

Title (en)  
ELECTRON EMITTER AND METHOD FOR PRODUCING THE SAME

Title (de)  
ELEKTRONENEMITTER UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)  
EMETTEUR D'ELECTRONS ET SON PROCEDE DE PRODUCTION

Publication  
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Application  
**EP 00912394 A 20000225**

Priority

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Abstract (en)  
[origin: DE19910156A1] The invention relates to an electron emitter that is provided with conductive cylindrical areas which are located in an insulating layer that is arranged on a substrate. Said areas are arranged vertically in relation to the surface of the layer, are evenly formed over the entire thickness of the layer, are parallel to each other and are configured as homogeneously conducting channels. According to the method for producing such an electron emitter, an insulating layer having a thickness of 40 nm and 1,000 nm is mounted on a substrate. Said layer is then exposed to homogeneous radiation of heavy ions vertically in relation to the surface of the layer. The ions are provided with high energy that guarantees a sufficiently high energy deposition for restructuring the insulating layer over the entire thickness thereof. The ions are provided with a dose with a mean distance of the ions which statistically strike into the insulating layer. Said distance is between 20 nm and 1,000 nm.

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