Title (en)

Intense soft X-ray source from a cylindrically compressed plasma created by explosion of a foil.

Title (de)

Intensive Quelle von weichen Röntgenstrahlen mit durch Explosion einer Folie erhaltenen zylindrisch-kompressierten Plasma.

Title (fr)

Source intense de rayons x mous, à compression cylindrique de plasma, ce plasma étant obtenu à partir d'une feuille explosée.

Publication

EP 0143011 A1 19850529 (FR)

Application

EP 84401732 A 19840829

Priority

FR 8314085 A 19830902

Abstract (en)

[origin: US4602376A] Intense soft X-ray source comprising a means for producing a cylindrical plasma jet between a cathode and an anode, connected to a pulsed high voltage generator, wherein the means for producing the plasma jet comprises a capacitor bank connected to a charging voltage source and also to a transmission line provided with a tripping means, the assembly having a very low inductance so as to permit a rapid discharge; a sheet of solid material connected by its periphery to one of the conductors of the line and by its central part to the other conductor, so that a radial discharge can be produced when the tripping means is conductive, a plasma jet resulting from the explosion of the sheet; a means for giving the said plasma jet a cylindrical shape.

Abstract (fr)

Pour produire le jet de plasma, on dispose une feuille mince (40) entre deux électrodes coaxiales (30, 34). La décharge de condensateurs à travers une ligne rapide (22) permet de faire exploser la feuille et de créer le plasma. Application à la production de rayons X mous.

IPC 1-7

H01J 35/00; H05H 1/52

IPC 8 full level

H01J 35/22 (2006.01); **H05G 2/00** (2006.01); **H05H 1/52** (2006.01)

CPC (source: EP US)

H05G 2/003 (2013.01 - EP US); **H05H 1/52** (2013.01 - EP US)

Citation (search report)

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- [Y] JOURNAL OF APPLIED PHYSICS, vol. 49, no. 9, septembre 1978, pages 4694-4706, New York, USA; W.L. BAKER et al.: "Electromagnetic-implosion generation of pulsed high-energy-density plasma"
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- [AD] PROCEEDINGS OF THE SOCIETY OF PHOTO-OPTICAL INSTRUMENTATION ENGINEERS, "SPIE", vol. 316, 1981, pages 196-202, Bellingham, USA; R.A. GUTCHECK et al.: "Intense plasma source for x-ray microscopy"
- [AD] JOURNAL OF VACUUM SCIENCE AND TECHNOLOGY, vol. 19, no. 4, novembre/décembre 1981, pages 1190-1193, New York, USA; J.S. PEARLMAN et al.: "X-ray lithography using a pulsed plasma source"

Designated contracting state (EPC)

DE GB

DOCDB simple family (publication)

FR 2551614 A1 19850308; **FR 2551614 B1 19860321**; EP 0143011 A1 19850529; JP S6074335 A 19850426; US 4602376 A 19860722

DOCDB simple family (application)

FR 8314085 A 19830902; EP 84401732 A 19840829; JP 18254784 A 19840831; US 64345784 A 19840823