

# Participant Results

Proprietary Fingerprint Template Evaluation II (PFT-II)

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## 1 1K Sample Evaluation

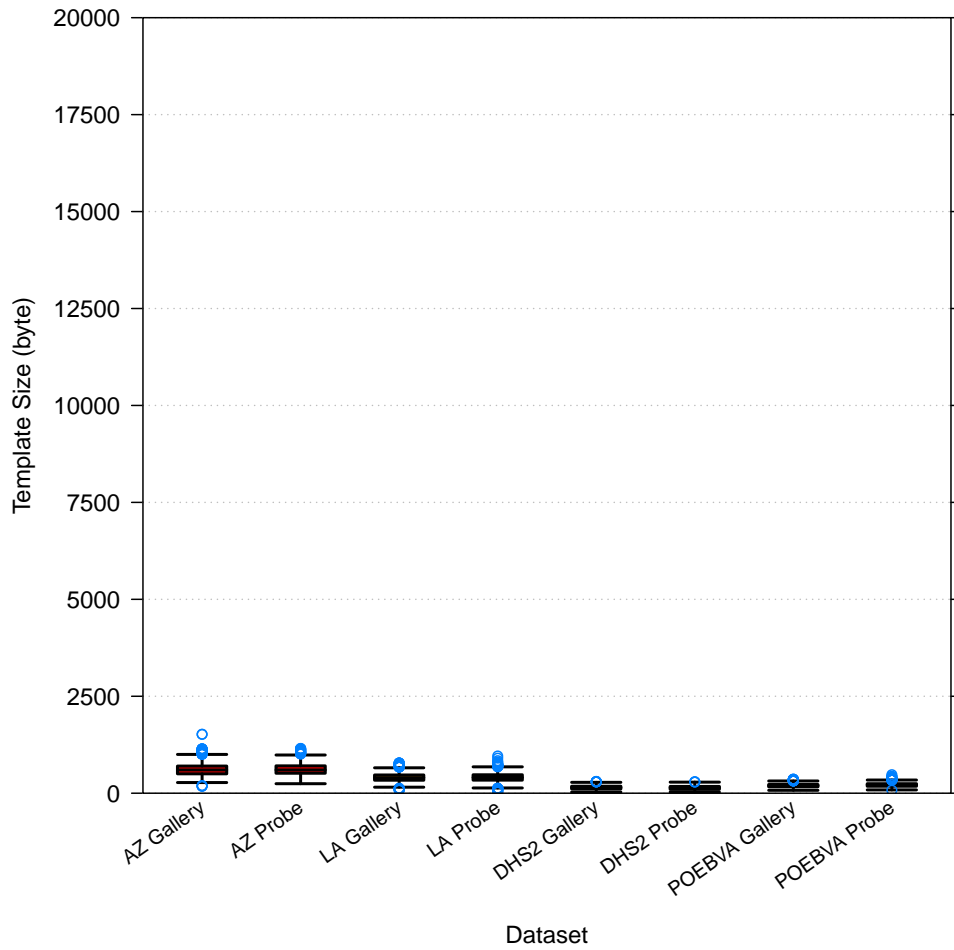


Figure 1: 1K Sample Evaluation – Template Size Distribution

	AZ		LA		DHS2		POEBVA	
	Gallery	Probe	Gallery	Probe	Gallery	Probe	Gallery	Probe
<i>Dimensions</i>	800x800	800x800	412x1000	400x776	368x368	368x368	500x500	368x368
<i>Maximum</i>	1520	1155	780	960	305	300	365	480
75%	700	705	470	475	180	175	225	245
<i>Median</i>	600	600	400	405	145	140	195	215
25%	500	515	335	337.5	110	100	165	180
<i>Minimum</i>	180	245	80	30	30	30	75	80

