4. Conclusions

We have demonstrated a near-visible parametric wavelength converter, realised by pumping a PM-PCF with a highly versatile sub-ns amplitude modulated ECLD fiber amplified seed. The device provides a convenient source of radiation in the 0.74-0.81 μm wavelength range, at pulse durations tunable from 0.2–1.5 ns and repetition rates of 1–30 MHz. Slope conversion efficiencies of 14.9% were achieved with corresponding average output powers of 845 mW at a output wavelength of 0.775 μm. The spectral linewidth of the near-visible parametric sideband was found to increase significantly with output power, with broadening attributed to SPM on the pump. This offers the potential of accessing femtosecond-scale pulses through re-compression of the chirped anti-Stokes pulses. We anticipate that this source will prove a useful tool, in particular, for biophotonic applications.

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