

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 gazeuse présentant une sensibilité élevée ainsi qu'une large gamme dynamique

Publication

**EP 0633602 B1 20000524 (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**; **H01J 49/04**

IPC 8 full level

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CPC (source: EP US)

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