

Title (en)

Microfocus x-ray tube for microscopic inspection apparatus

Title (de)

Mikrofokus-Röntgenröhre für ein Inspektionsmikroskop

Title (fr)

Tube rayons-X à microfoyer pour appareil d'inspection microscopique

Publication

EP 1557865 A1 20050727 (EN)

Application

EP 04001490 A 20040123

Priority

EP 04001490 A 20040123

Abstract (en)

An X-ray microscopic inspection apparatus with high resolving power equal to or better than 0.1 μm requiring only short exposure time. The X-ray microscopic inspection apparatus comprises X-ray generating means generating X-rays by impinging electrons on a target (3), a magnetic superposition lens having a magnetic field generating portion disposed in the vicinity of an electron generating portion of an electron gun (1). Further, the apparatus includes a liquid metal electron source using liquid metal or a thermal field emission electron source and a target with a heat sink comprising thin CVD diamond plate. <IMAGE>

IPC 1-7

H01J 35/14; H01J 35/06; H01J 35/12; H01J 35/18; G21K 7/00

IPC 8 full level

G21K 7/00 (2006.01); **H01J 35/06** (2006.01); **H01J 35/12** (2006.01); **H01J 35/14** (2006.01); **H01J 35/18** (2006.01); **H05G 1/02** (2006.01)

CPC (source: EP US)

G21K 7/00 (2013.01 - EP); **H01J 35/12** (2013.01 - EP US); **H01J 35/147** (2019.04 - EP US); **H01J 35/116** (2019.04 - EP); **H01J 35/186** (2019.04 - EP); **H01J 2235/1204** (2013.01 - EP US); **H01J 2237/2807** (2013.01 - EP)

Citation (search report)

- [X] GB 2131224 A 19840613 - ATOMIC ENERGY AUTHORITY UK
- [Y] GB 735943 A 19550831 - VERNON ELLIS COSSLETT
- [Y] WO 0115192 A1 20010301 - FEI CO [US]
- [Y] US 6282263 B1 20010828 - ARNDT ULRICH WOLFGANG [GB], et al
- [A] WO 03065772 A2 20030807 - UNIV JOHNS HOPKINS [US], et al
- [A] US 5602899 A 19970211 - LARSON PAUL E [US]
- [X] EP 0473227 A2 19920304 - PHILIPS NV [NL]
- [A] DE 10029840 A1 20010104 - SCHLUMBERGER TECHNOLOGIES INC [US]
- [X] US 2001001010 A1 20010510 - WILKINS STEPHEN WILLIAM [AU]
- [A] WO 0161724 A1 20010823 - TECHNOLOGIES LTD X [US]

Cited by

CN102497716A; WO2017034432A1; US10847336B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 1557865 A1 20050727

DOCDB simple family (application)

EP 04001490 A 20040123