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Synchronously Pumped Tantalum Pentoxide Waveguide-based Optical Parametric Oscillator

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A waveguide-based OPO (WOPO) exploiting four-wave mixing in the emerging tantalum pentoxide platform is investigated. The WOPO, pumped with 500 fs long pulses centered at 1.55 μ m wavelength with 2 nJ energy, provided up to 6 pJ pulse energy at 1.46 μ m wavelength. It shows potential to be fully integrated on a chip.

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