

Title (en)

Electron-emitting device, and electron beam-generating apparatus and image-forming apparatus employing the device.

Title (de)

Elektronemittierende Vorrichtung, Elektronenstrahlerzeugungsgerät und diese Vorrichtung verwendendes Bilderzeugungsgerät.

Title (fr)

Dispositif émetteur d'électrons, appareil générateur d'un faisceau d'électrons et appareil de formation d'image muni d'un tel dispositif.

Publication

**EP 0536732 A1 19930414 (EN)**

Application

**EP 92117138 A 19921007**

Priority

- JP 26036191 A 19911008
- JP 26871492 A 19921007

Abstract (en)

An electron-emitting device having an electron-emitting region between electrodes on a substrate where the electron-emitting region contains fine particles dispersed therein at an areal occupation ratio of the fine particles ranging from 20 % to 75 % of the electron-emitting region is disclosed. The other electron-emitting device where the electron-emitting region contains fine particles being arranged at gaps of from 5 ÅNGSTROM to 100 ÅNGSTROM and having average particle diameter of from 5 ÅNGSTROM to 1000 ÅNGSTROM is also disclosed. Electron beam-generating apparatus and image-forming apparatus comprise one of the electron-emitting regions and a modulation means for modulating the electron beams emitted from the electron-emitting devices in accordance with information signals. <IMAGE>

IPC 1-7

**H01J 1/30**; **H01J 31/12**

IPC 8 full level

**H01J 1/316** (2006.01); **H01J 31/12** (2006.01)

CPC (source: EP)

**H01J 1/316** (2013.01); **H01J 31/127** (2013.01); **H01J 2201/3165** (2013.01); **H01J 2329/8625** (2013.01)

Citation (applicant)

- JP H01200532 A 19890811 - CANON KK [JP]
- JP H0256822 A 19900226 - CANON KK
- M.I. ELINSON, RADIO ENG. ELECTRON PHYS., vol. 10, 1965, pages 1290 - 1296
- G.DITTMER, THIN SOLID FILMS, vol. 9, 1972, pages 317
- M. HARTWELL; C. G. FONSTAD, IEEE TRANS. ED CONF., 1975, pages 519

Citation (search report)

- [A] EP 0388984 A2 19900926 - CANON KK [JP]
- [A] US 5023110 A 19910611 - NOMURA ICHIRO [JP], et al
- [A] GB 2183084 A 19870528 - FUTABA DENSHI KOGYO KK

Cited by

EP0746008A1; US6334801B1; CN1108621C; EP0693766A1; US5674100A; AU687065B2; EP0703594A1; US5847495A; AU712966B2; AU749823B2; EP1037246A3; EP0955662A1; EP0955663A1; EP0732721A1; US6034478A; AU721994B2; CN1086056C; AU721994C; US6580407B1; US6262701B1; US7705527B2; US6629757B1; US6386685B1; EP0605881B1; EP0716439B1; US6473063B1; US6760002B2; US6890231B2; US6908356B2; US7348719B2

Designated contracting state (EPC)

AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

**EP 0536732 A1 19930414**; **EP 0536732 B1 20010103**; AT E198518 T1 20010115; AT E199291 T1 20010315; CA 2080092 A1 19930409; CA 2080092 C 19990323; DE 69231624 D1 20010208; DE 69231624 T2 20010531; DE 69231700 D1 20010329; DE 69231700 T2 20010705

DOCDB simple family (application)

**EP 92117138 A 19921007**; AT 92117138 T 19921007; AT 97106945 T 19921007; CA 2080092 A 19921007; DE 69231624 T 19921007; DE 69231700 T 19921007