Title (en)

ELECTRON MULTIPLIER DEVICE WITH ELECTRIC FIELD LOCALISATION

Publication

EP 0165119 B1 19891129 (FR)

Application

EP 85400897 A 19850507

Priority

FR 8407142 A 19840509

Abstract (en)

1. An electron multiplier device comprising, in a vacuum tube : - an entrance window (FE), - a succession of plane, parallel electrodes comprising small interconnected parallel bars, capable of secondary electrical emission, each dynode stage (D1 ...) comprising two successive planes (D11 , D12 ...) adapted to intercept the electrical trajectories in the manner of a baffle, the width of the bars, in cross-section, being at most equal to 0.5 mm, - an anode capable of localizing the impact of the secondary electrons at its level, and - means (E1 , Ei , R0 -R3) connected to these dynode stages (D1 -D10) in order to establish between them an electron accelerating electric field, the general direction of which is perpendicular to the electrodes, characterised in that the distance (Z1) between two consecutive dynode stages (D1 -D2), which is several times greater than the width of the bars, is selected, depending on the electrical field, in such a manner that the secondary electrons originating from the upstream stage (D1), in a concentrated distribution, a restricted number of bars of the downstream stage (D2), and in that the distance (Z0) between the two successive planes of each dynode stage is substantially equal to a quarter of the distance (Z1) between dynode stages and is selected, depending on the electrical field prevailing between these two planes, to avoid the recapture of a secondary electron by this dynode stage.

IPC 1-7

H01J 43/22

IPC 8 full level

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CPC (source: EP US)

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Cited by

EP0833368A3; US4980604A; EP0230694A1; FR2592523A1; EP0471563A3; US5254906A

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