Title (en)

Gas phase ion source for high mass resolution, wide mass range time-of-flight mass spectrometer

Title (de)

Gasphasen-Ionenquelle für Flugzeit-Massenspektrometer mit hoher Massenauflösung und grossem Massenbereich

Title (fr)

Source d'ions en phase gazeuse pour spectromètre de masse à temps de vol, présentant une résolution en masse élevée ainsi qu'une large gamme de masses

Publication

EP 0632482 B1 20000315 (DE)

Application

EP 94110274 A 19940701

Priority

DE 4322101 A 19930702

Abstract (en)

[origin: EP0632482A2] In order to achieve a high mass resolution in a time-of-flight mass spectrometer with gas phase ion source, the initial-speed components in the acceleration direction of the ions must be kept small. This can be achieved in that the gas or ion beam to be investigated traverses the ion source at right angles relative to the acceleration direction. If acceleration direction and flight direction of the gas or ion beam to be investigated are not parallel, then the flight path is loaded with less gas ballast, the dynamic range of the mass spectrometer being increased as a result. The mass range of such an ion source is limited by the fact that heavy ions can be deflected too far from the axis of the ion source and can get lost as a result. When the deflection field is already located in the acceleration path, the mass range of this ion source can be expanded significantly. <IMAGE>

IPC 1-7

H01J 49/40; H01J 49/10; H01J 49/06

IPC 8 full level

G01N 27/62 (2006.01); **H01J 27/02** (2006.01); **H01J 49/06** (2006.01); **H01J 49/10** (2006.01); **H01J 49/40** (2006.01)

CPC (source: EP US)

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Cited by

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EP 0632482 A2 19950104; **EP 0632482 A3 19951129**; **EP 0632482 B1 20000315**; AT E190751 T1 20000415; CA 2127185 A1 19950103; DE 4322101 A1 19950119; DE 4322101 C2 19950614; DE 59409199 D1 20000420; JP H0831370 A 19960202; US 5543624 A 19960806

DOCDB simple family (application)

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