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## Highly efficient and high output power of erbium doped fiber laser in a linear cavity configuration (Article)

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### Abstract

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A simple Erbium Doped Fiber Laser (EDFL) in linear cavity configuration is reported. The cavity design is based on an FBG as a back reflector, and a loop back optical circulator with an output coupler as the front reflector. Different coupling ratios of the coupler are tested and 50: 50 provides the highest coupling output power of 22.06 dBm (160.7 mW). The pump power conversion efficiency is about 95% when pumping with two pump lasers at 1460 and 1490 nm with combined pumping power of 545 mW. The laser output has a measured linewidth of 0.0179 nm. © 2010 Pleiades Publishing, Ltd.

### SciVal Topic Prominence ⓘ

Topic: Erbium-Doped Fiber | Ring Lasers | Thulium

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### Indexed keywords

Engineering uncontrolled terms

Back reflectors Cavity design Coupling outputs Coupling ratios  
Erbium doped fiber laser High output power Laser output  
Linear cavity Optical circulator Output couplers Pump power conversion efficiency  
Pumping power Two-pump

Engineering controlled terms:

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