

LS-2145-OPO INTEGRATED LASER SYSTEM

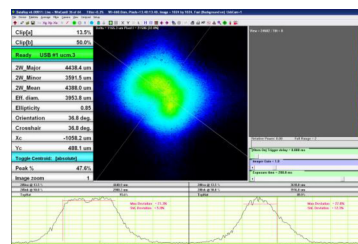
LS-2145-OPO – Nd:YAG laser – tunable optical parametric oscillator

LS-2145-OPO is a Q-switched Nd:YAG laser with built-in midband optical parametric oscillator (OPO) providing conversion of Nd:YAG third harmonic (355 nm) radiation in to the tunable light of near IR and visible spectral range.

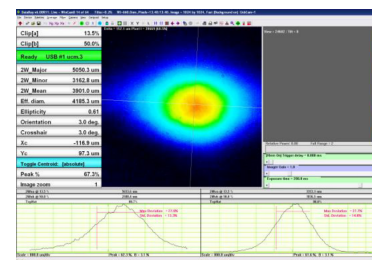
An integrated single laser emitter design makes it easy to install and maintain the laser. It is designed for scientific research in biology, photochemistry, spectroscopy, etc.

The main features of the LS-2145-OPO:

- Independent outputs of all Nd:YAG laser harmonics (1064 nm, 532 nm 355 nm) as well as OPO radiation
- Automatically switching of wavelength outputs
- PC control of laser parameters
- Monitoring of Nd:YAG harmonics energy by built-in photo probes
- Small divergence and narrow line width of OPO radiation
- Polarizing separation of OPO signal and idler waves
- Single BBO crystal for the whole tuning range
- An internally sealed water cycle combined power supply-cooling system LPS-2230M with water-to-air heat exchanger
- Laser could supplied with enhanced third harmonic energy option, external forth (266 nm), fifth (213 nm) harmonics of Nd:YAG and OPO second harmonic assembly (210- 410 nm)

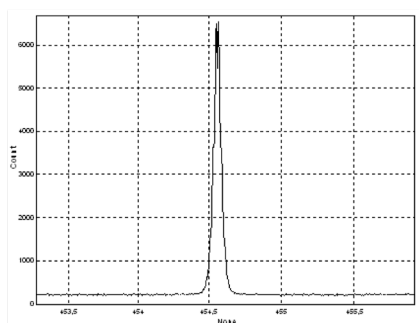


(a)

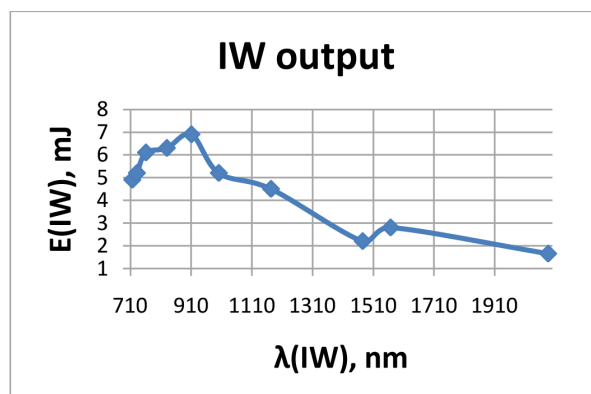
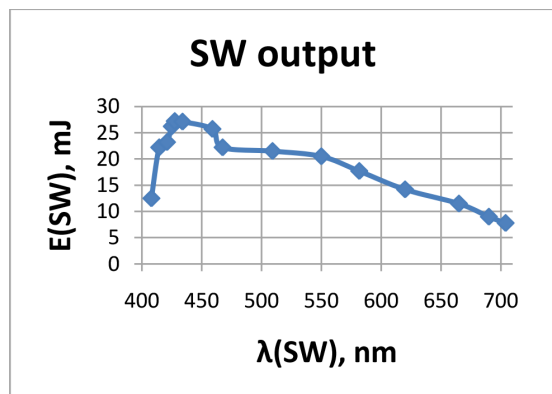
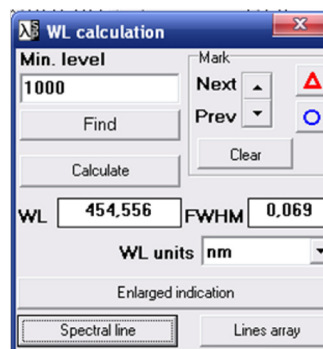


(b)

OPO spots of SW (a) and IW (b) at laser output (near field)



Linewidth of signal wave at ~ 455 nm output wavelength



Tuning curves of signal and idler waves, E (355 nm) =82 mJ

SPECIFICATIONS¹

Parameter	LS-2145-OPO	LS-2145-OPO-HE
Operation wavelength Nd:YAG, nm	1064, 532, 355	
OPO tuning range ,nm	400-709	
Signal wave (SW)	711-2300	
Idler wave (IW)	210-400	
SH (optional) ²		
Output Energy, mJ		
1064	350	350
532	230	180
355	90	130
SW (At max. of tuning)	25	30
IW (At max. of tuning)	5	6
SH OPO (at max)	3	6
OPO linewidth(SW, 450 nm), nm	<0,1	
Output pulse energy stability (StdDev), %		
1064	<0,6	
532	<0,8	
355	<1	
SW (At max of tuning)	≤3	
IW (At max of tuning)	≤5	
Pulse duration (FWHM), ns		
1064 nm	≤12-15	
OPO	≤8-10	
Pulse repetition rate , Hz	10	
Output beam diameter, mm		
Nd:YAG laser	≤6	
OPO	≤5	
Beam divergence, (Θ _{0,86}) mrad		
Nd:YAG	≤1.0	
OPO	≤1.5	
Polarization		
1064 nm, 532nm, SW	horizontal	
355 nm, IW, SH OPO (optional)	vertical	
Power requirements	100-220 V, 50/60 Hz, 1000 W	
Size,mm (weight, kg)		
Laser head	650x424x143 (28)	
Power supply LPS-2230M	461x276x504 (26.0)	
Remote keypad	105x175 (0.5)	
SH (optional)	276x207x125 (5)	

¹ All specifications are subject to change without notice

² With OPO second harmonic assembly (210- 410 nm)

Overall sizes of LS-2145-OPO

