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- (71) Applicant (for all designated States except US): **FURUKAWA ELECTRIC NORTH AMERICA, INC.** [US/US]; 2000 Northeast Expressway, Suite 2h02, Norcross, GA 30071 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **RAMACHANDRAN, Siddharth**; 310 Madison Street, Apt.no. 1r, Hoboken, NJ 07030 (US). **DIGIOVANNI, David, J.**; 41 Lookout Road, Mountain Lakes, NJ 07046 (US).
- (74) Agent: **MORRA, Michael, A.**; Furukawa Electric North America Inc., 2000 Northeast Expressway, Suite 2h02, Norcross, GA 30071 (US).
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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
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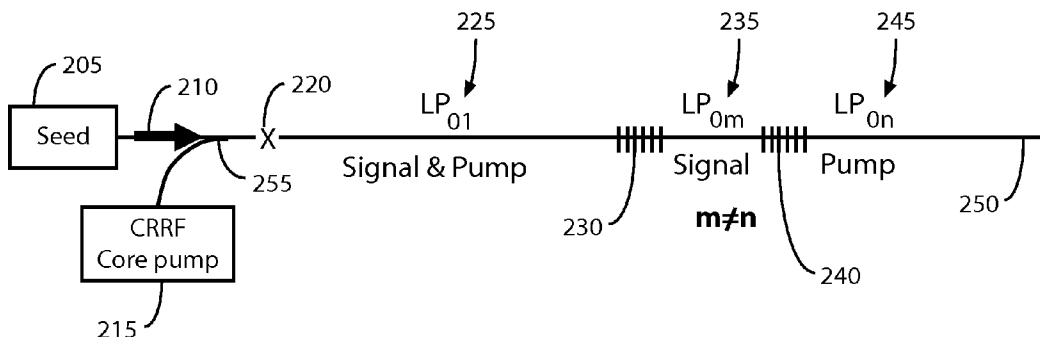


FIG. 2A

(57) Abstract: The present disclosure provides an approach to more efficiently amplify signals by matching either the gain materials or the pump profile with the signal profile for a higher-order mode (HOM) signal. By doing so, more efficient energy extraction is achieved.

WO 2008/097986 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 08/53069

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(8) - G02B 6/26 (2008.04)
 USPC - 385/39
 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)
 USPC: 385/39

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 USPC: 385/27, 28, 31, 32, 39, 123-127, 141, 142 (text search - see terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 PubWEST(USPT,PGPB,EPAB,JPAB); Google
 Search Terms: pump, seed, core, cladding, trench, erbium, Ytterbium, doped cladding, active cladding, intensity, profile, distribution

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|--------------|--|--|
| X -- Y | US 2006/0269200 A1 (DIGIOVANNI et al.) 30 November 2006 (30.11.2006), entire document especially Fig 4; para [0050] | 2, 7, and 13-15 ----- 1, 3-6, 8-12, and 16 |
| Y | US 2002/0126956 A1 (BOUTELLER et al.) 12 September 2002 (12.09.2002), entire document especially paras [0004] and [0049] | 1, 3-6 and 16 |
| Y | US 6,917,742 B2 (PO) 12 July 2005 (12.07.2005), entire document especially the Abstract; col 9, ln 9-col 10, ln 10 | 1, 8 and 11-12 |
| Y | US 6,483,974 (WAARTS) 19 November 2002 (19.11.2002), entire document especially Figs 1-4; col 3, lns 53-56; col 4, lns 50-55 | 1 and 9-12 |
| A | US 2004/0052495 (ENGLUND et al.) 18 March 2004 (18.03.2004) entire document | 1-16 |

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