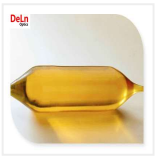

Online Inquiry

Contact: *

Company:

Subject: Nd:Ce:YAG

Tel:

E-mail: *

Content: *

Code: 1967

*(marked *should be filled)

Submit

ND:CE:YAG

Nd:Ce:YAG is an excellent laser material widely used for no-water cooling and miniature laser systems. In double doped Nd:Ce:YAG crystals Cerium are chosen as sensitizer for Nd3+ ions because of its strong absorption in UV spectral region at flash lamp pumping and efficient energy transfer to the Nd3+ excited state.

As a result, thermal distortion in Nd: Ce:YAG is low and the output laser energy is greater than that in Nd:YAG at the same pumping. Therefore it is possible to realize high power lasers with good beam quality.

Lasing wavelength at 1064 nm, laser damage threshold and thermal conductivity of the Nd: Ce:YAG crystals are the same as for Nd:YAG. It is the most ideal laser material for the air cooling lasers .It is suitable for different modes of operation (pulsed, Q-switched, mode locked) and high-average power lasers.

Featured

Low threshold

Good thermal stability

High optical quality and high efficiency

Good anti-violet radiation property

Properties

Laser Wavelength	1.064μm
Photon Energy	1.86×10^{-19}J@1064nm
Emission Linewidth	4.5Å@1064nm
Emission Cross Section (Nd1at%)	$2.7\sim8.8\times10^{-19}cm^{-2}$
rescence Lifetime (Nd1at%)	230μs
Index of Refraction	1.8197@1064nm
Crystal Structure	Cubic
Lattice Parameters	12.01Å
Melting Point	1970℃
Moh Hardness	8.5
Density	$4.56g/cm^3$
Specific Heat (0-20)	$0.59J/g.cm^3$
Young's Modulus	$3.17\times10^4Kg/mm^2$
Thermal Expansion Coefficient	[100]Direction:8.2×10^{-6}/℃(0~250℃)
	[110]Direction:7.7×10^{-6}/℃(0~250℃)
	[111]Direction:7.8×10^{-6}/℃(0~250℃)
Thermal Conductivity	14W/m/K(@20℃)
	10.5W/m/K(@100℃)
Thermal Optical Coefficient (dn/dT)	7.3×10^{-6}/℃
Thermal Shock Resistance	790W/m
Solubility	Water: Insoluble; Common Acids: Slightly

Specifications

Dopant concentration	Nd:1.1~1.4at%, Ce:0.05~0.1at%
Orientation	[111]±5°
Diameter Tolerance	+0/-0.05mm
Length Tolerance	+0.5/-0mm
Surface Flatness	<λ/10@632.8nm
Wavefront Distortion	<λ/8@632.8nm
Surface Quality	10/5
Clear Aperture	>95%
Parallelism	<10 arc seconds
Perpendicularity	<5 arc minutes
Chamfer	0.1mm@45°
Extinction Ratio	>30dB
Coating	AR/HR/PR coating upon customer's request

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