

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
1 June 2006 (01.06.2006)

PCT

(10) International Publication Number
WO 2006/057941 A3

(51) International Patent Classification:
H01S 3/23 (2006.01) *H01S 3/0941* (2006.01)
H01S 3/063 (2006.01)

(21) International Application Number:
PCT/US2005/042065

(22) International Filing Date:
18 November 2005 (18.11.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/997,415 23 November 2004 (23.11.2004) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

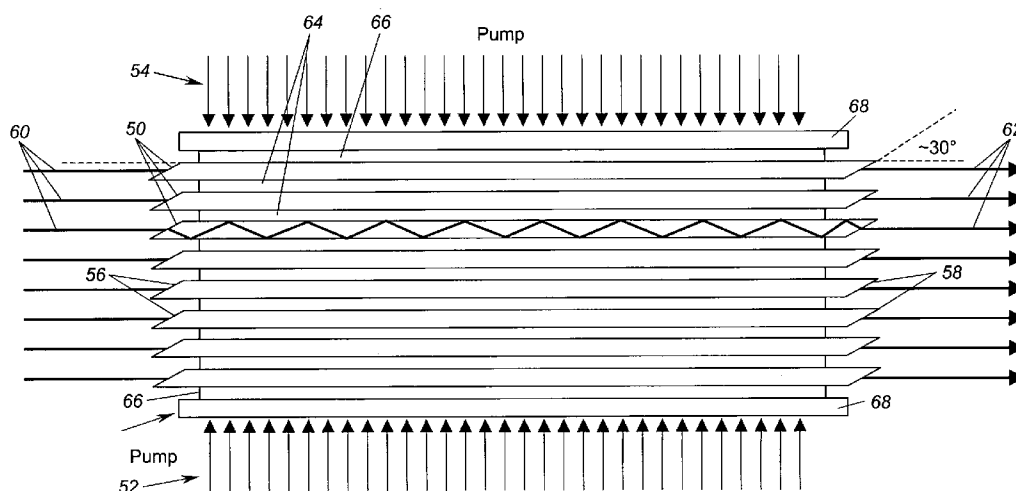
Published:

— with international search report

(88) Date of publication of the international search report:
22 February 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SCALABLE ZIG-ZAG LASER AMPLIFIER



(57) Abstract: A solid state laser amplifier architecture in which multiple zig-zag slab laser amplifiers (50) are stacked together, side-pumped using a common pump source (52, 54), and cooled with a common cooling system. The stack of zig-zag slabs (50) produces an array of sub-beams (62) that can be combined coherently into a single composite output beam. Variations in pump power absorption through the stack are mitigated by selection of doping levels for the slabs (50). The composite output beam is sufficiently symmetrical to be directed through conventional optics of circular cross section. Multiple stacks may be arranged in a two-dimensional array to obtain even higher output powers.

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2005/042065

A. CLASSIFICATION OF SUBJECT MATTER
 INV. H01S3/23 H01S3/063 H01S3/0941

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 H01S

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 1 160 940 A1 (TRW INC [US] NORTHROP GRUMMAN CORP [US]) 5 December 2001 (2001-12-05) paragraphs [0007], [0011], [0016], [0021]; figures 1,7,8 -----	1-16, 20-40
Y	EP 0 994 542 A (FANUC LTD [JP]) 19 April 2000 (2000-04-19) paragraphs [0014] - [0016]; figures 1-3 -----	1-16, 20-40
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A	US 2002/118718 A1 (HONEA ERIC C [US] ET AL) 29 August 2002 (2002-08-29) paragraphs [0009], [0011], [0041] -----	1,5,9, 11-15, 23,25

☐ Further documents are listed in the continuation of Box C.

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Date of the actual completion of the international search

20 October 2006

Date of mailing of the international search report

10/11/2006

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2005/042065

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