Title (en)

Manufacturing method for micropoint electron source

Title (de)

Verfahren zur Herstellung einer Mikrospitzen-Elektronenquelle

Title (fr)

Procédé de fabrication d'une source d'électrons à micropointes

Publication

EP 0708473 A1 19960424 (FR)

Application

EP 95402312 A 19951017

Priority

FR 9412467 A 19941019

Abstract (en)

The electron source mfg. procedure involves creating an insulating substrate (32) on which there is at least one cathodic conductor (34). This is covered by an amorphous doped silicon layer (36), an insulating layer (38) and a grid layer (40). A set of holes is formed through the grid layer and the insulating layer. A sacrificial layer (44) is formed on the grid layer by a method of chemical vapour deposition to form an electrolytic deposit. An electron emitting layer (52) is then formed on the assembly and the sacrificial layer is then eliminated by electrolysis, leaving micro-point electron sources (54). The sacrificial layer is chosen from the group of metals including Cr, Fe, Ni, Co, Cd, Cu, Au, Ag and may for example be an alloy of nickel and iron.

Abstract (fr)

Selon ce procédé, on fabrique une structure comprenant un substrat isolant (32), au moins un conducteur cathodique (34), une couche isolante (36), une couche de grille (40), on forme des trous (42) à travers la couche de grille et la couche isolante, on forme sur la couche de grille, par une méthode de dépôt chimique humide, une couche sacrificielle (44), on dépose sur l'ensemble une couche d'un matériau émetteur d'électrons (52) et on élimine la couche sacrificielle. Application à la fabrication d'écrans plats. <IMAGE>

IPC 1-7

H01J 9/02

IPC 8 full level

C25F 3/02 (2006.01); **H01J 1/304** (2006.01); **H01J 9/02** (2006.01)

CPC (source: EP US)

H01J 9/025 (2013.01 - EP US)

Citation (applicant)

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