

# 掺钕钇铝石榴石Nd:YAG

## 简介 Introduction:

Nd:YAG是成熟的激光晶体,具有很多的良好基本性能,故Nd:YAG广泛应用于近远红外固态激光。

Nd:YAG is a common laser crystal. Because of its many basic performance, Nd:YAG is still often used in near-far-infrared solid-state lasers.

## 材料特性 Material Properties:

分子式Chemical Formula	Nd:Y3Al5O12
晶格常数Lattice constant	a=12.01Å
生长方式Growth Method	Czochralski
密度Density	4.5g/cm3
硬度Mohs Hardness	8.5
熔点Melting Point	1970°C
折射率Refractive Index	1.82

## 科瑞思创提供Crystro offers:

尺寸范围Dimension	Φ3-Φ40mm
掺杂比Nd Dopant level	0.3-1.5 at%
波前畸变Wave Front Distortion	λ/8 @632
直径公差Diameter Tolerance	±0.05mm
长度 Length Tolerance	±0.5mm
倒角Chamfer	<0.10mm@45°
平面度Flatness	<λ/10 @633nm
平行度Parallelism	<10"
垂直度Perpendicularity	<15'
光洁度Surface Quality	10/5
透光孔径Clear Aperature	>90%
损伤阈值Damage Threshold	>500MW/cm2



## 主要优点:

- ◆ 高增益
- ◆ 激光阈值低
- ◆ 功率高
- ◆ 1064nm光波吸收少
- ◆ 热传导性和热冲击特性好
- ◆ 光学性质好
- ◆ 适用于多种工作方式(连续,脉冲,Q-开关,锁模)

## Main Advantages:

- ◆ High gain,
- ◆ Low threshold
- ◆ High efficiency
- ◆ Low loss at 1064nm
- ◆ Good thermal conductivity and and shock characteristics
- ◆ High optical quality
- ◆ Applicable to many laser working modes (continuous, pulse, Q-switch, mode lock)