Nd:YAG Laser Rod

(http://laserton.cn/u

(http://laserton.cn/u

(http://laserton.cn/u

(http://laserton.cn/uploadfile/2017/1218/20171218104813823.jpg)

Description | Online Message

Applications

◆Nd:YAG can produce blue laser with the frequency-doubling of 946nm

◆Nd:YAG can be operated in a very high power laser up to kw level

◆Nd:YAG can be Q-switched with Cr4+YAG directly

◆Due to the cubic symmetry and high quality, Nd:YAG is easy to operate with TEM_{00} mode

Features

◇Its laser parameters are a good compromise between the strengths and weaknesses of its competition.

◇Compared with others laser crystals, its fluorescence lifetime is twice more than Nd:YVO4, and thermal conductivity is also better.

	Nd dopant concentration Dopant tolerance	0.3~2.0(±0.1)atm%
	Diameter	3 ~ 14mm
	Length	1~ 160mm
	Coating	HR-Coating: R>99.8%@1064nm and R<5%@808nm AR-Coating (Single layer MgF2): R<0.25% per surface (@1064nm) Other HR coating or wavelengths are also available

Main Specification	Orientation	<111> crystalline direction (+/-5℃)
	Wavefront Distortion	<λ/10 per inch at 632.8nm for 3 ~7mm >λ/10 per inch at 632.8nm for >=7mm
	Surface quality Scratch/Dig	< 20/10 Scratch/Dig per MIL-O-1380A
	Parallelism	< 10 arc sec
	Perpendicularity	< 5 arc min
	Surface flatness	<λ/10 at 632.8nm
	Clear aperture	Central 95%
	Chamfer	0.15x45°
	Damage Threshold	>500MW/cm^2
Physical and Chemical Properties	Chemical Formula	Nd:$Y_3A1_5O_{12}$
	Lattice Constants	12.01Å
	Dimensional tolerances	+0/-0.05 mm, Length ±0.1 mm
	Concentration	~ 1.2 x 1020 cm^{-3}
	Melting Point	1970°C (2240K)
	Density	4.56 g/cm^3
	Mohs Hardness	8.5
	Refractive Index	1.82
	Thermal Expansion Coefficient	7.8 x 10^{-6} /K [111], 0 - 250 °C
	Thermal Conductivity	14 W/m /K @20 °C, 10.5 W /m /K @100 °C
Optical properties	Lasing Wavelength	1064 nm
	Extinction Ratio	>28 dB
	Stimulated Emission Cross Section	2.8×10^{-19} cm^{-2}
	Relaxation Time of Terminal Lasing Level	30 ns
	Radiative Lifetime	550 ms
	Spontaneous Fluorescence	230 ms
	Loss Coefficient	0.003 cm^{-1} @ 1064 nm
	Effective Emission Cross Section	2.8 x 10^{-19} cm^2
	Pump Wavelength	807.5 nm
	Absorption band at pump wavelength	1 nm
	Linewidth	0.6 nm
	Polarized Laser Emission	Unpolarized
	Thermal Birefringence	High

Previous page: Nd:YVO4 Laser Crystal (http://laserton.com/index.php?m=content&c=index&a=show&catid=37&id=83)

Next page: Yb: YAG Laser Crystal (http://laserton.com/index.php?m=content&c=index&a=show&catid=37&id=92)

Add

1-C501, Pioneer Park for Oversea Chinese Scholars
No. 69 Huayang Road, Lixia District
Ji'nan, Shandong, China.

Contact Us

Tel: +86-531-88029300
Fax:+86-531-88026300
E-mail:sales@laserton.com (mailto:sales@laserton.com)
For oversea: +1 (206)-497-8175

Laserton (http://www.laserton.com) specialize in technical development, manufacture, marketing of precision optical components
@2017 All rights reserved