

ABSTRACT OF THE DISCLOSURE

FIELD EMISSION ELECTRON SOURCE, METHOD OF
PRODUCING THE SAME, AND USE OF THE SAME

A field emission electron source comprising an electrically conductive substrate 1, an oxidized or nitrided porous polysilicon layer 6 formed on the surface of said electrically conductive substrate on one side thereof and having nano-structures and a thin metal film 7 formed on said oxidized or nitrided porous polysilicon layer. Wherein a voltage is applied to said thin metal film used as a positive electrode with respect to said electrically conductive substrate thereby to emit electron beam through said thin metal film.

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Fig. 1