Record 1 of 1

Title: Erbium Ytterbium doped fiber amplifier and laser based on 927 nm multimode pumping

Author(s): Jusoh, Z (Jusoh, Z.); Harun, SW (Harun, S. W.); Ali, SMM (Ali, S. M. M.); Ali, NM (Ali, N. M.); Arof, H (Arof, H.); Ahmad, H (Ahmad, H.)

Source: OPTOELECTRONICS AND ADVANCED MATERIALS-RAPID COMMUNICATIONS Volume: 8 Issue: 7-8 Pages: 701-704 Published: JUL-AUG 2014

Abstract: The performance of a high output power Erbium Ytterbium doped fiber amplifier (EYDFA) and Erbium ytterbium doped fiber laser are investigated using a star shape double clad fiber in conjunction with 927 nm cladding pumping. The EYDFA provides a flat gain of 22.4 dB within a wavelength region ranging from 1545 nm to 1570 nm when the input signal and pump powers are fixed at 0 dBm and 3 W, respectively. The corresponding noise figure is 5.73 dB at 1550.4 nm. A broadband fiber Bragg grating (FBG) is used in conjunction with a perpendicularly cleaved output fiber to achieve lasing at 1565.5 nm with a threshold pump power of as low as 0.1 mW. The output power of 1060 mW is achieved with pump power of 2.8 W, which translates of 39% efficiency without any sign of roll over.

Accession Number: WOS:000340577900017

Language: English

Document Type: Article

Author Keywords: Fiber Laser; Fiber Amplifier; Ytterbium; Double clad fiber; Multimode combiner


Reprint Address: Harun, SW (reprint author), Univ Malaya, Fac Engn, Dept Elect Engn, Kuala Lumpur 50603, Malaysia.

E-mail Addresses: swharun@um.edu.my

Publisher: NATL INST OPTOELECTRONICS

Publisher Address: 1 ATOMISTILOR ST, PO BOX MG-5, BUCHAREST-MAGURELE 76900, ROMANIA

Web of Science Categories: Materials Science, Multidisciplinary; Optics

Research Areas: Materials Science; Optics

IDS Number: AN4SD

ISSN: 1842-6573
eISSN: 2065-3824

29-char Source Abbrev.: OPTOELECTRON ADV MAT


Source Item Page Count: 4

Funding:

<table>
<thead>
<tr>
<th>Funding Agency</th>
<th>Grant Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Malaya</td>
<td></td>
</tr>
<tr>
<td>Ministry of Higher Education (MORE)</td>
<td>ER012-2013A</td>
</tr>
<tr>
<td></td>
<td>RP008D-13AET</td>
</tr>
<tr>
<td></td>
<td>PG139-2012B</td>
</tr>
</tbody>
</table>

The authors acknowledge the financial support from the University of Malaya and Ministry of Higher Education (MORE) under various grant schemes (Grant No: ER012-2013A, RP008D-13AET and PG139-2012B).