Levante IR fs
UV to MIR, femtosecond Generation

Overview

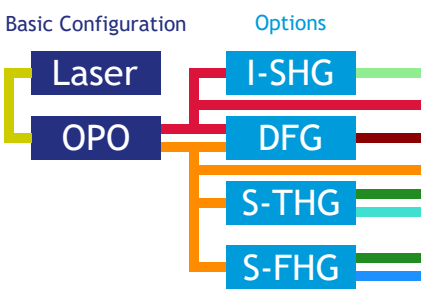




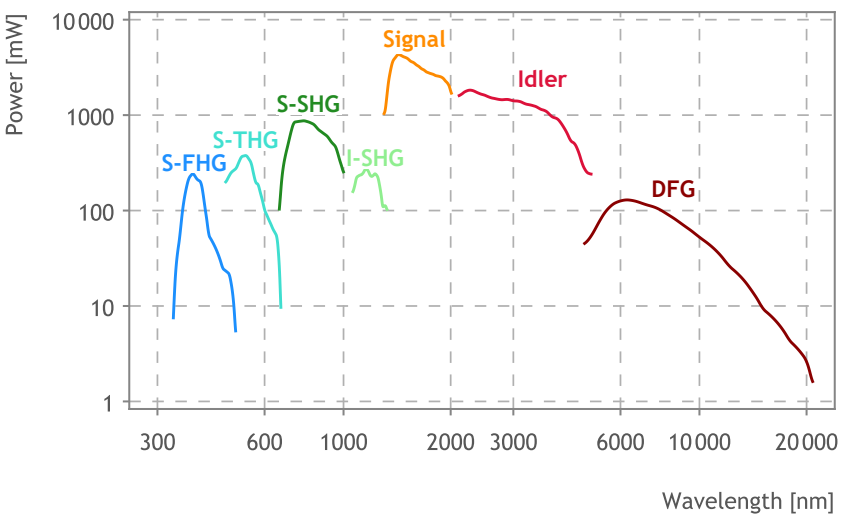
The Levante IR fs is a synchronously pumped, tunable OPO delivering Watt-level Signal and Idler output power across 1300 nm to 5 µm range. With optional harmonic generators for the Signal and Idler down to the 4th harmonic, and Difference Frequency Generation DFG between Signal and Idler, systems are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

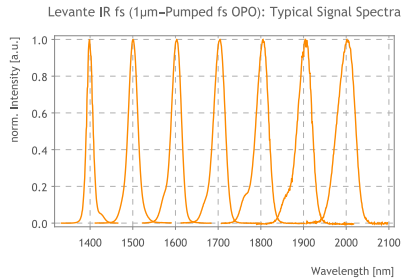
Levante IR fs
Specifications

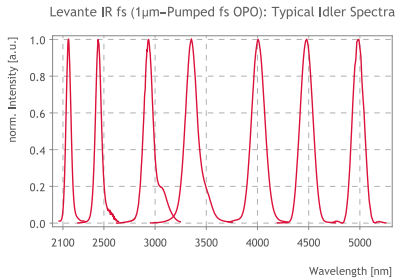
Basic Configuration Optional

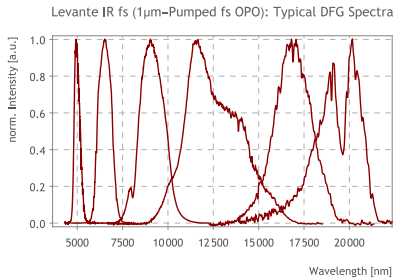
	Signal FHG (2+2)	Signal THG	Signal SHG	Idler SHG	Levante IR fs OPO Signal	Levante IR fs OPO Idler	DFG
Wavelength range	330 nm … 500 nm	470 nm … 660 nm	650 nm … 1005 nm	1065 nm … 1350 nm	1300 nm … 2010 nm	2130 nm … 4850 nm	4.8 µm … >20 µm
Power	typ. 200 mW at 400 nm	280 mW at 500 nm	650 mW at 750 nm	170 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







APE Angewandte Physik und Elektronik GmbH | Plauener Str. 163-165|Haus N|13053 Berlin |Germany
T: +49 30 986 011-30 | F: +49 30 986 011-333 | E: sales@ape-berlin.de | www.ape-berlin.de

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フォトテクニカ株式会社
〒336-0017 埼玉県さいたま市南区南浦和 2-18-2
TEL:048-871-0067 FAX:048-871-0068
e-mail:voc@phototechnica.co.jp