Q-switched thulium-doped photonic crystal fiber laser - DTU Orbit (13/12/2018)

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We report a novel, Tm-doped photonic crystal fiber (PCF) actively Q-switched oscillator that provides 8.9 kW peak power with 435 μJ, 49 ns pulses at 10 kHz repetition rate at 2 μm wavelength. This fiber has a mode-field area >1000 μm², the largest of any flexible PCF providing diffraction-limited beam quality to the best of our knowledge. As an application, the oscillator is used as pump to generate >350 nm broadening in 50 m of SMF-28 fiber.

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