

Title (en)
Electron transmissive window

Title (de)
Elektronenstrahltransparentes Fenster

Title (fr)
Fenêtre perméable aux faisceaux d'électrons

Publication
EP 1197983 A1 20020417 (DE)

Application
EP 01124495 A 20011012

Priority
DE 10050811 A 20001013

Abstract (en)
Electron beam-transparent window comprises an electron beam-transparent film (1); and a holding element (2) for supporting a peripheral region of the film in the operating position. The holding element is made of a material having a linear heat expansion coefficient which is similar to the linear heat expansion coefficient of the material of the film. An Independent claim is also included for a process for the production of an electron beam-transparent window comprising forming a diamond plate having a thickness of 10-1000 μm ; and thinning out the plate over a surface corresponding to at least the cross-section of the electron beam up to a thickness which is transparent for electrons to form a passage zone with the holding element as supporting element surrounding the holding element. Preferred Features: The electron beam-transparent film is made of diamond or molybdenum. The holding element is made of molybdenum, tungsten, titanium, tantalum or their low-alloyed alloys, diamond, glass or ceramic.

Abstract (de)
Die Erfindung betrifft ein elektronenstrahltransparentes Fenster umfassend eine von einem Trägersubstrat abgetrennte elektronenstrahltransparente Folie (1, 10, 300a) sowie ein Halteelement (2, 300b) zur Unterstützung eines peripheren Bereichs der elektronenstrahltransparenten Folie im Betriebszustand, wobei das Halteelement (2, 300b) aus einem Material besteht, das einen dem linearen Wärmeausdehnungskoeffizienten des Folienmaterials angepassten linearen Wärmeausdehnungskoeffizienten aufweist. Die Erfindung betrifft weiterhin ein Verfahren zur Herstellung eines elektronentransparenten Fensters und einen Röntgenstrahler mit einem solchen Fenster. <IMAGE>

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H01J 5/18; H01J 33/04; H01J 35/18

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H01J 5/18 (2013.01 - EP US); **H01J 33/04** (2013.01 - EP US); **H01J 2235/082** (2013.01 - EP US)

Citation (search report)

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