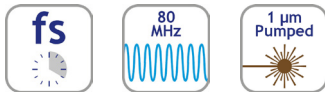


Levante IR fs

UV to MIR, femtosecond Generation

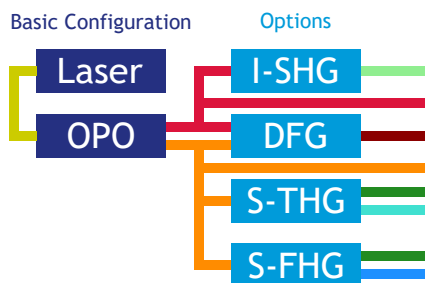
Overview



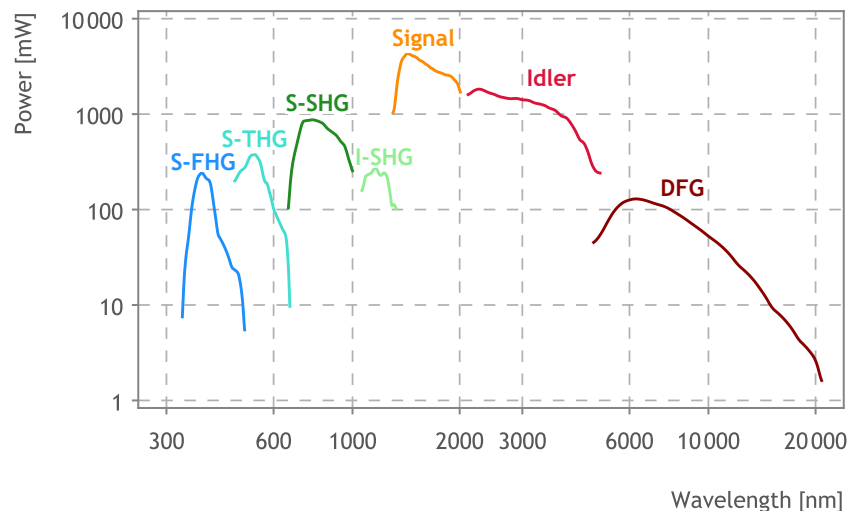
The Levante IR fs is a synchronously pumped, tunable OPO delivering Watt-level Signal and Idler output power across 1300 nm to 5 μm range. With optional harmonic generators for the Signal and Idler down to the 4th harmonic, and Difference Frequency Generation DFG between Signal and Idler, systems are configurable from 325 nm to 20 μm.

The OPO is driven by a 1 μm mode-locked femtosecond laser and provides 150 fs pulses with 100 cm⁻¹ bandwidth as well as shot-noise-limited performance. Applications include nonlinear and time-resolved spectroscopy, sSNOM, and multiphoton microscopy.

Example Configuration



Typical Tuning Curve



At a Glance

- Pumped by mode-locked 1 μm fs lasers
- Configurable from 325 nm to 20 μm
- 150 fs and 100 cm⁻¹ bandwidth
- Watt-level output power for OPO-Signal and Idler
- Shot-noise-limited performance
- Perfectly synchronized output pulses
- Integrated spectrometer
- Fully computer-controlled with automated wavelength tuning

Applications

- Nonlinear and time-resolved spectroscopy
- Multiphoton microscopy
- sSNOM (scattering-type Scanning Near-field Optical Microscopy)

Levante IR fs Specifications



Basic Configuration

Optional

| | Signal FHG (2+2) | Signal THG | Signal SHG | Idler SHG | Levante IR fs OPO Signal | Levante IR fs OPO Idler | DFG |
|---------------------------|-----------------------|-------------------|--------------------|---------------------|---------------------------|-------------------------|--|
| Wavelength range | 330 nm ... 500 nm | 470 nm ... 660 nm | 650 nm ... 1005 nm | 1065 nm ... 1350 nm | 1300 nm ... 2010 nm | 2130 nm ... 4850 nm | 4.8 μm ... >20 μm |
| Power | typ. 200 mW at 400 nm | 280 mW at 500 nm | 650 mW at 750 nm | 170 mW at 1200 nm | 3.2 W at 1500 nm | 1.3 W at 2500 nm | 120 mW at 6 μm 40 mW at 10 μm 8 mW at 15 μm 1.5 mW at 20 μm |
| Bandwidth (FWHM) | | | | | ~100 cm ⁻¹ | | ~125 cm ⁻¹ |
| Pulse width (FWHM) | | | | | 150 fs | | |
| Time-Bandwidth product | | | | | 0.5 | | |
| Repetition rate | | | | | 80 MHz (other on request) | | |
| Output polarization | Horizontal | Horizontal | Vertical | Vertical | Horizontal | Horizontal | Horizontal |
| Power stability (RMS)* | | | | | 0.5% | | |
| Spectral stability (RMS)* | | | | | 0.01% | | |
| Shot-Noise limited** | | | | | -162 dBc/Hz, >700 kHz | | |

* At the specified wavelength for power measurement, expressed as normalized root mean square deviation (NRMSD), with power lock enabled, under stable environmental conditions.

** -162 dBc - limit of the measurement setup used

Example configuration pumped with Light Conversion FLINT 12 W, 1030 nm

