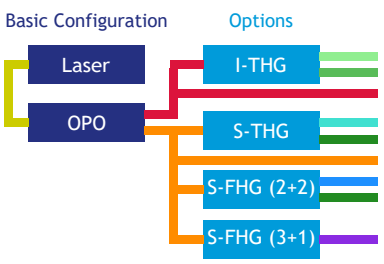
Levante Emerald ps
UV to IR, picosecond Generation

Overview

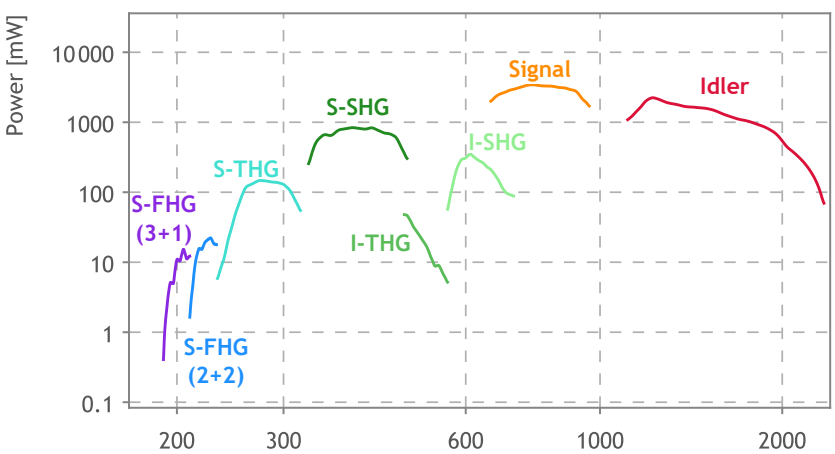
The Levante Emerald ps is a synchronously pumped, tunable OPO with high conversion efficiency generating 660 nm to 2300 nm wavelength range. It is driven by green (SHG of 1 µm) mode-locked picosecond lasers. Depending on the pump laser it provides 2 ps to 12 ps pulses with a 1.5 cm^{-1} to 10 cm^{-1} bandwidth at Watt-level Signal/Idler output power.

With optional harmonic generators for Signal and Idler extending down to the 4th harmonic, systems can be configured from 190 nm to 2300 nm. It is ideal for quantum dot research, metrology, coherent Raman microscopy and fluorescence lifetime imaging.

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

- Quantum dot research
- Metrology
- Coherent Raman microscopy (CARS, SRS)
- Fluorescence life time imaging (FLIM)
- Time-correlated single-photon counting (TCSPC)
- Laser-based Angle-Resolved Photoemission Spectroscopy (Laser-ARPES)

Levante Emerald ps
Available in three versions

Levante Emerald 2 ps

- 2 ps - 10 cm^{-1}

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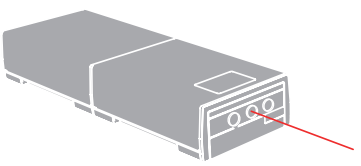
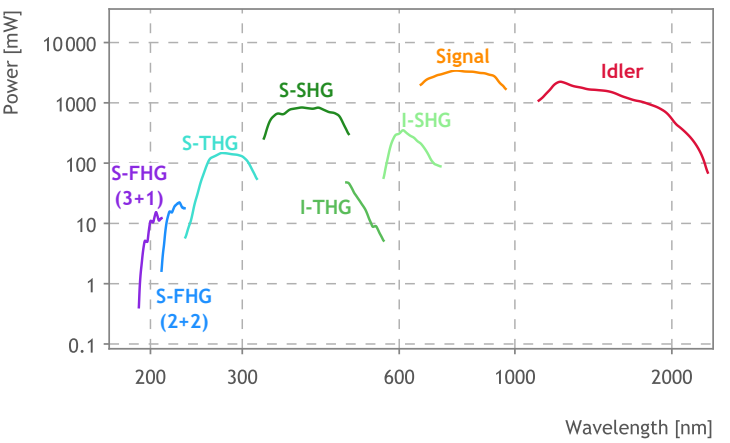


UV–IR Generation: Typical Power (Green Pumped 2 ps OPO)



Levante Emerald 7 ps

- 7 ps - 3 cm^{-1}

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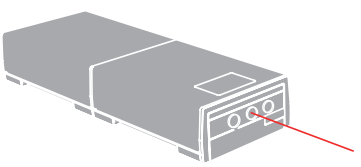
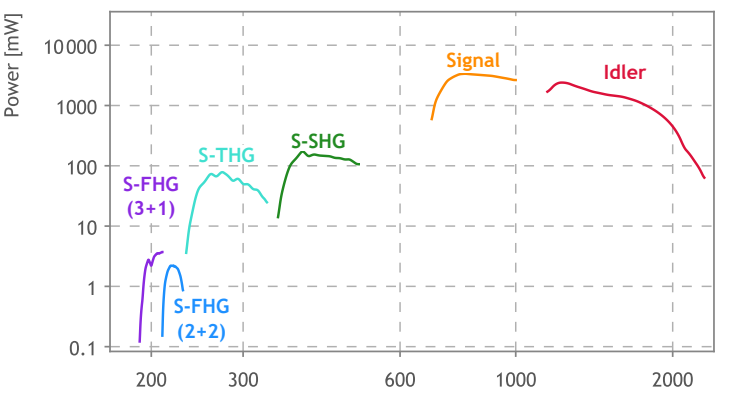


