CLA M. S. Safronova and C. W. Clark, Phys. Rev. A **69**, 040501 (2004).

04SAL E. B. Saloman, J. Phys. Chem. Ref. Data **33**, 765 (2004).

05CHU/JOS S. S. Churilov, Y. N. Joshi, and A. Tauheed, Phys. Scr. **71**, 261 (2005).

05CRC *CRC Handbook of Chemistry and Physics*, 86th ed., edited by D. R. Lide (Taylor & Francis, New York, 2005), pp. 4–31.

05GER/TAN V. Gerginov, C. E. Tanner, S. Diddams, A. Bartels, and L. Hollberg, Opt. Lett. **30**, 1734 (2005).

05GU M. F. Gu, At. Data Nucl. Data Tables **89**, 267 (2005).

05KOC K. Koc, Nucl. Instrum. Methods Phys. Res. B **235**, 46 (2005).

05KOR/ORE E. Y. Korzinin, N. S. Oreshkina, and V. M. Shabaev, Phys. Scr. **71**, 464 (2005).

05MOH/TAY P. J. Mohr and B. N. Taylor, Rev. Mod. Phys. **77**, 1 (2005).

05OHT/NIS T. Ohtsuka, N. Nishimiya, T. Fukuda, and M. Suzuki, J. Phys. Soc. Jpn. **74**, 2487 (2005).

05SAN/AND C. J. Sansonetti and K. L. Andrew, Phys. Scr. **71**, 362 (2005).

05TAU/JAB A. Tauheed, S. Jabeen, and Y. N. Joshi, Phys. Scr. **71**, 193 (2005).

05TAU/JOS A. Tauheed and Y. N. Joshi, Phys. Scr. **72**, 385 (2005).

05TOJ/FUJ S. Tojo, T. Fujimoto, and M. Hasuo, Phys. Rev. A **71**, 012507 (2005).

06DAS/BAN D. Das, A. Banerjee, S. Barthwal, and V. Natarajan, Eur. Phys. J. D **38**, 545 (2006).

06DAS/NAT D. Das and V. Natarajan, J. Phys. B **39**, 2013 (2006).

06GER/CAL V. Gerginov, K. Calkins, C. E. Tanner, J. J. McFerran, S. Diddams, A. Bartels, and L. Hollberg, Phys. Rev. A **73**, 032504 (2006).

06HUA/JIA J. Huang, G. Jiang, and Q. Zhao, Chin. Phys. Lett. **23**, 69 (2006).

06KAT/NAK D. Kato, N. Nakamura, and S. Ohtani, J. Plasma Fusion Res. **7**, 190 (2006).

06KOR/MAS A. Kortyna, N. A. Masluk, and T. Bragdon, Phys. Rev. A **74**, 022503 (2006).

06SAF/COW U. I. Safronova, T. E. Cowan, and M. S. Safronova, Phys. Lett. A **348**, 293 (2006).

06SAF/SAF U. I. Safronova, A. S. Safronova, S. M. Hamasha, and P. Beiersdorfer, At. Data Nucl. Data Tables **92**, 47 (2006).

06SAN/ROD J. P. Santos, G. C. Rodrigues, J. P. Marques, F. Parente, J. P. Desclaux, and P. Indelicato, Eur. Phys. J. D **37**, 201 (2006).

06TRA/BEI E. Träbert, P. Beiersdorfer, G. V. Brown, K. Boyce, R. L. Kelley, C. A. Kilbourne, F. S. Porter, and A. Szymkowiak, Phys. Rev. A **73**, 022508 (2006).

06WAN/CHE W. Wang, X. L. Cheng, and X. D. Yang, Phys. Scr. **73**, 565 (2006).

07FEN/BER P. Fendel, S. D. Bergeson, T. Udem, and T. W. Hänsch, Opt. Lett. **32**, 701 (2007).

07LOM/HEA M. A. Lombardi, T. P. Heavner, and S. R. Jefferts, Measurement **2**, 74 (2007).

07YER/ART V. A. Yerokhin, A. N. Artemyev, and V. M. Shabaev, Phys. Rev. A **75**, 062501 (2007).

08CHE/CHE K. T. Cheng, M. H. Chen, and W. R. Johnson, Phys. Rev. A **77**, 052504 (2008).

08DAS/NAT D. Das and V. Natarajan, J. Phys. B **40**, 035001 (2008).

08MAR/MCF M. Maric, J. J. McFerran, and A. N. Luiten, Phys. Rev. A **77**, 032502 (2008).

08SAF/BIS U. I. Safronova, R. Bista, R. Bruch, and H. Merabet, Can. J. Phys. **86**, 131 (2008).

08SAF/SAF U. I. Safronova and A. S. Safronova, Phys. Rev. A **77**, 032506 (2008).

09SAN/AND C. J. Sansonetti, K. L. Andrew, and R. D. Cowan, Phys. Scr. **80**, 025303 (2009).