

Highly efficient, high-power thulium-doped fibre amplifier via in-band pumping at 1.7 μm

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We present a high-power, highly efficient thulium-doped fiber amplifier which is cladding-pumped at 1692 nm. For the first time, a Tm-doped fiber suitable for ultrafast operation with considerable pulse energies provides slope efficiencies around 80% with 58 W output power. Using commercially available pump sources, this approach is highly scalable.

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