OPCPA | HE

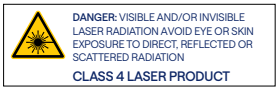
High-Energy OPCPA Systems

- Multi-TW peak-power pulses at up to 1 kHz
- 800 nm, 1600 nm, or 2000 nm output
- Few-cycle pulse duration and high pre-pulse contrast
- Robust design with a warm-up time of < 1 hour
- Exceptional CEP and pulse energy stability
- Spectral-temporal pulse shaping options

Specifications

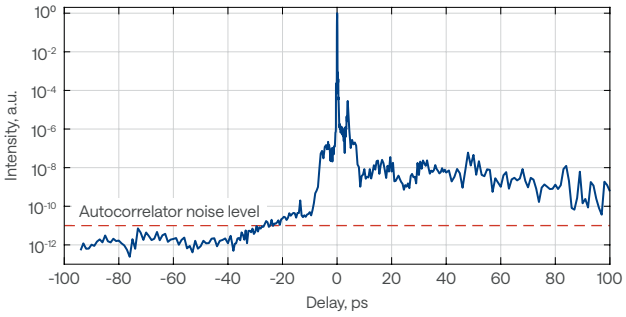
Center wavelength	800 nm	1600 nm	2000 nm
Pump source	Picosecond Nd:YAG lasers, seeded by ORPHEUS-OPCPA		
Repetition rate	10 Hz – 1 kHz		
Maximum output pulse energy [1]	250 mJ	100 mJ	50 mJ
Pulse duration [1]	< 9 fs	< 50 fs	< 30 fs
CEP stability, 1 h [1] [2]	< 250 mrad		
Long-term power stability, 8 h [1] [3]	< 1.5%		
Pulse-to-pulse energy stability, 1 min [1] [3]	< 1.5%		

[1] *Typical values. For custom inquiries, contact sales@lightcon.com.*
[2] *CEP values calculated from unaveraged, single-shot measurements.*
[3] *Expressed as as normalized root mean squared deviation (NRMSD).*

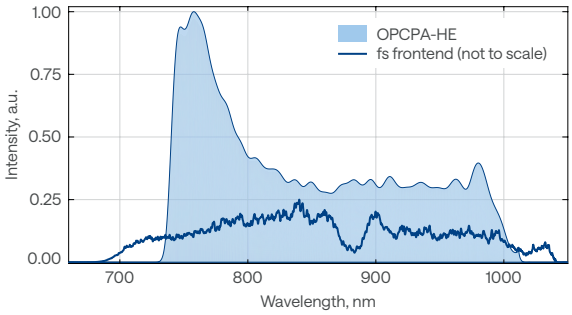


Performance at 800 nm

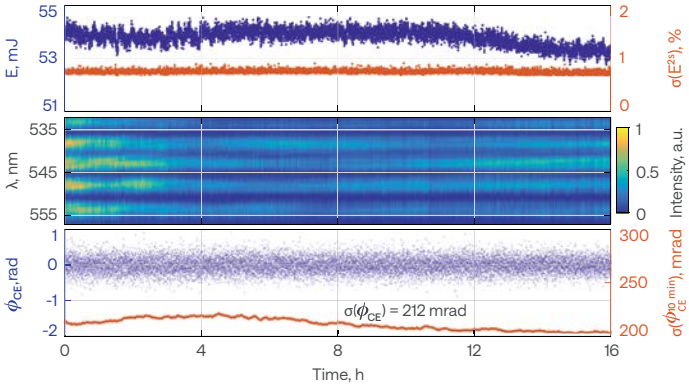
OPCPA-HE system high-dynamic-range third order autocorrelation measurement



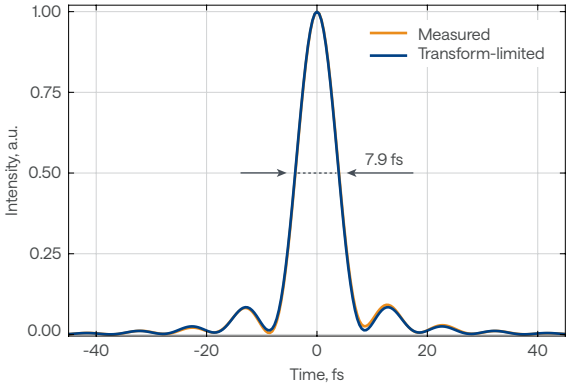
OPCPA-HE output spectrum



OPCPA-HE pulse energy, f-2f interferogram and CEP stability measured over 16 h

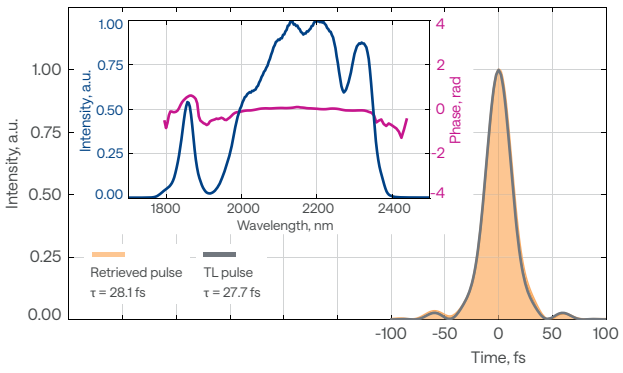


OPCPA-HE output pulses' temporal profile measured with a self-referenced spectral interferometry device



Performance at 2000 nm

OPCPA-HE output pulses' temporal profile at 2 µm



OPCPA-HE pulse-to-pulse energy stability at 2 µm