

High Precision Electric Gate for Time-of-Flight Ion Mass Spectrometers

Case Number: GSC- 15771-1
Patent Number: 8,035,081
Patent Exp. Date: 9/30/2029

DESCRIPTION

A time-of-flight mass spectrometer having a chamber with electrodes to generate an electric field in the chamber and electric gating for allowing ions with a predetermined mass and velocity into the electric field. The design uses a row of very thin parallel aligned wires that are pulsed in sequence so the ion can pass through the gap of two parallel plates, which are biased to prevent passage of the ion.

FEATURES AND BENEFITS

- This design by itself can provide a high mass resolution capability and a very precise start pulse for an ion mass spectrometer. Furthermore, the ion will only pass through the chamber if it is within a wire diameter of the first wire when it is pulsed and has the right speed so it is near all other wires when they are pulsed.

APPLICATIONS

- Chromatography
- Analytical Measurements

FOR MORE INFORMATION

If you are interested in more information or want to pursue transfer of this technology, GSC-15771-1, please contact:

Ted Mecum
Senior Technology Manager
NASA Goddard Space Flight Center
Innovative Partnerships Program Office
alfred.t.mecum@nasa.gov
301-286-2198