

Title (en)

METHOD AND DEVICE FOR GENERATING EXTREME ULTRAVIOLET RADIATION IN PARTICULAR FOR LITHOGRAPHY

Title (de)

VERFAHREN UND VORRICHTUNG ZUR ERZEUGUNG VON LICHT IM EXTREMEN ULTRAVIOLETT INSBESONDERE FÜR DIE LITHOGRAPHIE

Title (fr)

PROCEDE ET DISPOSITIF DE GENERATION DE LUMIERE DANS L'EXTREME ULTRAVIOLET NOTAMMENT POUR LA LITHOGRAPHIE

Publication

**EP 1382230 A1 20040121 (FR)**

Application

**EP 02738200 A 20020416**

Priority

- FR 0201306 W 20020416
- FR 0105241 A 20010418

Abstract (en)

[origin: WO02085080A1] The invention concerns a method which consists in causing a laser beam (24) to interact with a dense mist (20) of micro-droplets of a liquefied rare gas. In particular liquid xenon (6) is used, the latter being produced by liquefying a gaseous xenon (10) whereby the liquid xenon is pressurised to a pressure of  $5 \times 10^{-5}$  Pa to  $50 \times 10^{-5}$  Pa, and said liquid xenon is maintained at a temperature between -70 DEG C and -20 DEG C, said pressurised liquid xenon is injected into a nozzle (4) whereof the minimum internal diameter ranges between 60  $\mu$ m and 600  $\mu$ m, said nozzle emerging into a zone where the pressure is not less than  $10^{-1}$  Pa.

IPC 1-7

**H05G 2/00**

IPC 8 full level

**H05G 1/00** (2006.01); **G03F 7/20** (2006.01); **H01J 35/20** (2006.01); **H01L 21/027** (2006.01); **H05G 2/00** (2006.01)

CPC (source: EP KR US)

**G03F 7/70033** (2013.01 - EP US); **H05G 2/00** (2013.01 - KR); **H05G 2/003** (2013.01 - EP US); **H05G 2/006** (2013.01 - EP US); **H05G 2/008** (2013.01 - EP US)

Citation (search report)

See references of WO 02085080A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

**WO 02085080 A1 20021024**; CN 1618259 A 20050518; EP 1382230 A1 20040121; FR 2823949 A1 20021025; JP 2004533704 A 20041104; KR 20030090745 A 20031128; RU 2003133464 A 20050127; TW 543099 B 20030721; US 2004129896 A1 20040708

DOCDB simple family (application)

**FR 0201306 W 20020416**; CN 02812268 A 20020416; EP 02738200 A 20020416; FR 0105241 A 20010418; JP 2002582673 A 20020416; KR 20037013509 A 20031015; RU 2003133464 A 20020416; TW 91106594 A 20020402; US 47359703 A 20031010