UV–IR Generation: Typical Power (Green Pumped 7 ps OPO)



Levante Emerald 12 ps

- 12 ps - 1.5 cm^{-1}

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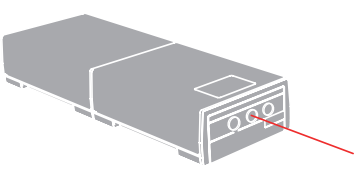
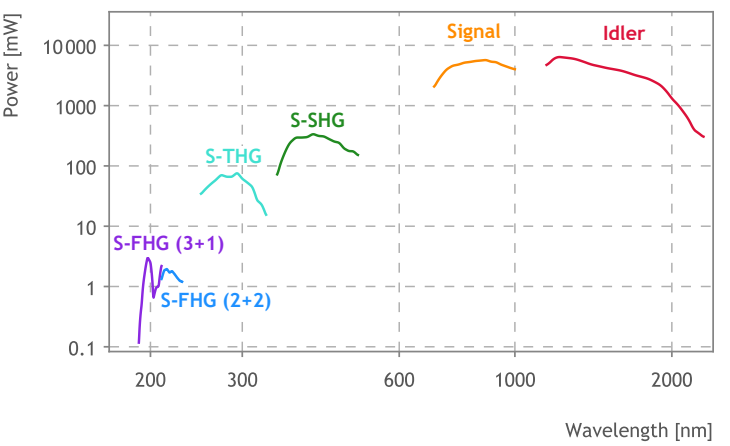


UV–IR Generation: Typical Power (Green Pumped 12 ps OPO)



Levante Emerald 2 ps
Specifications

Basic Configuration Optional

	Signal FHG (3+1)	Signal FHG (2+2)	Signal THG	Signal SHG	Idler THG	Idler SHG	Levante Emerald ps Signal	Levante Emerald ps Idler
Wavelength range	190 nm … 210 nm	210 nm … 233 nm	230 nm … 320 nm	330 nm … 480 nm	475 nm … 560 nm	560 nm … 720 nm	660 nm … 960 nm	1120 nm … 2340 nm
Power	5 mW at 200 nm	10 mW at 225 nm	100 mW at 270 nm	600 mW at 400 nm	25 mW at 480 nm	200 mW at 600 nm	2.5 W at 800 nm	1.7 W at 1200 nm
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		Horizontal	Vertical	Horizontal	Vertical	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 with EdgeWave FX-series 10 W, 515 nm, 2 ps

Levante Emerald 7 ps
Specifications

Basic Configuration Optional

	Signal FHG (3+1)	Signal FHG (2+2)	Signal THG	Signal SHG	Levante Emerald ps Signal	Levante Emerald ps Idler
Wavelength range	190 nm … 210 nm	210 nm … 230 nm	233 nm … 330 nm	350 nm … 495 nm	700 nm … 990 nm	1150 nm … 2200 nm
Power	1 mW at 200 nm	1 mW at 220 nm	40 mW at 267 nm	120 mW at 400 nm	2.5 W at 800 nm	1.7 W at 1250 nm
Bandwidth (FWHM)	~3 cm^{-1}					
Pulse width (FWHM)	~7 ps					
Time-Bandwidth product	0.6					
Repetition rate	80 MHz (other on request)					
Output polarization	Horizontal			Vertical	Horizontal	
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 with EdgeWave PX-series 10 W, 532 nm, 12 ps

Levante Emerald 12 ps
Specifications

Basic Configuration Optional

	Signal FHG (3+1)	Signal FHG (2+2)	Signal THG	Signal SHG	Levante Emerald ps Signal	Levante Emerald ps Idler
Wavelength range	190 nm … 210 nm	210 nm … 230 nm	233 nm … 330 nm	350 nm … 495 nm	700 nm … 990 nm	1150 nm … 2200 nm
Power	1.5 mW at 200 nm	1.2 mW at 220 nm	45 mW at 267 nm	250 mW at 400 nm	4.5 W at 800 nm	3.0 W at 1250 nm
Bandwidth (FWHM)	~1.5 cm^{-1}					
Pulse width (FWHM)	~12 ps					
Time-Bandwidth product	0.6					
Repetition rate	80 MHz (other on request)					
Output polarization	Horizontal			Vertical	Horizontal	
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 with EdgeWave PX-series 20 W, 532 nm, 20 ps

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