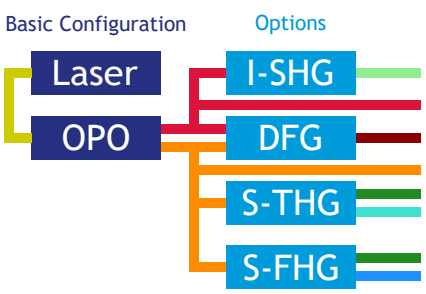
Levante IR ps
VIS to MIR, picosecond Generation

Overview

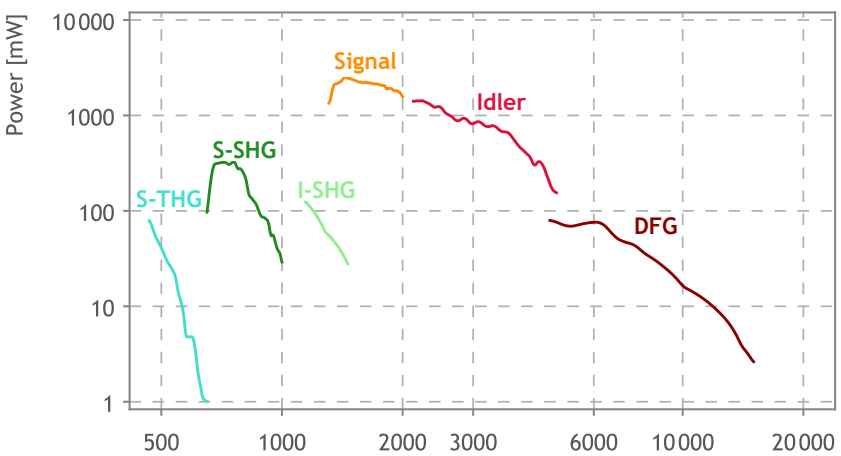
The Levante IR ps is a synchronously pumped, tunable OPO designed for efficient Watt-level generation in the NIR to IR range from 1300 nm to 5 µm. It is driven by mode-locked 1 µm picosecond lasers.

With optional harmonic generators for Signal and Idler down to the 3rd harmonic (THG), and Difference Frequency Generator (DFG) between Signal and Idler, systems can be configured from 470 nm to >15 µm. It provides 2 ps to 7 ps pulses with 3 cm^{-1} or 10 cm^{-1} bandwidth, depending on the pump laser. Application include AFM-IR, sSNOM, metrology, and nonlinear IR-imaging, for example in BonFIRE experiments.

Example Configuration



Typical Tuning Curve



At a Glance

- Perfectly synchronized output pulses
- Available with different pulse widths and bandwidths
- Integrated spectrometer for precise wavelength tuning and stabilization
- Fully computer-controlled with automated wavelength tuning

Applications

- Nanoscale imaging such as sSNOM and AFM-IR
- BonFIRE (bond-selective fluorescence imaging)
- Metrology
- Quantum dot research

Levante IR ps
Specifications

Basic Configuration Optional

	Signal THG	Signal SHG	Idler SHG	Levante IR ps Signal	Levante IR ps Idler	DFG
Wavelength range	470 nm … 650 nm	660 nm … 1000 nm	1075 nm … 1460 nm	1320 nm … 2000 nm	2150 nm … 4800 nm	4.8 µm … >15 µm
Power	56 mW at 470 nm 28 mW at 500 nm	250 mW at 750 nm	50 mW at 1250 nm	2.0 W at 1500 nm	0.9 W at 2500 nm	50 mW at 6 µm
Bandwidth (FWHM)	10 cm^{-1}					
Pulse width (FWHM)	2 ps					
Time-Bandwidth product	0.6					
Repetition rate	80 MHz (other on request)					
Output polarization	Horizontal	Vertical	Vertical	Horizontal	Horizontal	Horizontal
Power stability (RMS)*	0.5%					
Spectral stability (RMS)*	0.01%					

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

Example configuration pumped with EdgeWave FX-series 10 W, 1030 nm, 2 ps

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