Table 1: Sample Dataset — Template Size Distribution

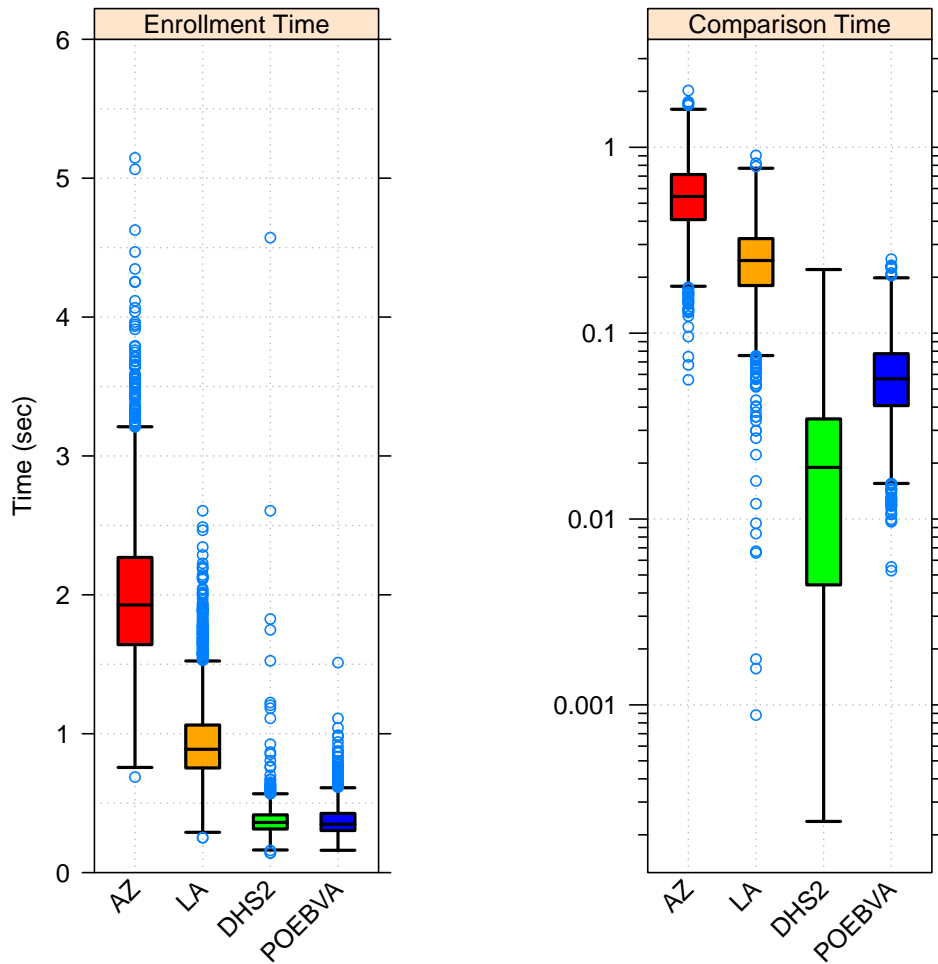


Figure 2: 1K Sample Evaluation – Enrollment and Comparison Timing

	AZ	LA	DHS2	POEBVA
<i>Maximum</i>	6.304	2.605	38.957	1.512
<i>75%</i>	2.269	1.063	0.416	0.426
<i>Median</i>	1.927	0.888	0.361	0.348
<i>25%</i>	1.642	0.754	0.314	0.303
<i>Minimum</i>	0.688	0.251	0.141	0.161

Table 2: Enrollment Times (sec)

	AZ	LA	DHS2	POEBVA
<i>Maximum</i>	2.022	0.905	0.220	0.250
<i>75%</i>	0.714	0.323	0.035	0.078
<i>Median</i>	0.544	0.246	0.019	0.057
<i>25%</i>	0.408	0.180	0.004	0.041
<i>Minimum</i>	0.056	0.001	0.000	0.005

Table 3: Comparison Times (sec)

