

LS-2145-OPO

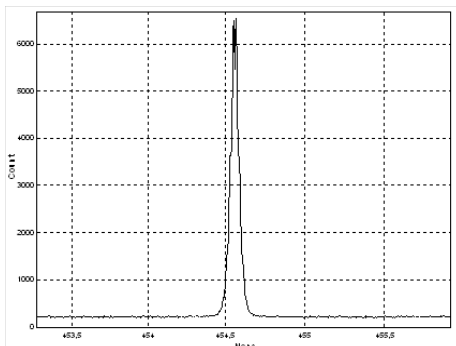
LS-2145-OPO – Integrated laser system Nd:YAG laser – tunable optical parametric oscillator

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.

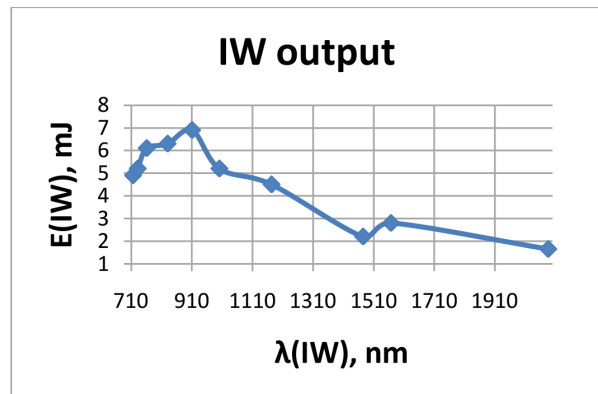
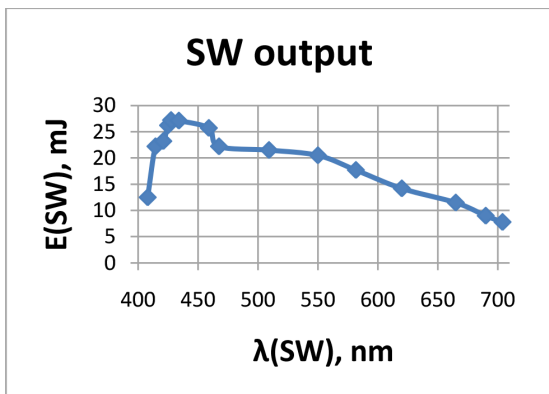
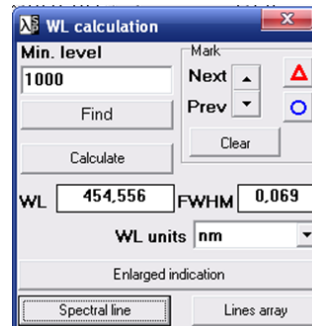
An integrated single laser emitter design makes it easy to install and maintain the laser. It is designed for scientific research in biology, photochemistry, spectroscopy, etc.

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 cooling system with water-to-air heat exchanger



Linewidth of signal wave at ~ 455 nm output wavelength



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

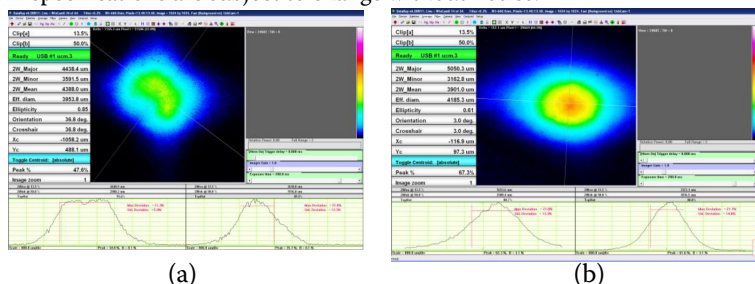
SPECIFICATIONS

Parameter	LS-2145-OPO
Operation wavelength Nd:YAG, nm	1064, 532, 355
OPO tuning range ,nm	
Signal wave (SW)	400-709
Idler wave (IW)	710-2300
SH (optional)**	210-400
Output Energy, mJ	
1064	350
532	230
355	100/120*
SW (At max. of tuning)	25
IW (At max. of tuning)	5
SH OPO (at max)	3
OPO linewidth(SW, 450 nm), nm	<0,1
Output pulse energy instability (RMS),%	
1064	<0,6
532	<0,8
355	<1.5
SW (At max of tuning)	<3
IW (At max of tuning)	<5
Pulse duration ($\tau_{0,5}$), ns	
1064 nm	$\leq 12-15$
OPO	$\leq 8-10$
Pulse repetition rate , Hz	10
Output beam diameter, mm	
Nd:YAG лазер	≤ 6
OPO	≤ 5
Beam divergence, ($\Theta_{0,86}$) mrad	
Nd:YAG	≤ 1.0
OPO	≤ 1.5
Polarization	
1064 nm, 532nm, SW	horizontal
355 nm, IW, SH OPO (optional)	vertical
Power requirements	220±20 V, 50–60 Hz, 10 A
Size,mm (weight, kg)	
Laser head	670x424x143 (28)
Power supply	391x364x192 (18)
Cooling unit	391x364x280 (16)
Remote keypad	130x180 (0,5)
SH (optional)	276x207x125 (5)

* With high energy 3rd harmonic (HE option)

**Laser could supplied with OPO second harmonic assembly (210- 410 nm) and external forth (266 nm), fifth (213 nm) harmonics of Nd:YAG laser

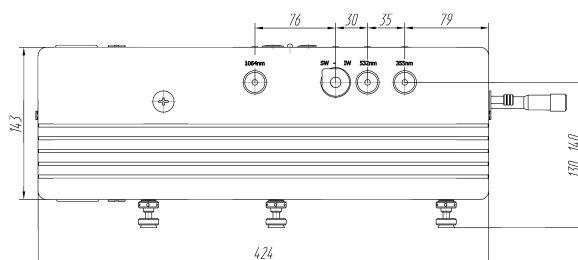
All specifications are subject to change without notice.



(a)

(b)

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



Overall sizes of LS-2145-OPO