Title (en)

High sensitivity, wide dynamic range time-of-flight mass spectrometer provided with a gas phase ion source.

Title (de)

Flugzeit-Massenspektrometer mit Gasphasen-Ionenquelle, mit hoher Empfindlichkeit und grossem dynamischem Bereich.

Title (fr)

Spectromètre de masse à temps de vol pourvu d'une source d'ions en phase gaseuze présentant une sensibilité élevée ainsi qu'une large gamme dynamique.

Publication

EP 0633602 A3 19951122 (DE)

Application

EP 94110273 A 19940701

Priority

DE 4322102 A 19930702

Abstract (en)

[origin: EP0633602A2] A high particle density in the exhaust volume of a gas-phase ion source and simultaneously a very low particle density in the flight path of the time-of-flight mass spectrometer results in a high sensitivity while simultaneously maintaining a large dynamic range of the intensity display. In order to achieve this, it is necessary to divide the time-of-flight mass spectrometer into two or more regions of different pressure, the different regions being separated by a gas-flow impedance. A maximum particle density in the exhaust volume while simultaneously maintaining a minimum particle density in the flight path can be obtained by integrating the gas-flow impedances (3, 6) directly into the electrodes (1, 2) of the ion source. <IMAGE>

IPC 1-7

H01J 49/40; H01J 49/10

IPC 8 full level

G01N 27/62 (2006.01); **H01J 27/02** (2006.01); **H01J 49/04** (2006.01); **H01J 49/10** (2006.01); **H01J 49/40** (2006.01)

CPC (source: EP US)

H01J 49/0422 (2013.01 - EP US); **H01J 49/403** (2013.01 - EP US)

Citation (search report)

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Designated contracting state (EPC)

AT BE CH DE DK FR GB LI NL SE

DOCDB simple family (publication)

EP 0633602 A2 19950111; **EP 0633602 A3 19951122**; **EP 0633602 B1 20000524**; AT E193398 T1 20000615; AU 6615294 A 19950112; AU 6615394 A 19950112; AU 685112 B2 19980115; AU 685113 B2 19980115; CA 2127183 A1 19950103; DE 4322102 A1 19950119; DE 4322102 C2 19950817; DE 59409371 D1 20000629; JP H07176291 A 19950714; US 5496998 A 19960305

DOCDB simple family (application)

EP 94110273 A 19940701; AT 94110273 T 19940701; AU 6615294 A 19940701; AU 6615394 A 19940701; CA 2127183 A 19940630; DE 4322102 A 19930702; DE 59409371 T 19940701; JP 15248994 A 19940704; US 26954494 A 19940701