Contribution ID: **54** Type: **Oral**

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

Tuesday, 30 August 2022 17:30 (15 minutes)

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.

code

Primary authors: LENSKI, Mathias (Institute of Applied Physics, Abbe Center of Photonics, Friedrich-Schiller-University, Jena, Germany); HEUERMANN, Tobias (Institute of Applied Physics, Abbe Center of Photonics, Friedrich-Schiller-University, Jena, Germany); GEBHARDT, Martin (Institute of Applied Physics, Abbe Center of Photonics, Friedrich-Schiller-University, Jena, Germany); WANG, Ziyao (Institute of Applied Physics, Abbe Center of Photonics, Friedrich-Schiller-University, Jena, Germany); GAIDA, Christian (Institute of Applied Physics, Abbe Center of Photonics, Friedrich-Schiller-University, Jena, Germany); JAUREGUI, César (Institute of Applied Physics, Abbe Center of Photonics, Friedrich-Schiller-University, Jena, Germany); LIMPERT, Jens (Institute of Applied Physics, Abbe Center of Photonics, Friedrich-Schiller-University, Jena, Germany)

Presenter: LENSKI, Mathias (Institute of Applied Physics, Abbe Center of Photonics, Friedrich-Schiller-University, Jena, Germany)

Session Classification: FWD 2 Thulium lasers and amplifiers