

## Octave-spanning supercontinuum generation in a silicon-rich nitride waveguide - DTU Orbit (08/11/2017)

### Octave-spanning supercontinuum generation in a silicon-rich nitride waveguide

We experimentally show octave-spanning supercontinuum generation in a nonstoichiometric silicon-rich nitride waveguide when pumped by femtosecond pulses from an erbium fiber laser. The pulse energy and bandwidth are comparable to results achieved in stoichiometric silicon nitride waveguides, but our material platform is simpler to manufacture. We also observe wave-breaking supercontinuum generation by using orthogonal pumping in the same waveguide. Additional analysis reveals that the waveguide height is a powerful tuning parameter for generating mid-infrared dispersive waves while keeping the pump in the telecom band.

#### General information

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