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Characterization of Thulium Doped Fiber for Mid Infrared Laser Applications

We present measurements of the slope efficiency and the pump power at threshold for a “triple-clad” thulium doped fiber laser, operating at around 2 μm wavelength. We observe fiber laser efficiencies as high as 47 % and output power of 5 W for 20 W of absorbed pump power. The dependence of the laser efficiency on different cooling methods will be discussed.

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