

Title (en)

INDIRECTLY HEATED BUTTON CATHODE FOR AN ION SOURCE

Title (de)

INDIREKT GEHEIZTE KNOPFKATHODE FÜR EINE IONENQUELLE

Title (fr)

CATHODE POSSEDANT UN BOUTON A RECHAUFFEMENT INDIRECT POUR SOURCE D'IONS

Publication

**EP 1481413 A2 20041201 (EN)**

Application

**EP 03706715 A 20030220**

Priority

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- US 9135102 A 20020306
- US 25982702 A 20020930

Abstract (en)

[origin: WO03075305A2] An indirectly heated button cathode for use in the ion source of an ion implanter has a button member formed of a slug piece mounted in a collar piece. The slug piece is thermally insulated from the collar piece to enable it to operate at a higher temperature so that electron emission is enhanced and concentrated over the surface of the slug piece. The slug piece and collar piece can be both of tungsten. Instead the slug piece may be of tantalum to provide a lower thermionic work function. The resultant concentrated plasma in the ion source is effective to enhance the production of higher charge state ions, particularly P+++ for subsequent acceleration for high energy implantation.

IPC 1-7

**H01J 37/00**

IPC 8 full level

**H01J 27/02** (2006.01); **H01J 27/04** (2006.01); **H01J 27/08** (2006.01); **H01J 37/00** (2006.01); **H01J 37/08** (2006.01); **H01J 37/317** (2006.01)

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