

Title (en)
GAS DISCHARGE LASER WITH BLADE-DIELECTRIC ELECTRODE

Title (de)
GASENTLADUNGSLASER MIT EINER DIELEKTRISCHEN KLINGENELEKTRODE

Title (fr)
LASER A GAZ AVEC ELECTRODE DI-ELECTRIQUE A LAME

Publication
EP 1287592 A4 20051109 (EN)

Application
EP 01934890 A 20010420

Priority

- US 0112815 W 20010420
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Abstract (en)
[origin: WO0197343A1] A gas discharge laser having a laser chamber with two elongated erodable electrode elements, at least one of the electrode elements (72) having a generally blunt blade-shaped portion comprised of a material having high electrical conductivity with a flow shaping dielectric fairing (74) positioned on two sides of the blunt blade shaped portion (72). A pulse power system provides electrical pulses at rates of at least 1 KHz. A blower circulates laser gas between the electrodes at speeds of at least 10m/s and a heat exchanger is provided to remove heat produced by the blower and the discharges.

IPC 1-7
H01S 3/038; H01S 3/225

IPC 8 full level
G03F 7/20 (2006.01); **H01S 3/036** (2006.01); **H01S 3/038** (2006.01); **H01S 3/223** (2006.01); **H01S 3/225** (2006.01); **H01S 3/041** (2006.01); **H01S 3/0979** (2006.01); **H01S 3/22** (2006.01)

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G03F 7/0025 (2013.01); **G03F 7/0041** (2013.01); **G03F 7/0575** (2013.01); **G03F 7/0933** (2013.01); **H01S 3/036** (2013.01); **H01S 3/038** (2013.01); **H01S 3/223** (2013.01); **H01S 3/225** (2013.01); **H01S 3/0381** (2013.01); **H01S 3/0385** (2013.01); **H01S 3/0387** (2013.01); **H01S 3/041** (2013.01); **H01S 3/0979** (2013.01); **H01S 3/22** (2013.01); **H01S 3/2207** (2013.01)

Citation (search report)

- [Y] WO 9960679 A1 19991125 - CYMER INC [US], et al
- [Y] DE 4401892 A1 19950727 - LAMBDA PHYSIK FORSCHUNG [DE]
- [Y] US 4481634 A 19841106 - GROSSMAN JONATHAN G [US], et al
- [Y] US 4723255 A 19880202 - COHN DAVID B [US], et al
- [Y] US 5923693 A 19990713 - OHMI TADAHIRO [JP], et al
- [Y] US 4833686 A 19890523 - ELDRIDGE ROBERT E [US]
- [A] US 5535233 A 19960709 - MIZOGUCHI HAKARU [JP], et al
- [Y] PATENT ABSTRACTS OF JAPAN vol. 014, no. 413 (E - 0974) 6 September 1990 (1990-09-06)
- [Y] PATENT ABSTRACTS OF JAPAN vol. 018, no. 240 (E - 1545) 9 May 1994 (1994-05-09)
- See references of WO 0197343A1

Designated contracting state (EPC)
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