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MS/MS Permutations in a Linear Quadrupole Ion Trap

A simplified and portable device enhances resource-limited mass spectrometers by enabling multiple, simultaneous MS/MS scans for highly efficient analysis in field applications like forensic and planetary exploration.

Mass spectrometry is a technique used to obtain information from samples to yield analytical information in a variety of fields. Advancements in mass spectrometer technology have led to numerous unconventional methods to allow coupling of ambient spray and plasma ionization methods. However, current instrumentation is complex and not portable, which limits applications. There is need of more efficient mass spectrometer technology for a wider spectrum of applications.

Researchers at Purdue University have developed a device that extends the capabilities of resource limited mass spectrometers, especially miniature portable ion trap instruments, with additional permutation scan modes. The device is simpler/smaller than previous methods and is able to perform in sequence and/or simultaneously, a variety of MS/MS scans in a single analyzer instrument, presenting a more efficient use of valuable samples and maximizing analytical information obtained. The device would be used in applications such as planetary exploration and forensic analysis at crime scenes.

Advantages:

-Multitasking

-Efficiency

-High information output

Potential Applications:

-Planetary exploration

-Forensic Analysis

Technology ID

2018-COOK-68012

Category

Aerospace & Defense/Defense Electronics & Surveillance Technologies

Biotechnology & Life Sciences/Analytical & Diagnostic Instrumentation

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TRL: 3

Intellectual Property:

Provisional-Patent, 2017-07-27, United States | Utility Patent, 2018-07-27, United States | CON-Gov. Funding, 2021-01-27, United States | CON-Gov. Funding, 2023-05-02, United States

Keywords: Mass spectrometry, portable ion trap, miniature mass spectrometer, permutation scan modes, MS/MS scans, single analyzer instrument, planetary exploration, forensic analysis, analytical information, efficient mass spectrometer, Analytical Chemistry, Chemical Analysis, Chemical Engineering, Chemistry and Chemical Analysis, Ion Trap, Mass Spectrometry, Plasma, Portable