

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



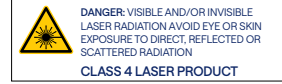
Specifications

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.

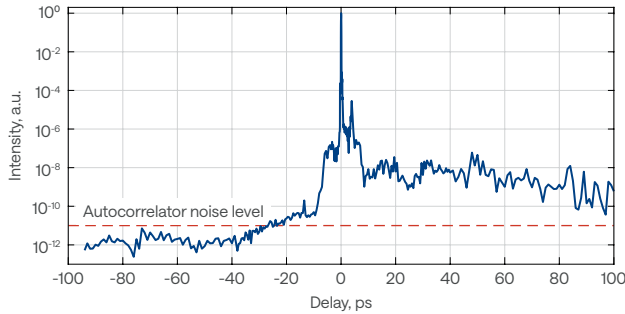
³⁾ Expressed as as normalized root mean squared deviation (NRMSD).

²⁾ CEP values calculated from unaveraged, single-shot measurements.

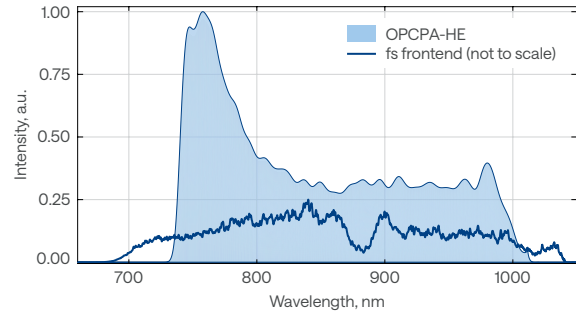


Performance at 800 nm

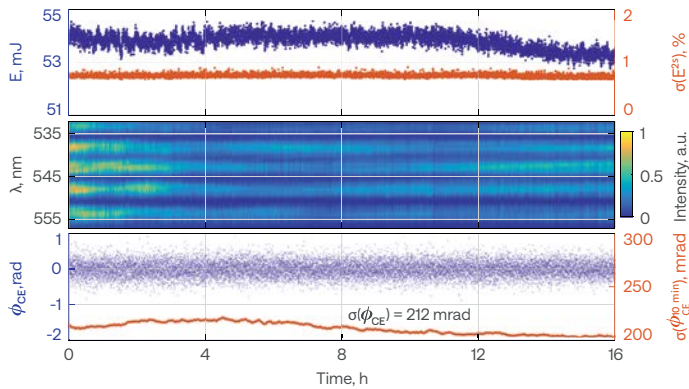
OPCPA-HE system high-dynamic-range third order autocorrelation measurement



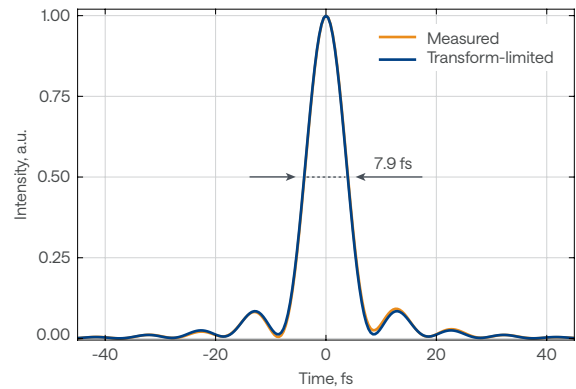
OPCPA-HE output spectrum



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

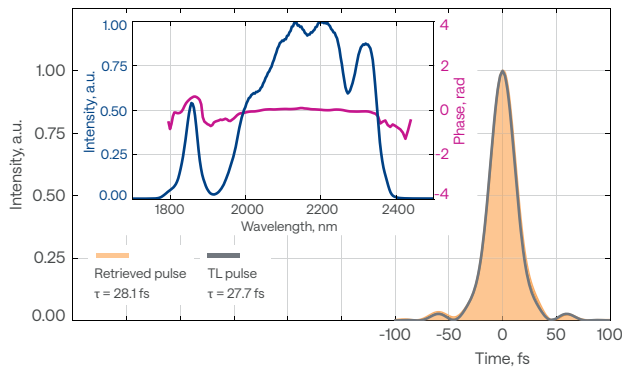


OPCPA-HE output pulses' temporal profile measured with a self-referenced spectral interferometry device



Performance at 2000 nm

OPCPA-HE output pulses' temporal profile at 2 μm



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

