

Efficient and Broadband Generation of Mid-Infrared Pulses by Optical Parametric Amplification in Dispersion-Engineered Thin Film Lithium Niobate

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We demonstrate simple and efficient broadband mid-infrared generation via optical parametric amplification driven inside a dispersion-engineered nanophotonic waveguide. Using a commercially-available pulsed pump laser centered at 1045 nm and a CW telecom seed, we achieve up to 60% of conversion efficiency and 140 nm of mid-infrared spectral bandwidth.

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