## 2 Full Evaluation

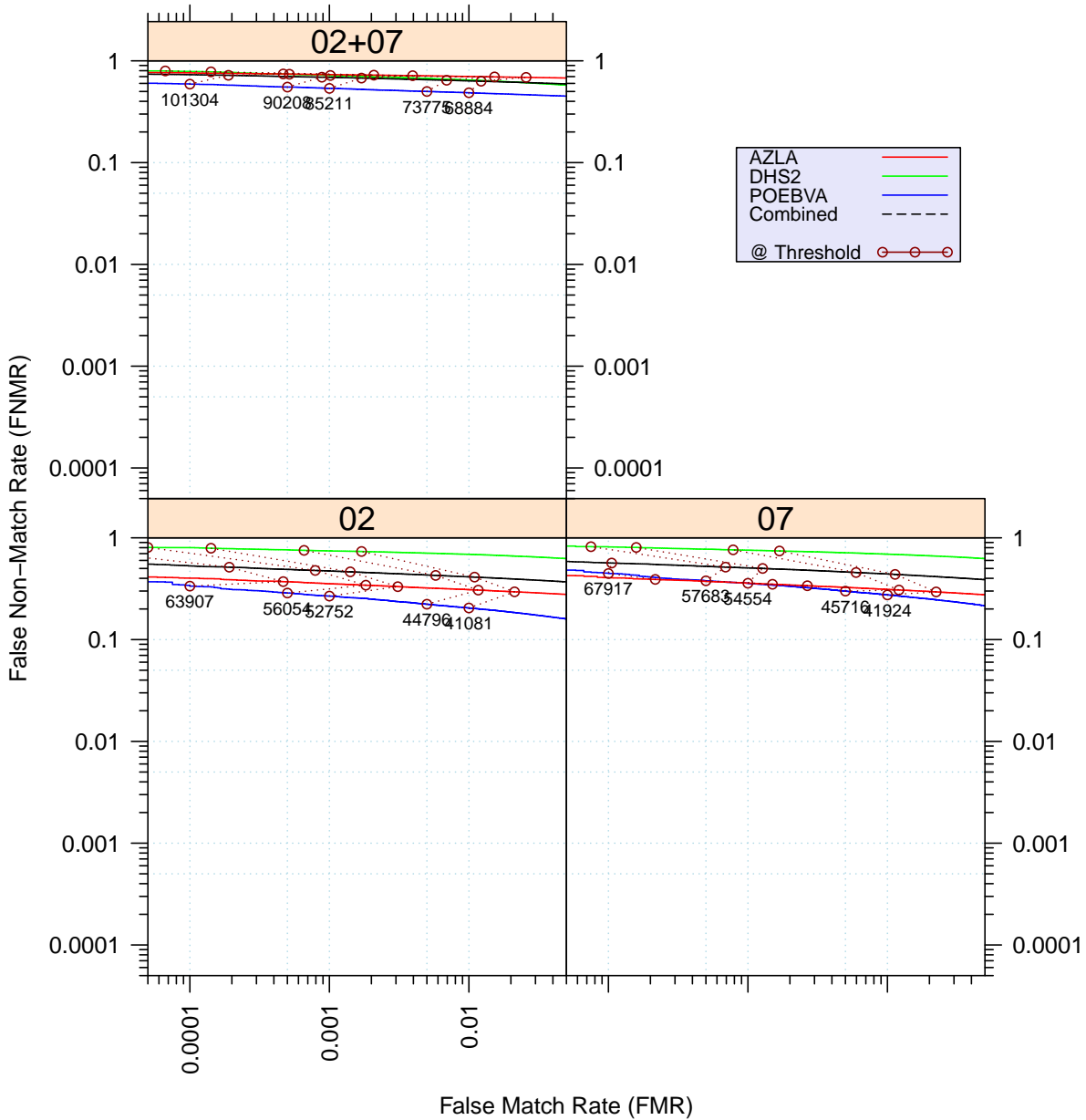


Figure 3: Full Evaluation – DET for POEBVA, DHS2, AZLA, and combined from R Index, L Index, and R/L Index

