

Title (en)

ELECTRODE STRUCTURE FOR GUIDING A CHARGED PARTICLE BEAM

Title (de)

ELEKTRODENSTRUKTUR ZUM FÜHREN EINES STRAHLS GELADENER TEILCHEN

Title (fr)

STRUCTURE D'ÉLECTRODE CONÇUE POUR GUIDER UN FAISCEAU DE PARTICULES CHARGÉES

Publication

EP 4143856 A1 20230308 (DE)

Application

EP 21722192 A 20210427

Priority

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Abstract (en)

[origin: WO2021219621A1] The invention relates to an electrode structure for guiding and, for example, splitting a charged particle beam, for example an electron beam, along a longitudinal path, having multipolar electrode assemblies which are mutually spaced along the longitudinal path and which comprise DC voltage electrodes. The electrode assemblies are designed to generate static multipolar fields which are centered about the path on transversal planes oriented perpendicularly to the longitudinal path, wherein the field strength of each of the static multipolar fields on the transversal planes has a local minimum at the location of the path, and the field strength increases as the distance to the location of the path increases. Field directions of the static multipolar fields vary periodically along the path with a period length such that the particles propagating along the path are exposed to a non-homogenous electric alternating field on the basis of the inherent movement of the particles and are subjected to a transversal restoring force in the direction of the longitudinal path, averaged over time.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

See references of WO 2021219621A1

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