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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.

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