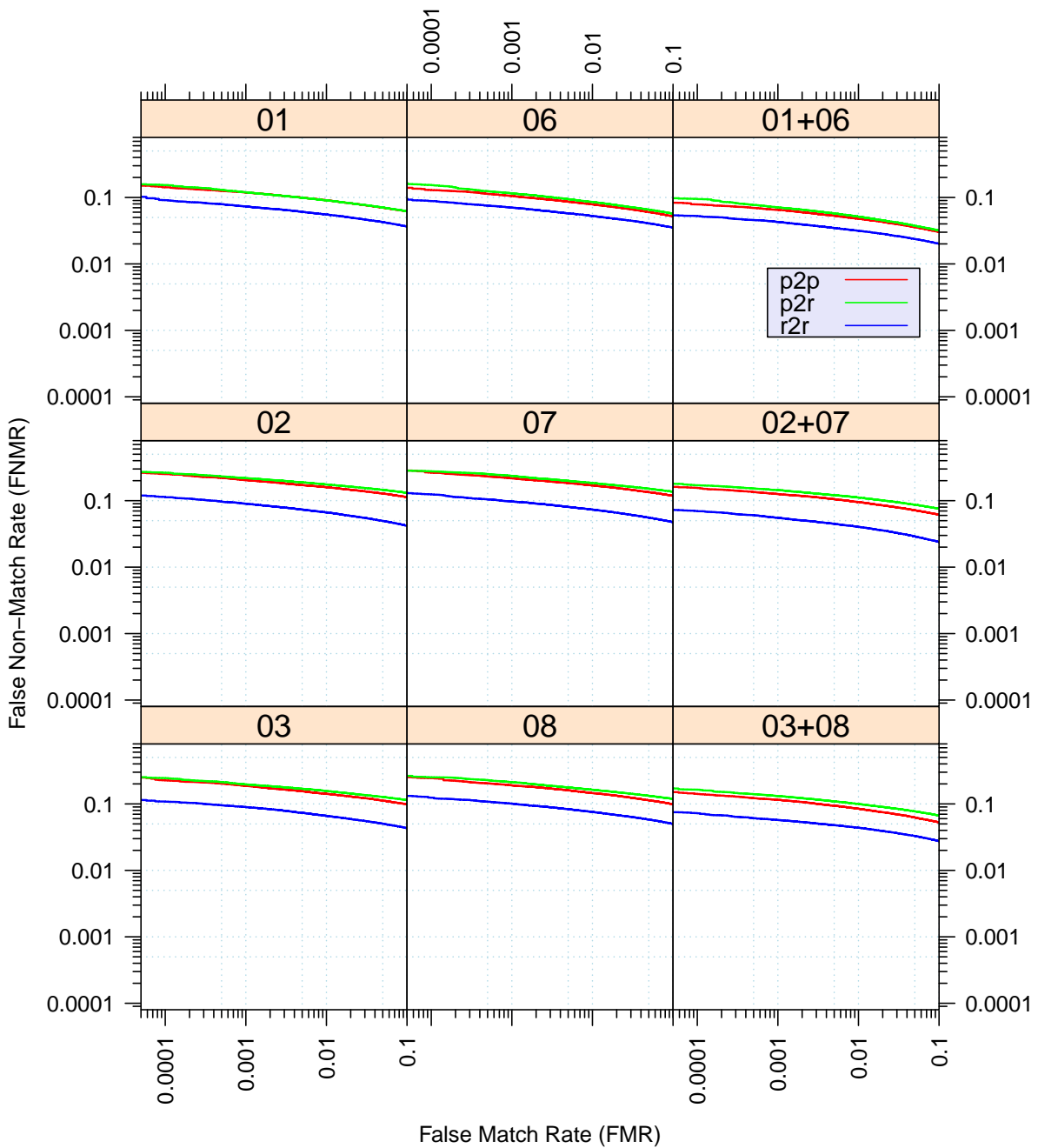


Figure 4: Full Evaluation – DET for all finger positions from AZLA

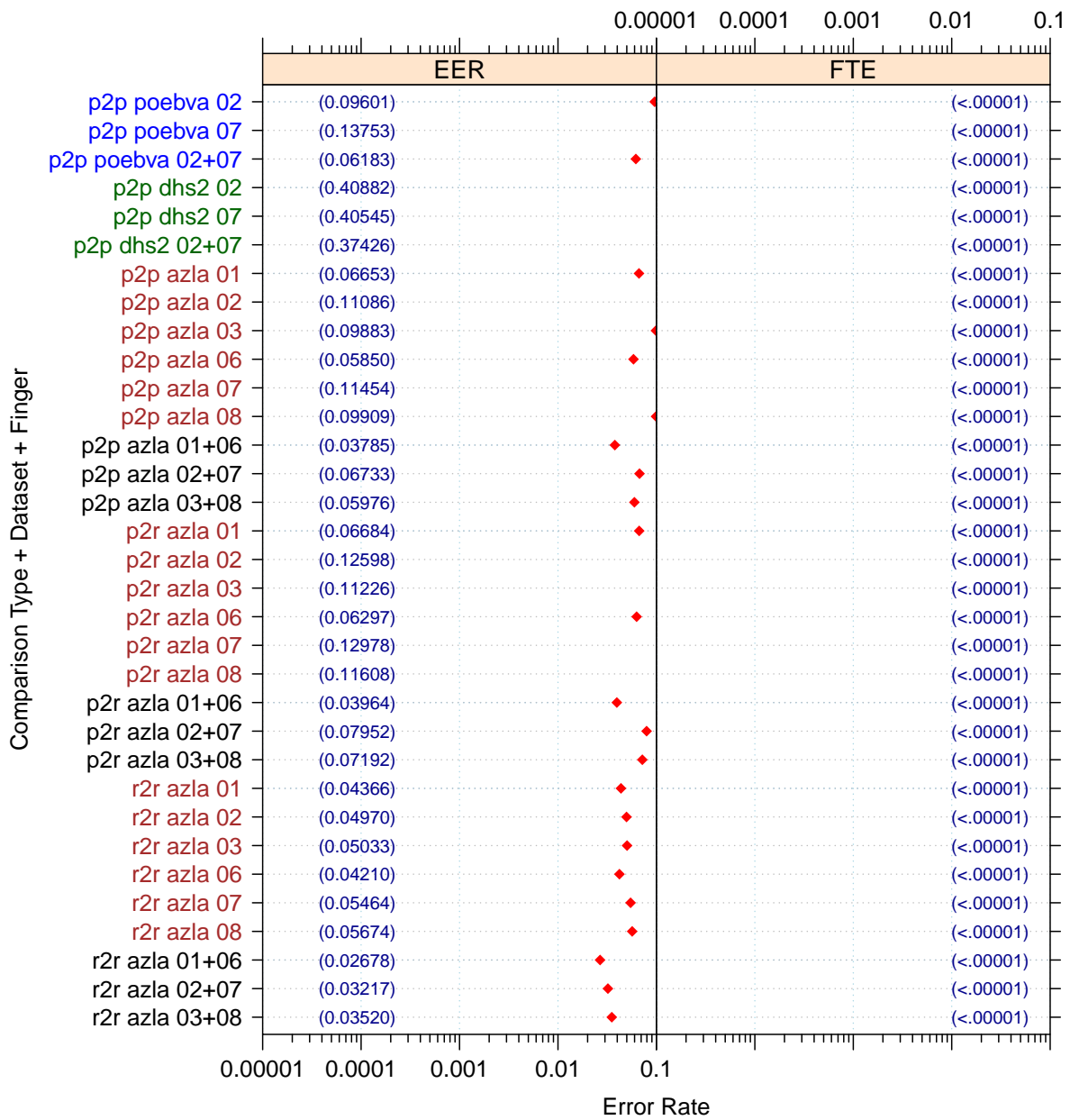


