

Title (en)

Method for the introduction of ions into the ion trap of an ion cyclotron resonance spectrometer and ion cyclotron resonance spectrometer used in this method.

Title (de)

Verfahren zum Einbringen von Ionen in die Ionenfalle eines Ionen-Zyklotron-Resonanz-Spektrometers und zur Durchführung des Verfahrens ausgebildetes Ionen-Zyklotron-Resonanz-Spektrometer.

Title (fr)

Procédé d'introduction d'ions dans le piège à ions d'un spectromètre à résonance cyclotronique d'ions et spectromètre destiné à la mise en oeuvre de ce procédé.

Publication

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Application

EP 88115676 A 19880923

Priority

DE 3733853 A 19871007

Abstract (en)

[origin: EP0310888A2] An ion beam (109) is fired in the direction of a magnetic field (B) into an ion trap to introduce ions into the ion trap (110) of an ion cyclotron resonance spectrometer, which trap is arranged in the constant, homogeneous magnetic field (B). In this case, the speed of the ions entering the ion trap through a hole (115), which is located in a wall (111) of the ion trap, is reduced, as a result of which they remain for a longer period in the ion trap. The invention is intended to improve the accumulation of ions which is possible in this way in the ion trap, particularly in the case of weak ion flows. <??>According to the invention, the reduction in the speed of the ions in the axial direction of the ion trap is carried out by a movement component aligned at right angles to the magnetic field (B) being imparted to the ions which have penetrated into the ion trap (110). For this purpose, an electrical field can be generated in the vicinity of the hole with the aid of electrodes (121, 122) arranged on both sides of the hole (115) through which the ions enter into the ion trap (110), as a result of which electrical field a transverse movement component is imparted to the ions which pass between the electrodes. In this way, the ions are deflected onto a path which greatly increases the time during which the ions remain in the ion trap. <IMAGE>

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