

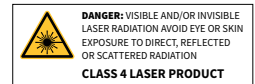
ORPHEUS | OPCPA

Compact Few-cycle CEP-stable OPCPA Systems Pumped by PHAROS or CARBIDE Lasers

Benefiting from the industrial-grade stability and reliability of the PHAROS and CARBIDE lasers, ORPHEUS-OPCPA delivers few-cycle, CEP-stable pulses in a package as compact as our standard parametric amplifiers. The different ORPHEUS-OPCPA models all use the same base architecture to produce CEP-stable, few-cycle pulses in one of the four wavelength ranges. ORPHEUS-OPCPA is available in versions with pulse compressors for direct use in applications or in versions intended as seed sources, delivering background-free pulses with near-single-cycle bandwidths, excellent spectral phase coherence, and CEP stability.

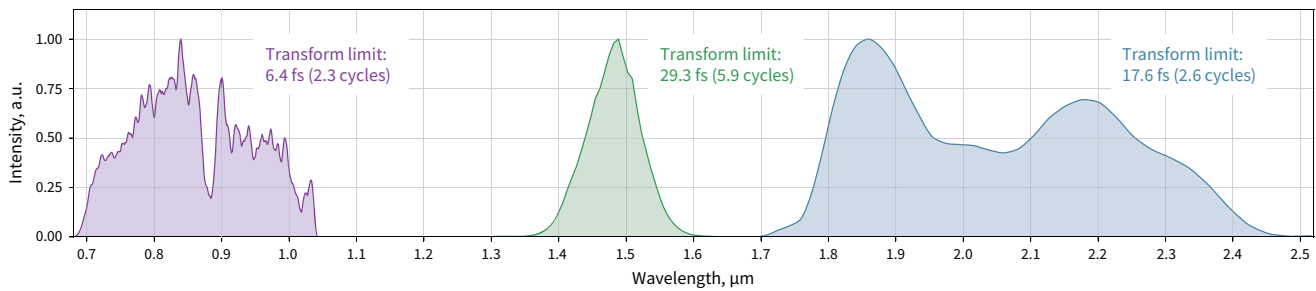


ORPHEUS-OPCPA-HR

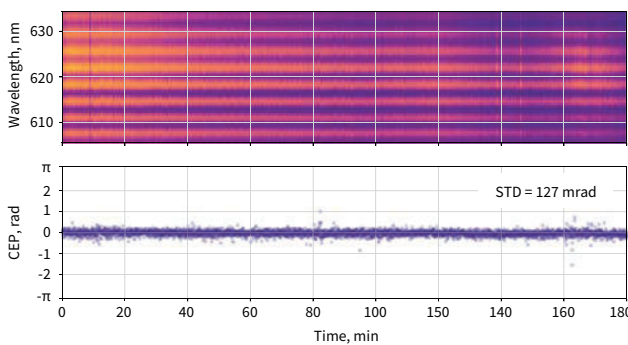


CONFIGURATIONS

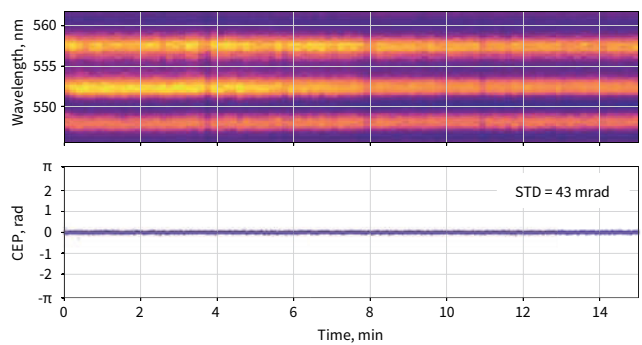
| | 800 nm | 1.6 μm | 2 μm | 3 μm | |
|--|-----------------|---------------------------|-----------------------------|---------------------------|---------------------------|
| Wavelength | 800 nm | 1.6 μm | 2 μm | 3 μm | |
| Pulse duration (compressed) | < 10 fs | < 40 fs | < 25 fs | < 45 fs | |
| Transform-limited pulse duration (uncompressed, for seeding larger amplifiers) | < 6 fs | < 30 fs | < 15 fs | < 35 fs | |
| | Repetition rate | | Pulse energy / Output power | | |
| ORPHEUS-OPCPA | 10 kHz | 120 μJ / 1.2 W | 240 μJ / 2.4 W | 180 μJ / 1.8 W | 120 μJ / 1.2 W |
| ORPHEUS-OPCPA-HE | | 0.55 mJ / 5.5 W | 1.1 mJ / 11 W | 0.8 mJ / 8 W | 0.5 mJ / 5 W |
| ORPHEUS-OPCPA-HR | 100 kHz | 25 μJ / 2.5 W | 55 μJ / 5.5 W | 40 μJ / 4 W | 30 μJ / 3 W |
| ORPHEUS-OPCPA-HP | | 100 μJ / 10 W | 220 μJ / 22 W | 150 μJ / 15 W | 120 μJ / 12 W |



Example spectra of three models of ORPHEUS-OPCPA



CEP stability of ORPHEUS-OPCPA (800 nm, 100 kHz)
All CEP values calculated from unaveraged, single-shot measurements!



CEP stability of ORPHEUS-OPCPA (3 μm , 1 kHz)
All CEP values calculated from unaveraged, single-shot measurements!