Figure 5: Full Evaluation – EERs and FTEs

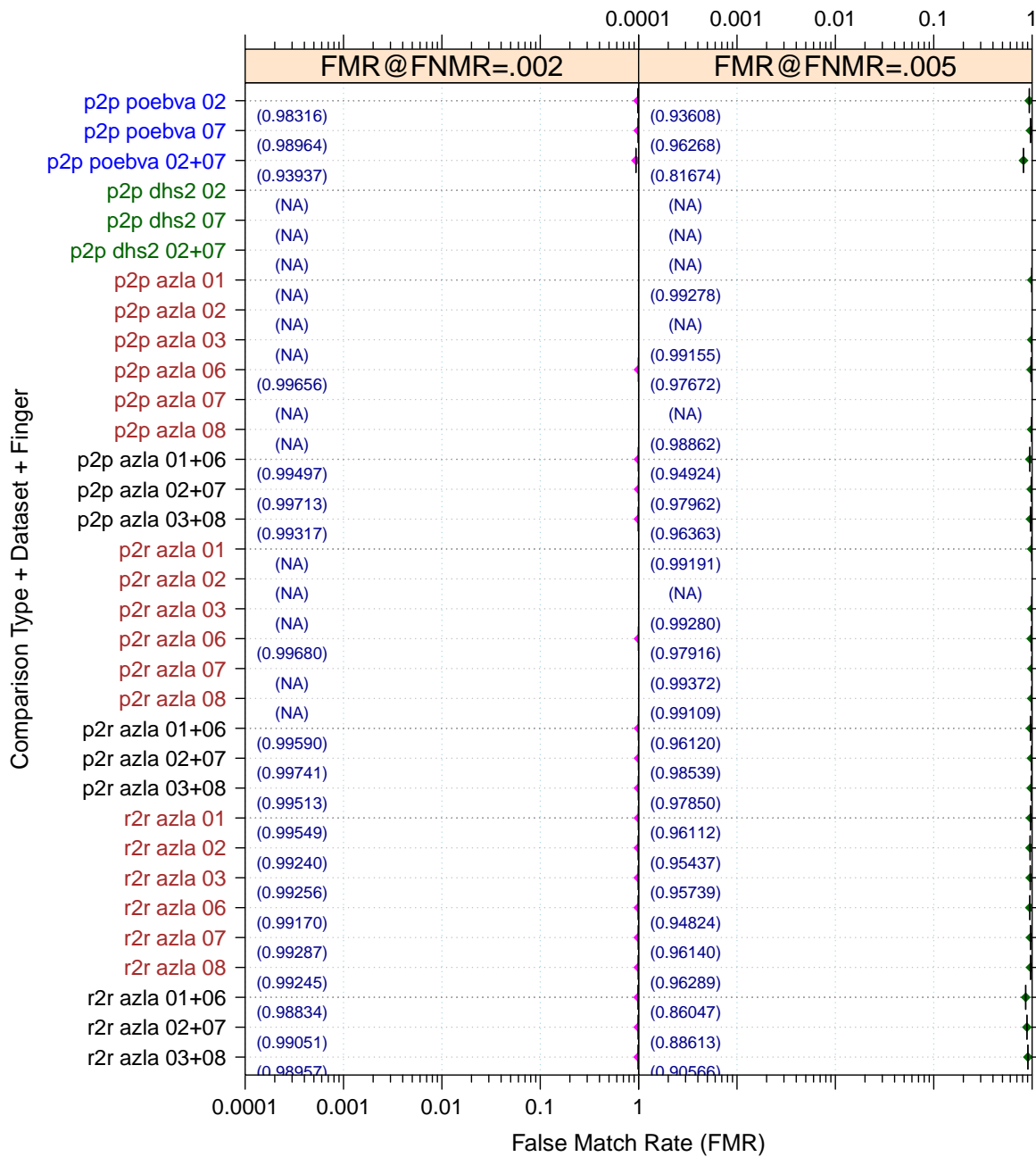


Figure 6: Full Evaluation – FMR@FNMR = (0.002, 0.005) and 95% Confidence Intervals

