

Title (en)

Method for forming a field emission cold cathode

Title (de)

Herstellungsverfahren einer Feldemissionskaltkathode

Title (fr)

Procédé de fabrication d'une cathode froide à émission de champ

Publication

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Application

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Abstract (en)

The present invention provides a method for reshaping up a cone-like electrode (3) which is made of a refractory metal containing silicon. The method comprises the following steps. A surface of the cone-like electrode (3) is subjected to an oxidation of silicon which is contained in the refractory metal. The oxidation is generated at rates which increase toward a top portion of the cone-like electrode. As a result, a silicon oxide film (9) is formed, which coats the cone-like electrode (3). The silicon oxide film (9) has thickness which gradually increase toward a bottom portion of the cone-like electrode (3). An interface between the silicon oxide film (9) and the cone-like electrode (3) has sloped angles which increase toward the top portion. The silicon oxide film (9) is removed to thereby expose a reshaped cone electrode (3) which has a sharply pointed top. The reshaped cone electrode (3) has a surface having sloped angles which increase toward the sharply pointed top. <IMAGE>

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