

Title (en)

Field effect electron source and method for producing same application in display devices working by cathodoluminescence

Title (de)

Feldeffekt-Elektronenquelle und Herstellungsverfahren dazu, Anwendung in Anzeigevorrichtungen mit Kathodolumineszenz

Title (fr)

Source d'électrons à effet de champ et procédé de fabrication de cette source, application aux dispositifs de visualisation par cathodoluminescence

Publication

EP 0712146 A1 19960515 (FR)

Application

EP 95402450 A 19951103

Priority

FR 9413371 A 19941108

Abstract (en)

The electron source has an isolating substrate (2) with a cathode conductor (4) formed on its upper surface. An isolating layer (6) with an upper grid surface (8) is formed above the cathode conductor. Holes (10) are formed in the upper grid and isolating layer, and diamond like powder grain heaps (12) are formed on the cathode surface in the gaps.

Abstract (fr)

Cette source comprend, sur un substrat isolant (2), au moins un conducteur cathodique (4), une couche isolante (6) qui recouvre celui-ci, au moins une grille (8) formée sur la couche isolante, des trous (10) étant formés à travers cette grille et la couche isolante, et des micro-amas (12) contenant des particules de carbone diamant ou de type diamant qui sont formés dans ces trous par électrophorèse par exemple. <IMAGE>

IPC 1-7

H01J 3/02; **H01J 9/02**; **H01J 31/12**

IPC 8 full level

H01J 31/12 (2006.01); **G09F 9/313** (2006.01); **H01J 1/304** (2006.01); **H01J 3/02** (2006.01); **H01J 9/02** (2006.01); **H01J 29/04** (2006.01)

CPC (source: EP US)

H01J 3/022 (2013.01 - EP US); **H01J 9/025** (2013.01 - EP US); **H01J 2201/30403** (2013.01 - EP US); **H01J 2201/30457** (2013.01 - EP US); **H01J 2329/00** (2013.01 - EP US)

Citation (applicant)

- FR 2593953 A1 19870807 - COMMISSARIAT ENERGIE ATOMIQUE [FR]
- FR 2623013 A1 19890512 - COMMISSARIAT ENERGIE ATOMIQUE [FR]
- FR 2663462 A1 19911220 - COMMISSARIAT ENERGIE ATOMIQUE [FR]
- FR 2687839 A1 19930827 - COMMISSARIAT ENERGIE ATOMIQUE [FR]
- US 2293593 A 19930226

Citation (search report)

- [AD] EP 0558393 A1 19930901 - COMMISSARIAT ENERGIE ATOMIQUE [FR]
- [AD] EP 0234989 A1 19870902 - COMMISSARIAT ENERGIE ATOMIQUE [FR]
- [A] EP 0555074 A1 19930811 - MOTOROLA INC [US]
- [A] US 5199918 A 19930406 - KUMAR NALIN [US]
- [A] US 5289086 A 19940222 - KANE ROBERT C [US]
- [A] GB 2260641 A 19930421 - KOBE STEEL LTD [JP]
- [A] N.KUMAR ET AL.: "development of nano-crystalline diamond-based field-emission displays", SID INTERNATIONAL SYMPOSIUM DIGEST OF TECHNICAL PAPERS, vol. 25, 14 June 1994 (1994-06-14), pages 43 - 46, XP000439084

Cited by

EP1073090A3; EP0957503A3; EP1073085A3; GB2322472B; US5948465A; WO9718576A1; WO9718577A1

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