LICENSING OPPORTUNITY: SPHERICAL ION TRAP AND TRAPPING IONS

DESCRIPTION

Problem

Previous spherical radio frequency (RF) Paul ion traps either use (a) conventionally machined three-dimensional electrode structures to generate the electric fields for trapping, or (b) planar electrode structures with low trapping efficiency.

Invention

This invention is a new type of spherical RF Paul ion trap with thermal and electrical properties that are favorable for high accuracy atomic clocks.

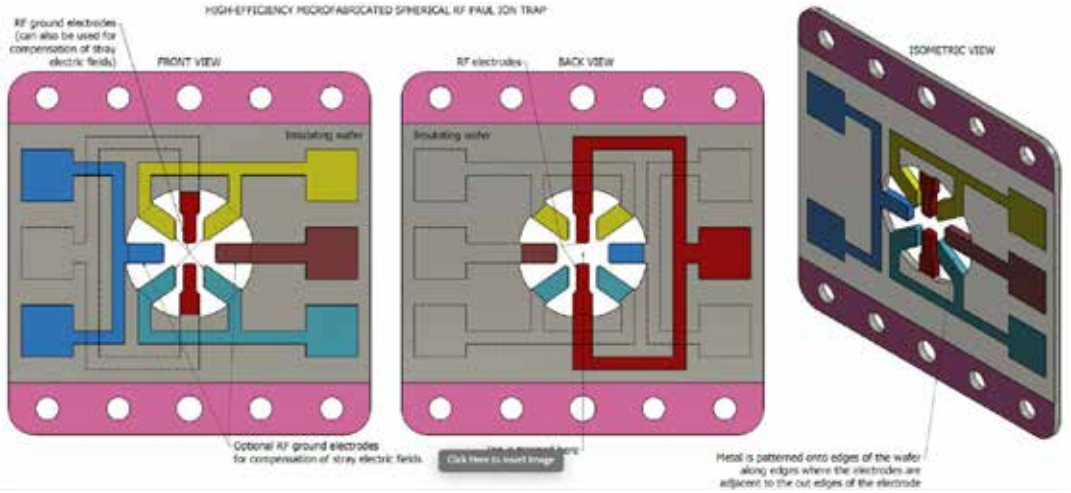
BENEFITS

Commercial Application

This trap can be mass produced at low unit cost and with very small geometrical imperfections. It also can be used in compact and field-deployable atomic clocks, among other applications.

Competitive Advantage

Relative to previous spherical RF Paul ion trap designs, this trap offers a unique combination of high trapping efficiency and compatibility with microfabrication techniques.



Contact: licensing@nist.gov

NIST TECHNOLOGY PARTNERSHIPS OFFICE

NIST Technology Partnerships Office
National Institute of Standards and Technology
100 Bureau Drive, Gaithersburg, MD 20899-2200