

Title (en)

Thermoionic emissive cathode method of fabricating the same thermoionic emissive cathode and electron beam apparatus

Title (de)

Thermisch emittierende Kathode, Herstellungsverfahren einer solchen thermisch emittierende Kathode und Elektronenstrahl-Gerät

Title (fr)

Cathode à émission thermoionique, procédé de fabrication d'un telle cathode à émission thermoionique et appareil à faisceau d'électrons

Publication

EP 0637046 B1 19980401 (EN)

Application

EP 94111883 A 19940729

Priority

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Abstract (en)

[origin: EP0637046A1] A thermoionic emissive cathode formed from a sintered mixture of at least one high melting point refractory and ion sintered durable substance selected from a group consisting of a metal having melting point equal to or higher than 2400 DEG C, an alloy containing the metal as a main constituent thereof, a carbide of the metal, a boride of the metal, zirconium carbide and zirconium boride and at least one electron emissive substance having low work function, selected from borides or oxides of a metal selected from a group consisting of lanthanum, yttrium, cerium and cesium, said sintered mixture being prepared by heating and pressing, is used in an electron beam apparatus. In this electron beam apparatus, it is possible to stably irradiate electron beam with heating temperature of the thermoionic emissive cathode being about 1500 DEG C to 1800 DEG C under a vacuum pressure in the range of 10<-><2> to 10<-><3> Pa. <IMAGE>

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