

Inline Amplification of Mid-Infrared Intrapulse Difference Frequency Generation

Friday, 2 September 2022 08:30 (15 minutes)

We present an inline mid-infrared source based on intrapulse-difference-frequency-generation and subsequent optical parametric amplification, with pump recycling. Driven by an Yb-doped-fiber amplifier at 1030 nm, at a repetition rate of 250 kHz, the source delivers 1 μ J 73 fs pulses at 8 μ m, corresponding to an unprecedented efficiency of 2%.

Primary authors: BOURNET, Quentin (Université Paris-Saclay, Institut d'Optique Graduate School, CNRS, Laboratoire Charles Fabry, Palaiseau, France); GUICHARD, Florent (Amplitude, 11 Avenue de Canteranne, Cité de la Photonique, Pessac, France); NATILE, Michele (Amplitude, 11 Avenue de Canteranne, Cité de la Photonique, Pessac, France); ZAOUTER, Yoann (Amplitude, 11 Avenue de Canteranne, Cité de la Photonique, Pessac, France); ZHENG, Antoine (Université Paris-Saclay, Institut d'Optique Graduate School, CNRS, Laboratoire Charles Fabry, Palaiseau, France); JOFFRE, Manuel (Laboratoire d'Optique et Biosciences, Ecole Polytechnique, CNRS, INSERM, Institut Polytechnique de Paris, Palaiseau, France); BONVALET, Adeline (Laboratoire d'Optique et Biosciences, Ecole Polytechnique, CNRS, INSERM, Institut Polytechnique de Paris, Palaiseau, France); JONUSAS, Mindaugas (Laboratoire d'Optique et Biosciences, Ecole Polytechnique, CNRS, INSERM, Institut Polytechnique de Paris, Palaiseau, France); DRUON, Frédéric (Université Paris-Saclay, Institut d'Optique Graduate School, CNRS, Laboratoire Charles Fabry, Palaiseau, France); HANNA, Marc (Université Paris-Saclay, Institut d'Optique Graduate School, CNRS, Laboratoire Charles Fabry, Palaiseau, France); GEORGES, Patrick (Université Paris-Saclay, Institut d'Optique Graduate School, CNRS, Laboratoire Charles Fabry, Palaiseau, France)

Presenter: BOURNET, Quentin (Université Paris-Saclay, Institut d'Optique Graduate School, CNRS, Laboratoire Charles Fabry, Palaiseau, France)

Session Classification: SSL 6 Piskarskas memorial