Programmable optical waveform reshaping on a picosecond timescale - DTU Orbit
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Programmable optical waveform reshaping on a picosecond timescale
We experimentally demonstrate the temporal reshaping of optical waveforms in the telecom wavelength band using the principle of quantum frequency conversion. The reshaped optical pulses do not undergo any wavelength translation. The interaction takes place in a nonlinear chi(2) waveguide using an appropriately designed pump pulse programmed via an optical waveform generator. We show the reshaping of a single-peak pulse into a double-peak pulse and vice versa. We also show that exponentially decaying pulses can be reshaped into a near Gaussian shape, and vice versa, which is a useful functionality for quantum communications. (C) 2017 Optical Society of America

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