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TUTORIAL TOPIC:

How to build high power fiber lasers?

TUTORIAL:

Fiber Lasers are laser sources integrated directly into optical fibers. Such Lasers possess excellent thermal management and beam stability. They are rapidly replacing previous high power technologies such as solid-state and carbon-di-oxide lasers for industrial and defense applications. The most mature and widespread variation of fiber lasers utilizes glass optical fibers doped with rare-earth materials such as Ytterbium and Erbium. In these lasers, low brightness, low efficacy light from semiconductor diodes is converted through absorption and re-emission by the rare-earth dopants into high brightness light useful for applications. In this tutorial, we will look at the physics and technology of high power rare-earth doped fiber lasers. A detailed, step by step process for designing and building such a laser will be described.

PROFILE:

EDUCATION:

- Ph.D. Electrical and Computer Engineering, 2011, Purdue University, West Lafayette, IN, USA
- B.Tech. Engineering Physics, 2006, Indian Institute of Technology Madras, Chennai, India

EXPERIENCE:

- Assistant Professor, Indian Institute of Science, Bangalore, Aug 2014 – Present.
- Inspire Faculty Fellow, Department of Science and Technology, India, Aug 2014-Present.
- Member of Technical Staff, OFS Laboratories, Somerset, NJ, USA, 2011-2014.