

Title (en)

METHOD AND APPARATUS FOR GENERATING NUCLEAR FUSION ENERGY BY COHERENT BOSONS.

Title (de)

VERFAHREN UND VORRICHTUNG ZUR ERZEUGUNG NUKLEARER FUSIONSENERGIE MITTELS KOHÄRENTER BOSONEN.

Title (fr)

PROCEDE ET APPAREIL POUR GENERER UNE ENERGIE DE FUSION NUCLEAIRE A L'AIDE DE BOSONS COHERENTS.

Publication

**EP 0615650 A4 19941214 (EN)**

Application

**EP 93900794 A 19921201**

Priority

- US 9210361 W 19921201
- US 80180491 A 19911202

Abstract (en)

[origin: WO9311543A1] With an extremely short laser pulse with not too high an intensity it is possible to ionize deuterium, or helium into coherent bosons such as coherent deuterons and coherent alpha particles. To achieve this coherence it is important that certain critical conditions are satisfied so that plasma instabilities such as stimulated Raman scattering, stimulated Brillouin scattering, parametric instability have not enough time to grow to destroy the coherence. The electrons created during the multiphoton ionization process also must not recombine with the ions or to destroy the coherence of the ions by electromagnetic scattering. With the creation of coherent deuterons and coherent alpha particles together, the fusion rate of coherent deuterons into coherent alpha particles will be greatly enhanced. The nuclear fusion energy thus released can be utilized.

IPC 1-7

**G21B 1/00**

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

- [DA] WO 9012403 A1 19901018 - LO SHUI YIN [US]
- [DA] WO 9013130 A1 19901101 - LO SHUI YIN [US]
- [PA] WO 9220089 A2 19921112 - LO SHUI YIN [US]
- [XA] C.K. RHODES: "VUV and XUV generation with multiphoton excitation", JOURNAL OF THE OPTICAL SOCIETY OF AMERICA - B, vol. 1, no. 3, June 1984 (1984-06-01), NEW YORK US, pages 521 - 522, XP000712559
- [XA] CLARK ET AL.: "Possibilities for achieving X-ray lasing action by use of high-order multiphoton processes", JOURNAL OF THE OPTICAL SOCIETY OF AMERICA - B, vol. 3, no. 3, March 1986 (1986-03-01), NEW YORK US, pages 371 - 378, XP000709597
- [A] C. K. RHODES: "X-Ray and vacuum ultraviolet lasers", PROCEEDINGS OF THE INT. CONF. ON LASERS '85 - LAS VEGAS, USA - 2-6 DEC. 1985, pages 262 - 263
- [A] EGGER ET AL.: "Multiphoton ionization and short wavelength stimulated emission using excimer lasers", PROCEEDINGS OF SPIE - EXCIMER LASERS, THEIR APPLICATIONS, AND NEW FRONTIERS IN LASERS - ARLINGTON, VIRGINIA 1-2 MAY 1984, vol. 476, pages 52 - 60
- See references of WO 9311543A1

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