

Title (en)  
Field emission device.

Title (de)  
Feldemissionsvorrichtung.

Title (fr)  
Dispositif d'émission de champ.

Publication  
**EP 0288616 A1 19881102 (EN)**

Application  
**EP 87303550 A 19870422**

Priority  
EP 87303550 A 19870422

Abstract (en)  
A device is disclosed which produces high current, low noise, low lateral energy, stochastic electron emission from a multiplicity of insulative particles subjected to a field. The insulative particles are in and of a surface thickness comprised of a random mixture of insulative and conductive particles in ohmic contact. Emission is achieved at applied potentials of about 5 volts which produce a field sufficient to emit electron currents of nanoamperes to milliamperes. Single devices or arrays of devices may be batch fabricated. each device has an integral, implicitly self-aligned electron optic system comprising means for modulating, focusing and deflecting the formed current beam, and means shielding the device from ambient magnetic fields.

IPC 1-7  
**H01J 1/30**

IPC 8 full level  
**H01J 1/304** (2006.01)

CPC (source: EP)  
**H01J 1/3042** (2013.01); **H01J 3/021** (2013.01); **H01J 2201/30403** (2013.01); **H01J 2201/319** (2013.01)

Citation (applicant)  
• US 4498952 A 19850212 - CHRISTENSEN ALTON O [US]  
• US 4213192 A 19800715 - CHRISTENSEN ALTON O SR [US]  
• SIMMONS, JOURNAL OF PHYSICS, vol. 4, 1971, pages 641  
• O'REILLY, SOLID STATE ELECTRONICS, vol. 18, 1975, pages 965

Citation (search report)  
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• [A] GB 1226627 A 19710331  
• [A] US 4008412 A 19770215 - YUITO ISAMU, et al  
• [E] US 4663559 A 19870505 - CHRISTENSEN ALTON O [US]

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EP0483814A3; US5332627A; US6097139A; EP0827176A3; EP1225613A4

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