

Title (en)

Rotating anode X-ray tube with a liquid lubricant.

Title (de)

Drehanoden-Röntgenröhre mit flüssigem Schmiermittel.

Title (fr)

Tube à rayons X à anode tournante à lubrifiant liquide.

Publication

EP 0373705 B1 19940615 (DE)

Application

EP 89203122 A 19891208

Priority

DE 3842034 A 19881214

Abstract (en)

[origin: JPH02244545A] PURPOSE: To prevent the operation of an X-ray tube from being degraded by precipitation of lubricant to be leaked from a bearing by containing a substance forming a mixture phase or an alloy as the result of lubricant leakage on a face in an opening region via a part at which a bearing comes into contact with the remaining vacuum region. CONSTITUTION: A face in an opening region where a lubricant leaked from a bearing enters the remaining vacuum region of an X-ray tube is gold-plated. Gold-plating is performed for an exterior face of a support element 9, an opposite face of a bush 10, and an interior face of a rotor 11. A gallium alloy forming a lubricant wets a gold-plated metal face, and therefore a new alloy is formed at the room temperature. Lubricant precipitation is adhered to these metal faces in a region free of an electric field and never leaked in a vacuum region of the X-ray tube met by the electric field. Thus, a face in an opening region is easily wetted by lubricant and finished so as to form the latter and alloy. Gold or the other precise metal are employed as a metal against gallium as lubricant.

IPC 1-7

H01J 35/10

IPC 8 full level

H01J 35/10 (2006.01)

CPC (source: EP US)

H01J 35/104 (2019.04 - EP US); **H01J 2235/106** (2013.01 - EP US); **H01J 2235/1066** (2013.01 - EP US)

Cited by

EP0479197A1; EP0479194A1; EP0477868A1; US5169243A; DE19510068A1; US5654999A; EP0479198A1; US5210781A; DE19606871A1; DE19606871C2; DE19510067A1

Designated contracting state (EPC)

CH DE FR GB LI NL

DOCDB simple family (publication)

EP 0373705 A2 19900620; EP 0373705 A3 19910130; EP 0373705 B1 19940615; DE 3842034 A1 19900621; DE 58907890 D1 19940721; JP 2960085 B2 19991006; JP H02244545 A 19900928; US 5077776 A 19911231

DOCDB simple family (application)

EP 89203122 A 19891208; DE 3842034 A 19881214; DE 58907890 T 19891208; JP 32124589 A 19891211; US 66442191 A 19910304