

LEOI-50

Diode Pumped Solid State Laser Demonstrator



- *Interaction of Light and Matter*
- *Non-linear Optics*
- *Nd:YVO₄ and KTP Crystals*
- *Frequency Doubling*
- *Laser Pumping*
- *Phase Matching*

LEOI-50 is designed for nonlinear optical experiments of laser education at universities/colleges. It can help students to understand the theory of diode pumped solid state laser (DPSS) and frequency doubling.

A solid state laser with Nd: YVO₄ as the laser material and pumped by a semiconductor laser at 808nm, emits infrared light at 1.064μm.

By putting a KTP crystal into the cavity to generate frequency-double green light, it is possible to observe frequency doubling phenomenon, and measure frequency doubling efficiency, phase matching angle and other basic parameters.

During the experiment, a lot of light path adjustment is involved, allowing students to be more practically familiar with the principle.

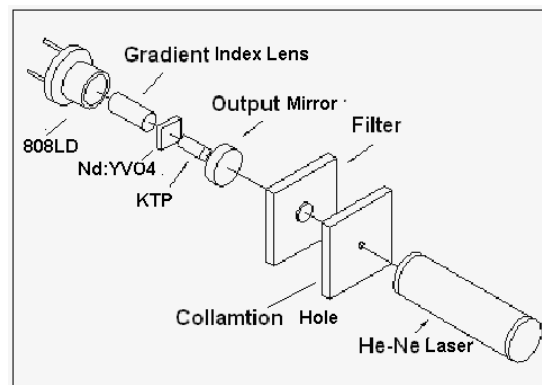
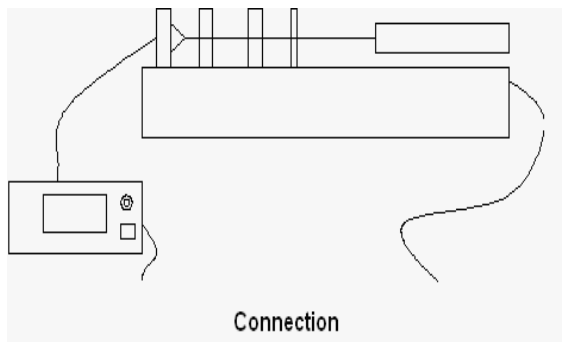
Specifications

Semiconductor Laser	808nm, ≤ 500mW
Laser Power Supply	Output: 0 ~ 500mA
Nd:YVO ₄ Crystal	3 × 3 × 1mm
KTP	2 × 2 × 5mm
Output Mirror	D = 6, R = 50mm
Laser Power Indicator	2μW ~ 200mW, 6 steps

Key features

- 532 nm laser output power between 10 ~ 40mW
- Variable pumping current
- Understand the theory through practice
- Cost effective

Experimental setup



Parts included

Description	Qty
Optical Rail and Carriers	1
Two-axis Adjustable Holder	2
Four-axis Adjustable Holder	2
He-Ne Laser Holder	1
808nm Semiconductor Laser	1
632.8nm He-Ne Laser	1
KTP Crystal	1
Nd:YVO ₄ Crystal	1
Output Mirror	1
Optical Filter	1
Light Target (collimation hole)	1
Laser Power Indicator	1
Power Cable	2
IR Card	1
User's Manual	1