**Note:** “n/a” indicates that the value could not be reliably measured with the available sample size.



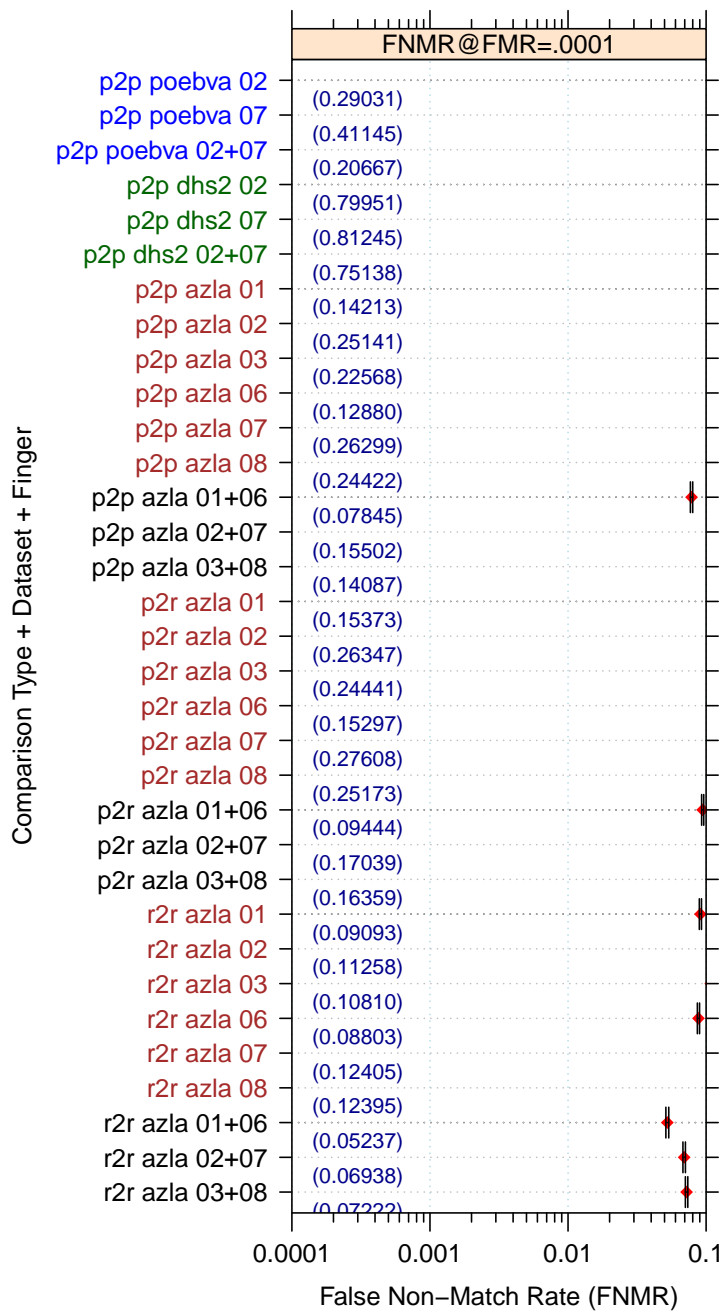


Figure 7: Full Evaluation – FNMR@FMR = 0.0001 and 95% Confidence Intervals

**Note:** “n/a” indicates that the value could not be reliably measured with the available sample size.

		<b>EER</b>	<b>FTE Rate</b>
<b>Plain to Plain</b>	<i>R Thumb</i>	0.0665	0.0000
	<i>R Index</i>	0.1109	0.0000
	<i>R Middle</i>	0.0988	0.0000
	<i>L Thumb</i>	0.0585	0.0000
	<i>L Index</i>	0.1145	0.0000
	<i>L Middle</i>	0.0991	0.0000
	<i>R/L Thumb</i>	0.0379	0.0000
	<i>R/L Index</i>	0.0673	0.0000
	<i>R/L Middle</i>	0.0598	0.0000
<b>Plain to Rolled</b>	<i>R Thumb</i>	0.0668	0.0000
	<i>R Index</i>	0.1260	0.0000
	<i>R Middle</i>	0.1123	0.0000
	<i>L Thumb</i>	0.0630	0.0000
	<i>L Index</i>	0.1298	0.0000
	<i>L Middle</i>	0.1161	0.0000
	<i>R/L Thumb</i>	0.0396	0.0000
	<i>R/L Index</i>	0.0795	0.0000
	<i>R/L Middle</i>	0.0719	0.0000
<b>Rolled to Rolled</b>	<i>R Thumb</i>	0.0437	0.0000
	<i>R Index</i>	0.0497	0.0000
	<i>R Middle</i>	0.0503	0.0000
	<i>L Thumb</i>	0.0421	0.0000
	<i>L Index</i>	0.0546	0.0000
	<i>L Middle</i>	0.0567	0.0000
	<i>R/L Thumb</i>	0.0268	0.0000
	<i>R/L Index</i>	0.0322	0.0000
	<i>R/L Middle</i>	0.0352	0.0000

