

Title (en)

Electro-optical ion detector for a scanning mass spectrometer.

Title (de)

Elektro-optischer Detektor für einen Abtastmassenspektrometer.

Title (fr)

Détecteur d'ions électro-optique pour un spectromètre de masse à balayage.

Publication

EP 0384139 A2 19900829 (EN)

Application

EP 90101324 A 19900123

Priority

US 31251489 A 19890221

Abstract (en)

A scanning mass spectrometer (10) in combination with an electro-optical detector (100) which enable greatly increased speed of mass determinations by detecting a limited range of masses simultaneously, thus reducing the number of discrete magnetic field adjustments required over a large range of masses. The electro-optical detector (100) includes a channel electron multiplier assembly (94) with the surface of an image plate (80) located along the ion focal plane (44) and at an angle to the exit plane (106) of the magnetic sector (26) and a fiberoptic window (134) of a special shape optically coupled between the angled image plate (80) and a photodiode detector array (140). The fiberoptic window (134) is shaped in such a way as to enable the entrance ends (entrance plane) (144) of the fibers to be parallel to the angled image plate (80) and the exit ends of the fibers (exit or second image plane) (146) to be parallel to the exit plane (106) while maintaining the ends of the fibers perpendicular to the fiber axes. The channel electron multiplier assembly (94) is within a vacuum envelope (104) and the photodiode array (140) is outside the vacuum envelope (104).

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H01J 49/02; **H01J 49/06**

IPC 8 full level

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CPC (source: EP KR)

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