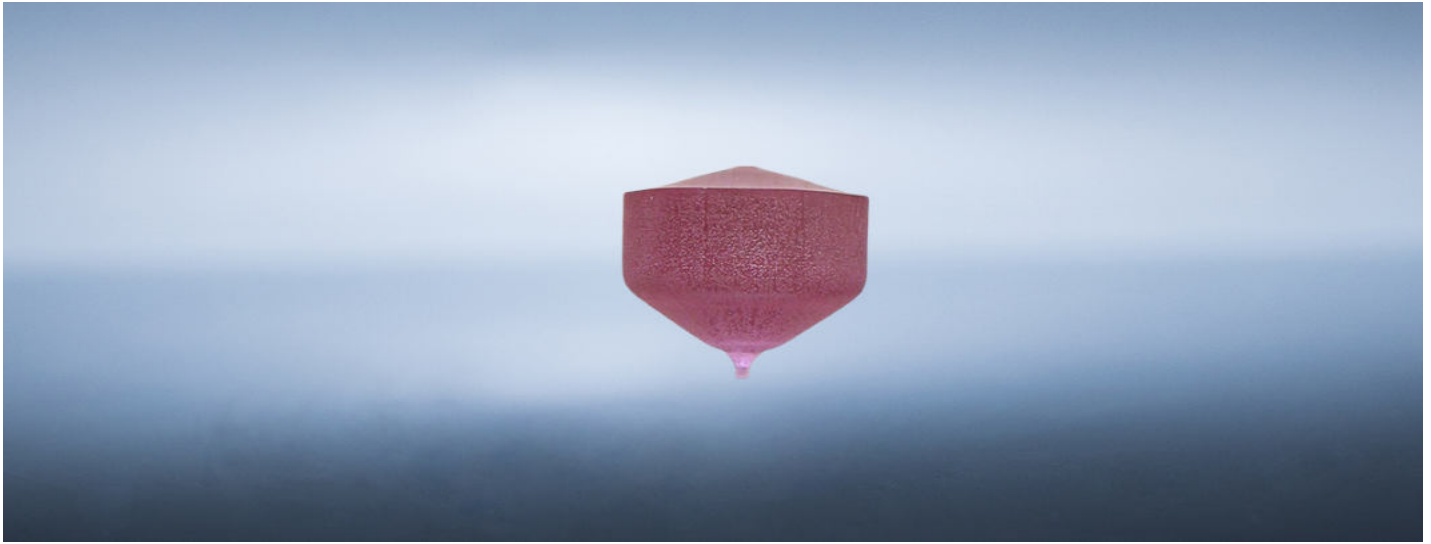


Nd:GGG



DESCRIPTION

CRYLINK's Nd:GGG crystal products, also known as Nd:Gd₃Ga₅O₁₂ crystal. It is a kind of laser crystal product with excellent comprehensive performance. It is widely used in LD pump and laser working material field. The product has the characteristics of large stimulated emission cross section, high thermal conductivity and long emission time. Can be used in flash, solid state heat capacity laser, high power LD pumped Nd:GGG laser products.

FEATURES

- Long launch time
- High laser efficiency
- Low damage threshold
- High thermal conductivity
- High specific heat capacity
- Large stimulated emission cross section

APPLICATIONS

- Flash lamp
- LD Pumping
- Solid-state thermal laser
- High-power LD pump Nd: GGG laser



Nd:GGG

STANDARD SPECIFICATIONS

| | |
|-------------------------|--|
| Doping concentration | 0.5~3 at.% |
| Directional | [111] within $\pm 5^\circ$ |
| Wavefront distortion | $\leq 0.5\lambda/\text{inch}@632.8 \text{ nm}$ (for the rod) |
| Extinction ratio | $\geq 20\text{dB}@632.8 \text{ nm}$ (for the rod) |
| Size | Diameter: 2~70mm, Length: 3~100mm |
| Dimensional tolerances | Diameter: +0.00"/-0.002", Length: ± 0.02 " |
| Barrel finish | Ground Finish with 400# Grit or polished |
| Parallelity | $\leq 10 \text{ arcsec}$ (for the rod) |
| Flatness | $\leq \lambda/4@632.8\text{nm}$ (for the rod) |
| AR coating reflectivity | $\leq 0.25\% @1060\text{nm}$ |

OPTICAL AND SPECTRAL PROPERTIES

| | |
|----------------------|----------------------------|
| Laser conversion | 4F3/2 \rightarrow 4I11/2 |
| Laser wavelength | 1060nm |
| Fluorescent lifetime | 240 μs |
| Refractive index | 1.94@1060nm |
| Diode pump band | 808nm, 881nm |

PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-------------------|---------------------------------|
| Crystal structure | Cubic |
| Lattice constant | 12.383 Å |
| Mohs hardness | 8 |
| dn/dT | $17 \times 10^{-6}/\text{K}$ |
| Poisson ratio | 0.28 |
| Melting point | 1725°C |
| Density | 7.1 g/cm ³ |
| Thermal expansion | $8 \times 10^{-6}\text{C}^{-1}$ |

SPECTROGRAM

