

Title (en)

Ion trapping mass spectrometry apparatus

Title (de)

Ionenspeicherungsvorrichtung zur Massenspektrometrie

Title (fr)

Dispositif de stockage d'ions à des fins de spectrométrie de masse

Publication

EP 0817239 A1 19980107 (EN)

Application

EP 97111068 A 19970702

Priority

JP 17202396 A 19960702

Abstract (en)

A mass spectrometry apparatus having a constitution for attaining analysis with high sensitivity and high resolving power comprising a linear radio-frequency quadrupole ion trap and means for avoiding degradation of analysis performance due to field disturbance caused by an end electrode (13, 14) thereof, where said purpose is achieved by means for forming a harmonic potential in the central axis thereof in whose potential ions are resonantly oscillated to be ejected outside of the ion trap for detection along the axis, or by means to eliminate undesirably degraded signals originating near the ion trap portions that are disturbed by the end electrodes (13, 14). <IMAGE>

IPC 1-7

H01J 49/42

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

- [PXA] US 5576540 A 19961119 - JOLLIFFE CHARLES L [CA]
- [DPA] EP 0736894 A2 19961009 - HITACHI LTD [JP]
- [DA] US 5420425 A 19950530 - BIER MARK E [US], et al
- [DA] EP 0262928 A2 19880406 - FINNIGAN CORP [US]
- [DA] EP 0409362 A2 19910123 - FINNIGAN CORP [US]
- [DA] EP 0113207 A2 19840711 - FINNIGAN CORP [US]
- [DPA] WO 9702591 A1 19970123 - HITACHI LTD [JP], et al
- [DA] US 2939952 A 19600607 - WOLFGANG PAUL, et al
- [DA] WAKI I ET AL: "OBSERVATION OF ORDERED STRUCTURES OF LASER-COOLED IONS IN A QUADRUPOLE STORAGE RING", PHYSICAL REVIEW LETTERS, vol. 68, no. 13, pages 2007 - 2010, XP000274504
- [DA] D. A. CHURCH: "Storage-Ring ion Trap derived from the linear quadrupole radio frequency mass filter.", JOURNAL OF APPLIED PHYSICS., vol. 40, no. 1, July 1969 (1969-07-01), NEW YORK US, pages 3127 - 3134, XP002042989

Cited by

DE10328599B4; DE10350664B4; CN105247654A; EP2581927A3; DE102004014584A1; DE102004014584B4; GB2429579A;
DE102005039560A1; DE102005039560B4; US8148675B2; US10026592B2; US11990329B2; WO02091426A1; US7164125B2; US8796615B2;
WO2013027054A3; US8278618B2; US8586914B2; US8803082B2; US8963074B2; US9117639B2; US9245723B2; US9396919B2

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