

Title (en)

FIELD EMISSION DEVICES MADE WITH LASER AND/OR PLASMA TREATED CARBON NANOTUBE MATS, FILMS OR INKS

Title (de)

MIT LASER UND/ODER PLASMA BEHANDELTEN KOHLENSTOFFNANORÖHRENMATTE; FOLIEN ODER TINTEN HERGESTELLTE FELD EMISSIONSVORRICHTUNGEN

Title (fr)

DISPOSITIFS D'EMISSION DE CHAMP COMPRENANT DES MATS, FILMS OU ENCRE DE NANOFIBRES DE CARBONE TRAITEES AU LASER ET/OU AU PLASMA

Publication

EP 1663857 A4 20110525 (EN)

Application

EP 04777763 A 20040709

Priority

- US 2004021878 W 20040709
- US 48591803 P 20030709

Abstract (en)

[origin: WO2005012162A2] Field emission devices comprising carbon nanotube mats which have been treated with laser or plasma are provided. Mats are formed from carbon nanotubes, also known as carbon fibrils, which are vermicular carbon deposits having diameters of less than about one micron. The carbon nanotube mats are then subjected to laser or plasma treatment. The treated carbon nanotube mat results in improved field emission performance as either a field emission cathode or as part of a field emission device.

IPC 8 full level

H01B 1/04 (2006.01); **H01J 1/304** (2006.01); **H01J 9/02** (2006.01); **H01J 9/04** (2006.01)

IPC 8 main group level

C01B (2006.01)

CPC (source: EP KR)

B01J 19/12 (2013.01 - EP KR); **B82Y 10/00** (2013.01 - EP KR); **B82Y 30/00** (2013.01 - EP KR); **H01B 1/04** (2013.01 - EP KR); **H01J 1/304** (2013.01 - EP KR); **H01J 9/025** (2013.01 - EP KR); **H01J 2201/30469** (2013.01 - EP KR)

Citation (search report)

- [XP] WO 03084865 A2 20031016 - HYPERION CATALYSIS INT [US]
- [X] US 2003090190 A1 20030515 - TAKAI MIKIO [JP], et al
- [A] US 6031711 A 20000229 - TENNENT HOWARD [US], et al
- [A] US 6099965 A 20000808 - TENNENT HOWARD [US], et al
- [A] WO 02095098 A1 20021128 - HYPERION CATALYSIS INT [US]
- See references of WO 2005012162A2

Designated contracting state (EPC)

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DOCDB simple family (publication)

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DOCDB simple family (application)

US 2004021878 W 20040709; AU 2004261558 A 20040709; CA 2531628 A 20040709; CN 200480025387 A 20040709; EP 04777763 A 20040709; JP 2006518900 A 20040709; JP 2010102215 A 20100427; KR 20067000515 A 20060109; KR 20097014364 A 20040709; KR 20097014365 A 20040709; MX PA06000248 A 20040709