

Title (en)

METHOD FOR PRODUCING AN EMITTING CATHODE USING SOL-GEL TECHNIQUE AND RESULTING CATHODE

Title (de)

SOL-GEL-VERFAHREN ZUR HERSTELLUNG EINER EMISSIONSKATHODE UND GEMÄSS DEM VERFAHREN HERGESTELLTE KATHODE

Title (fr)

PROCEDE DE REALISATION D'UNE CATHODE D'EMISSION A L'AIDE DE LA TECHNIQUE SOL-GEL ET CATHODE OBTENUE PAR UN TEL PROCEDE

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Application

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Abstract (en)

[origin: WO0135434A1] The invention concerns a cathode emitting electrons comprising a substrate (1) produced in the form of a metal filament having a diameter ranging between 50 and 400 μm and, preferably, of the order of 100 μm , or a planar metal chip whereof the emitting surface ranges between 0.01 mm^2 and 100 mm^2 , the metal substrate (1) being coated with a metal oxide layer (4) obtained from a sol containing a metal alkoxide $(\text{M} - (\text{OR})_n)$ wherein M represents a metal and R an alkyl group, the metal oxide layer (4) defining with the metal substrate (1), an electronic junction having a potential barrier height of a few tenths of electrons volts and having a thickness ranging between 1 and 10 nm and, preferably, of the order of 5 nm.

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