EKSPLA
An EKSMA Group Company

Picosecond OPG with Near Transform-Limited Bandwith

PG411 and PG511 series

A tunable wavelength laser systems for research requiring narrow bandwidth picosecond pulses.

This systems provides smooth and reliable operation with computer controlled tuning.

FEATURES

- < 2 cm^{-1} bandwidth.
- < 7 % (StDev) output energy stability.
- High energy conversion efficiency.
- Innovative synchronously pumped picosecond optical parametric oscillator (SPOPO) and traveling wave optical parametric amplifier (OPA) configuration, featuring the efficient narrowing of the output linewidth in the OPO cavity and amplification of a single parametric pulse in the OPA.
- Keypad or PC control options (LabView drivers included).

PL2143AT model pump laser [1)]

- An innovative system based on our standard picosecond laser, specially designed to provide pump pulses for both parts of the PG411, PG511.
- High output energy.
- Excellent pulse duration and energy stability.
- High beam quality.

[1)] For more information on this laser contact your local representatives or EKSPLA directly.

Lasers, Optics, Electronics

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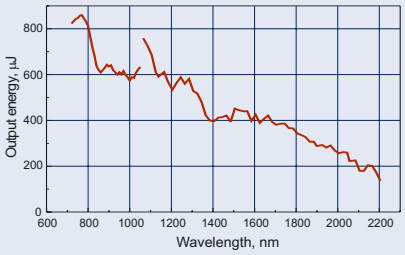
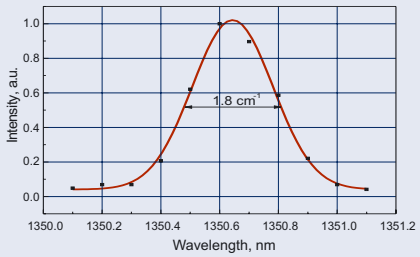
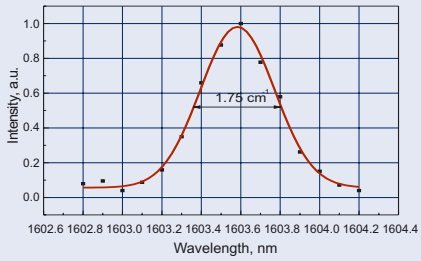
SPECIFICATIONS OF PG411 AND PG511 SERIES OPTICAL PARAMETRIC GENERATORS



Typical PG511 tunning curve. Pump energy: 5 mJ train (OPO) and 6 mJ pulse (OPA) @532 nm.





Typical PG511 output linewidth

MODEL	PG411	PG511
Pump laser specifications		
Energy (train/single pulse), mJ:		
at 532 nm		5 – 7 / 8 – 12
at 355 nm	4 – 6 / 8 – 10	
Pulse duration, ps	25 – 50	
Beam polarization:	Vertical	Horizontal
Beam profile:	Homogeneous	
OPO/OPA specifications		
Output wavelength tuning range[2], nm	420 – 680, 740 – 2300	720 – 2200
Scanning accuracy, nm	0.1	
Linewidth[3], cm^{-1}:	< 6 (420 – 680 nm) < 2 (740 – 2300 nm)	< 4 (720 – 1064 nm) < 2 (1064 – 2200 nm)
Max. conversion efficiency, %	20 (signal+idler)	
Output energy stability (StDev), %	7 *(when pumped by EKSPLA laser PL2143AT)*	
Beam size, mm:	~ 4	
Polarization:		
Signal	Horizontal	Vertical
Idler	Horizontal	Horizontal

[2] It is possible to extend tuning range of PG411 to UV (210 – 420 nm) by second harmonic generation and tuning range of both PG411 and PG511 to mid-IR (2.3 – 18 mm) by difference frequency generation

[3] It is possible to make < 2 cm^{-1} linewidth in signal range (420 – 680 nm for PG411), (720 – 1064 nm for PG511). In this case idler linewidth will be < 6 cm^{-1} (740 – 2300 nm for PG411) and <4 cm^{-1} (1064 – 2200 nm for PG511).

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