Table 4: EER and FTE — Dataset AZLA

		<b>EER</b>	<b>FTE Rate</b>
<i>R Index</i>	0.4088	0.0000	
<i>L Index</i>	0.4054	0.0000	
<i>R/L Index</i>	0.3743	0.0000	

Table 5: EER and FTE — Dataset DHS2

		<b>EER</b>	<b>FTE Rate</b>
<i>R Index</i>	0.0960	0.0000	
<i>L Index</i>	0.1375	0.0000	
<i>R/L Index</i>	0.0618	0.0000	

Table 6: EER and FTE — Dataset POEBVA

		<b>FNMR@FMR = 0.0001</b>	<b>FMR@FNMR = 0.002</b>	<b>FMR@FNMR = 0.005</b>
<b>Plain to Plain</b>	<i>R Thumb</i>	0.1421 ±0.00198	n/a	0.9928 ±0.00048
	<i>R Index</i>	0.2514 ±0.00246	n/a	n/a
	<i>R Middle</i>	0.2257 ±0.00236	n/a	0.9916 ±0.00052
	<i>L Thumb</i>	0.1288 ±0.00189	0.9966 ±0.00033	0.9767 ±0.00085
	<i>L Index</i>	0.2630 ±0.00249	n/a	n/a
	<i>L Middle</i>	0.2442 ±0.00243	n/a	0.9886 ±0.00060
	<i>R/L Thumb</i>	0.0785 ±0.00152	0.9950 ±0.00040	0.9492 ±0.00124
	<i>R/L Index</i>	0.1550 ±0.00205	0.9971 ±0.00030	0.9796 ±0.00080
	<i>R/L Middle</i>	0.1409 ±0.00197	0.9932 ±0.00047	0.9636 ±0.00106
<b>Plain to Rolled</b>	<i>R Thumb</i>	0.1537 ±0.00204	n/a	0.9919 ±0.00051
	<i>R Index</i>	0.2635 ±0.00249	n/a	n/a
	<i>R Middle</i>	0.2444 ±0.00243	n/a	0.9928 ±0.00048
	<i>L Thumb</i>	0.1530 ±0.00204	0.9968 ±0.00032	0.9792 ±0.00081
	<i>L Index</i>	0.2761 ±0.00253	n/a	0.9937 ±0.00045
	<i>L Middle</i>	0.2517 ±0.00246	n/a	0.9911 ±0.00053
	<i>R/L Thumb</i>	0.0944 ±0.00166	0.9959 ±0.00036	0.9612 ±0.00109
	<i>R/L Index</i>	0.1704 ±0.00213	0.9974 ±0.00029	0.9854 ±0.00068
	<i>R/L Middle</i>	0.1636 ±0.00209	0.9951 ±0.00039	0.9785 ±0.00082
<b>Rolled to Rolled</b>	<i>R Thumb</i>	0.0909 ±0.00163	0.9955 ±0.00038	0.9611 ±0.00109
	<i>R Index</i>	0.1126 ±0.00179	0.9924 ±0.00049	0.9544 ±0.00118
	<i>R Middle</i>	0.1081 ±0.00176	0.9926 ±0.00049	0.9574 ±0.00114
	<i>L Thumb</i>	0.0880 ±0.00160	0.9917 ±0.00051	0.9482 ±0.00125
	<i>L Index</i>	0.1241 ±0.00186	0.9929 ±0.00048	0.9614 ±0.00109
	<i>L Middle</i>	0.1240 ±0.00186	0.9925 ±0.00049	0.9629 ±0.00107
	<i>R/L Thumb</i>	0.0524 ±0.00126	0.9883 ±0.00061	0.8605 ±0.00196
	<i>R/L Index</i>	0.0694 ±0.00144	0.9905 ±0.00055	0.8861 ±0.00180
	<i>R/L Middle</i>	0.0722 ±0.00146	0.9896 ±0.00057	0.9057 ±0.00165

Table 7: Details for FNMR@FMR = 0.0001 and FMR@FNMR = (0.002, 0.005) — Dataset AZLA

