

# Er:YSGG



## DESCRIPTION

Our Er:YSGG crystal products, also known as erbium-doped yttrium scandium gallium garnet crystal. It is a kind of laser crystal product with excellent comprehensive performance. It is widely used in oral diseases, optical communication and laser medical treatment. The product has the characteristics of high thermal conductivity, stable physical and chemical properties and high quantum efficiency. Can be used in Er: YSGG laser, solid pulse high frequency laser, water laser products.

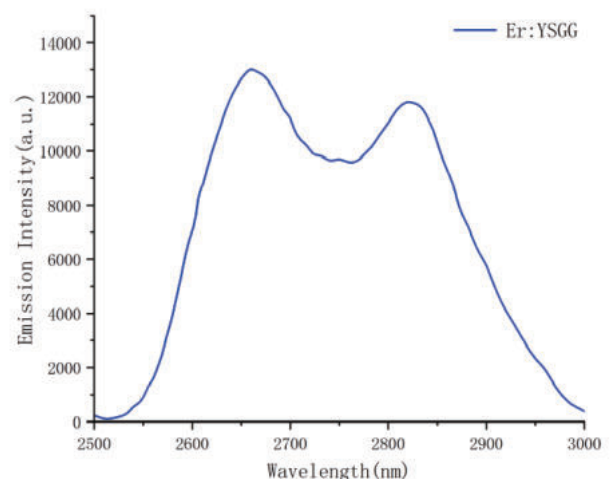
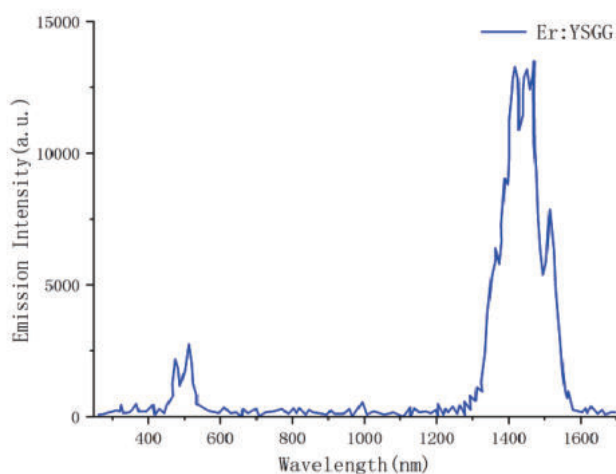
## FEATURES

- Emit 1.6um and 2.78um wavelength laser
- High thermal conductivity
- Stable physical and chemical properties
- High quantum efficiency

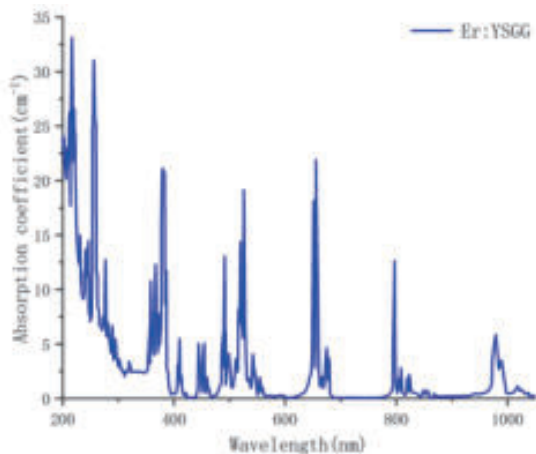
## APPLICATIONS

- Laser medicine
- Photo-communication
- Solid-state pulsed high-frequency lasers

## SPECTRA



# Er:YSGG



## BASIC PARAMETERS

Chemical formula	Er <sup>3+</sup> :YSGG
Crystal structure	Cubic
Doping concentration	30-50 at. %
Space group	Oh10
Lattice constant	12.42 Å
Density	5.2 g/cm <sup>3</sup>
Mohs hardness	>7
Coefficient of thermal expansion	8.1 × 10 <sup>-6</sup> K <sup>-1</sup>
Directional	<001> <111>
Thermal conductivity	0.079 Wcm <sup>-1</sup> K <sup>-1</sup>
Refractive index	1.926@1.064 μm
dn/dT	7 × 10 <sup>-6</sup> K <sup>-1</sup>
Generated wavelength	2.797; 2.823 μm

## STANDARD SPECIFICATIONS

Shank diameter	Up to 15 mm
Diameter tolerance	0.0000 / -0.0020
Length tolerance	0.040 / -0.000
Tilt /wedge angle	±5 min
Chamfer	0.005 ±0.003@45°
Parallelity	30 arcsec
Flatness	λ/10 @ 633 nm
Perpendicularity	5 arc minutes
Surface finish	10-5 S-D
Wavefront distortion	λ/2 per inch@633nm

