Title (en)

MICROWAVE TUBE WITH A DEVICE FOR EXTRACTING THE IONS GENERATED IN THE TUBE

Title (de)

MIKROWELLENROHR MIT EINER VORRICHTUNG ZUR EXTRAKTION DER IN DEM ROHR ERZEUGTEN IONEN

Title (fr)

TUBE HYPERFREQUENCES AVEC DISPOSITIF D'EXTRACTION D'IONS PRODUITS DANS LE TUBE

Publication

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Application

EP 09814103 A 20090824

Priority

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Abstract (en)

[origin: WO2010031655A1] The invention relates to an electronic tube that comprises: a microwave structure (10, 30) having a housing (12, 32) under vacuum and having two ends, the microwave structure being subjected to a reference potential (M); an electron canon (34) including a cathode (36) for providing an electron beam (16, 38) along an axis ZZ' at one end of the housing under vacuum; an electron collector (40) for collecting the beam electrons at the other end of the housing under vacuum; at least one high-voltage power supply for applying a high-voltage potential (HT) to the cathode (36) that is negative relative to the reference potential (M). The tube includes, between the cathode (36) and the microwave structure, a positive-ion extraction device (Pe) that comprises at least one electrode (e2) subjected to a potential (Vp) that is negative relative to the reference potential (M) in order to extract the positive ions (In) from the housing under vacuum, the positive ions being generated by the shock between the electrons of the electron beam and the residual gas molecules in the housing under vacuum. The invention can be used in microwave electronic tubes, TOP klystrons, etc., using a cylindrical electron beam.

IPC 8 full level

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