

Title (en)
MASS SPECTROMETRY WITH MULTIPOLE ION GUIDE

Title (de)
MASSENSPEKTROMETRIE MIT MULTIPOL IONEN LEITVORRICHTUNG

Title (fr)
SPECTROMETRIE DE MASSE A GUIDE D'IONS MULTIPOLAIRE

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Application
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Abstract (en)
[origin: WO9938193A1] Multipole ion guides (6) configured with one or more segments (1, 2, 3, 4) and positioned in a higher pressure vacuum region (72), are operated in mass to charge selection and ion fragmentation modes. Individual multipole ion guides are mounted in a linear assembly with no electrodes configured in between each multipole ion guide. At least a portion of each multipole ion guide mounted in a linear assembly resides in a vacuum region with higher background pressure. At least one ion guide (4) can be configured to extend continuously from one vacuum stage (72) into another (73). Individual sets of RF, +/- DC and secular frequency voltage supplies provide potentials to the rods of each multipole ion guide allowing the operation of ion transmission, ion trapping, mass to charge selection and ion fragmentation functions independently in each ion guide. The presence of higher background pressure along a portion of the multiple ion guide linear assembly allows the Collisional Induced Dissociation (CID) fragmentation of ions by axially accelerating ions from one multipole ion guide to an adjacent ion guide, analogous to a triple quadrupole function. Alternatively ions can be fragmented in one or more multipole ion guides using resonant frequency excitation CID, similar to ion fragmentation operation in three dimensional quadrupole ion traps.

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