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12/205,750 5 September 2008 (05.09.2008) US(71) Applicant (for all designated States except US): **THERMO FINNIGAN LLC** [US/US]; 355 River Oaks Parkway, San Jose, CA 95134 (US).

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(54) Title: TWO-DIMENSIONAL RADIAL-EJECTION TRAP OPERABLE AS A QUADRUPOLE MASS FILTER

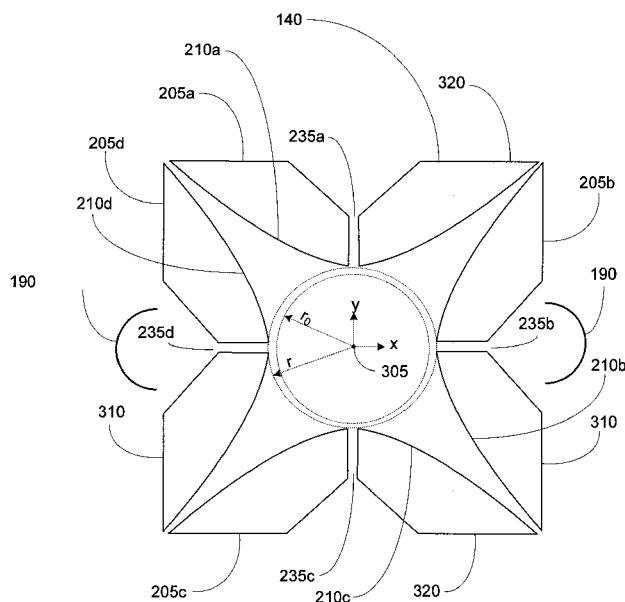


FIG. 3

(57) Abstract: A two-dimensional radial-ejection ion trap is constructed from four apertured electrodes having inwardly facing hyperbolic surfaces, with each electrode being spaced from the centerline by a distance r that is greater than the hyperbolic radius r_0 defined by the hyperbolic surfaces. This geometry produces a balanced symmetrical trapping field that has a negligible octopole field component and a relatively large dodecapole or icosapolar field component. In one specific implementation, the ion trap is selectably operable as a quadrupole mass filter by applying a filtering DC voltage to the electrodes.

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