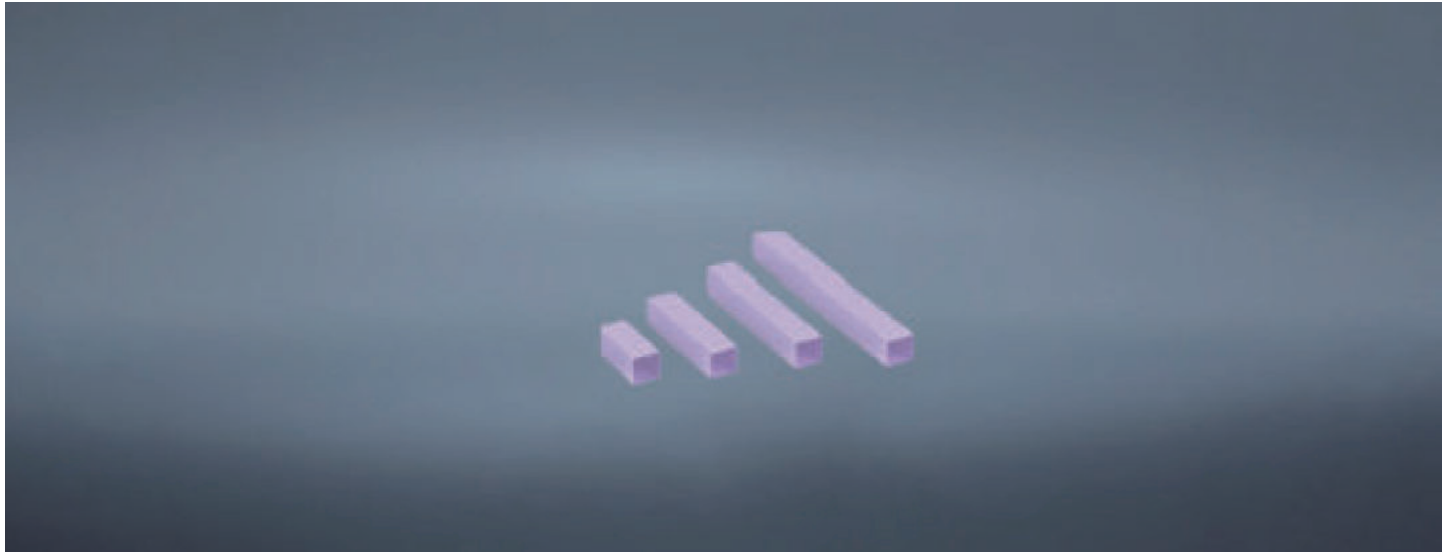


Nd:YLF



DESCRIPTION

Nd:YLF crystal product, also known as neodymium doped lithium yttrium fluoride, is a laser crystal product with excellent comprehensive performance. Nd:YLF in mode-locked laser, continuous excitation.

It is widely used in the field of light and material processing. Neodymium: lithium yttrium fluoride (Nd:YLF) is an alternative medium of Nd:YLF, which is used to work in the near infrared and-Laser is generated at 1047nm and 1053nm. When the pump wavelength is 808nm, Nd:YLF can be pumped by lamp and diode. The product has a large fluorescent linewidth, low thermal lens effect, natural polarization. The main advantages of nd:YLF are that the laser has a relatively long fluorescence lifetime at -1047nm and 1053nm, and produces

Generate high pulse energy. It can be used in linearly polarized resonators, mode-locked lasers, diode pumped Nd:YLF lasers, ti: sapphire chirped pulse amplifiers Products.

In addition, the gain and emission wavelength of Nd:YLF are related to polarization: π polarization is strong at 1047nm, σ Polarization is lower at 1053nm Weak. The 1053 nm line is very suitable for the gain peak of Nd:glass, so the Nd:YLF laser is usually used as the Nd:YLF laser generator and subsequent preamplifier of Nd:glass amplifier.

FEATURES

- Natural polarization
- Super fluorescent line width
- Low thermal lens effect
- High uv transparency ${}^4F_{3/2}$ nd level of long life
- Much more than that of Nd: YAG soft, crisp
- Based on the continuous laser with low light threshold
- High power, low beam divergence, effectively the single mode of operation

APPLICATIONS

- Mode-locked laser
- Ultrashort pulse laser
- Material processing, welding, cutting
- Ti: sapphire chirp pulse amplifier
- Diode pumped Nd: YLF laser
- 1047 nm and 1053 nm cw pulse



Nd:YLF

TECHNICAL CHARACTERISTICS

Absorption peak wavelength	792 nm
Peak absorption coefficient	10 cm ⁻¹
Peak absorption bandwidth	~5 nm
The laser wavelength	1047, 1053 nm
⁴ F _{3/2} Nd level lifetime	485μs
Emission cross section	15×10 ⁻²⁰ (e//C)cm ² @1047nm
The refractive index @ 1064 nm	n _o =1.448
	n _e =1.470
The crystal structure	quadrilateral
The density	3.95g/cm ³
Mohs hardness	5
Thermal conductivity	6Wm ⁻¹ K ⁻¹
dn/dT	-4.6×10 ⁻⁶ (//c)K ⁻¹
	-6.6×10 ⁻⁶ (//c)K ⁻¹
Thermal expansion coefficient	8×10 ⁻⁶ (//c)K ⁻¹
	13×10 ⁻⁶ (//c)K ⁻¹
Typical doping level	1-2 at.%

STANDARD SPECIFICATIONS

Directional	A - cutting, c - cutting
Transparent aperture	>90%
Surface size tolerance	+0/-0.1mm
The length of tolerance	±0.1mm
Parallelism error	±0.1mm
Perpendicularity error	<10 arcmin
Protect the tank	<0,1 mm @ 45°
The surface quality	10-5 S-D
The surface roughness	<λ/8@632.8 nm
Wavefront aberration	<λ/4@632.8 nm
Coating	R<0.5%@790-810 nm
	R<0.2%@1047-1053 nm
The laser damage threshold	>10 J/cm ² @1064 nm, 10 ps

SPECTRA