**Note:** “n/a” indicates that the value could not be reliably measured with the available sample size.

	<b>FNMR@FMR = 0.0001</b>	<b>FMR@FNMR = 0.002</b>	<b>FMR@FNMR = 0.005</b>
<i>R Index</i>	0.7995 ±0.00227	n/a	n/a
<i>L Index</i>	0.8125 ±0.00221	n/a	n/a
<i>R/L Index</i>	0.7514 ±0.00245	n/a	n/a

Table 8: Details for FNMR@FMR = 0.0001 and FMR@FNMR = (0.002, 0.005) — Dataset DHS2

**Note:** “n/a” indicates that the value could not be reliably measured with the available sample size.

	<b>FNMR@FMR = 0.0001</b>	<b>FMR@FNMR = 0.002</b>	<b>FMR@FNMR = 0.005</b>
<i>R Index</i>	0.2903 ±0.00257	0.9832 ±0.00073	0.9361 ±0.00138
<i>L Index</i>	0.4114 ±0.00278	0.9896 ±0.00057	0.9627 ±0.00107
<i>R/L Index</i>	0.2067 ±0.00229	0.9394 ±0.00135	0.8167 ±0.00219

Table 9: Details for FNMR@FMR = 0.0001 and FMR@FNMR = (0.002, 0.005) — Dataset POEBVA

### 3 Original PFT Dataset

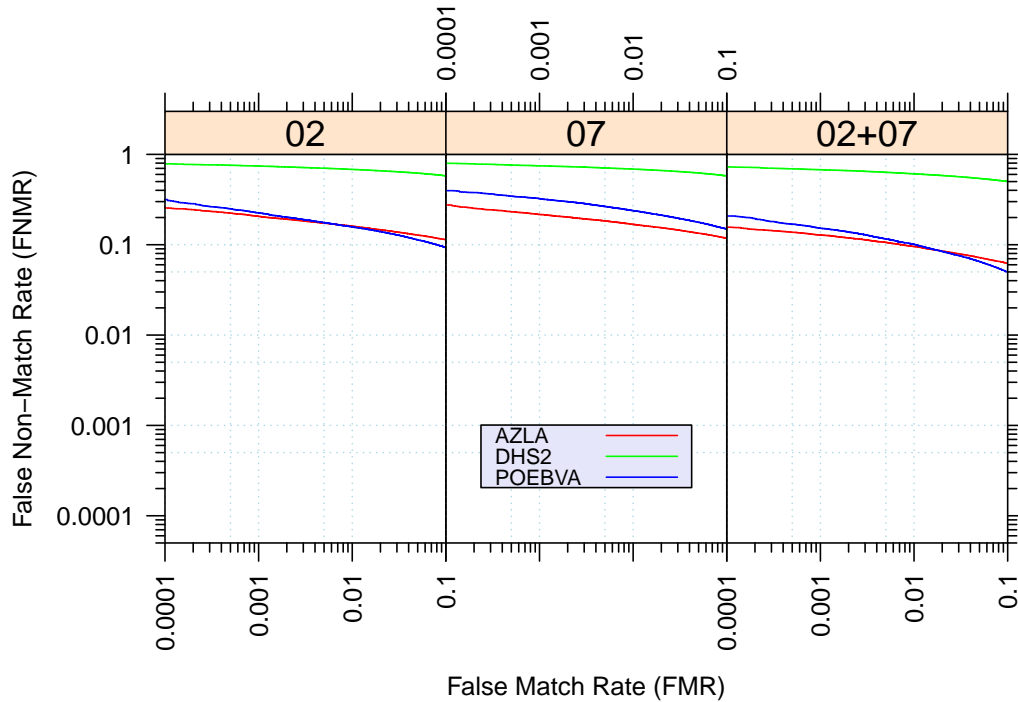


Figure 8: Original PFT Dataset – DET

		EER	FNMR@FMR = 0.0001	FMR@FNMR = 0.005
AZLA	<i>R Index</i>	0.1112	0.2550	0.9897
	<i>L Index</i>	0.1146	0.2755	0.9918
	<i>R/L Index</i>	0.0677	0.1564	0.9770
DHS2	<i>R Index</i>	0.4093	0.7867	0.7416
	<i>L Index</i>	0.4024	0.7967	0.7637
	<i>R/L Index</i>	0.3749	0.7274	0.8330
POEBVA	<i>R Index</i>	0.0947	0.3144	0.9329
	<i>L Index</i>	0.1355	0.3967	0.9610
	<i>R/L Index</i>	0.0607	0.2079	0.8102

Table 10: Details for EER, FNMR@FMR = 0.0001, and FMR@FNMR = 0.005 — Original PFT Dataset