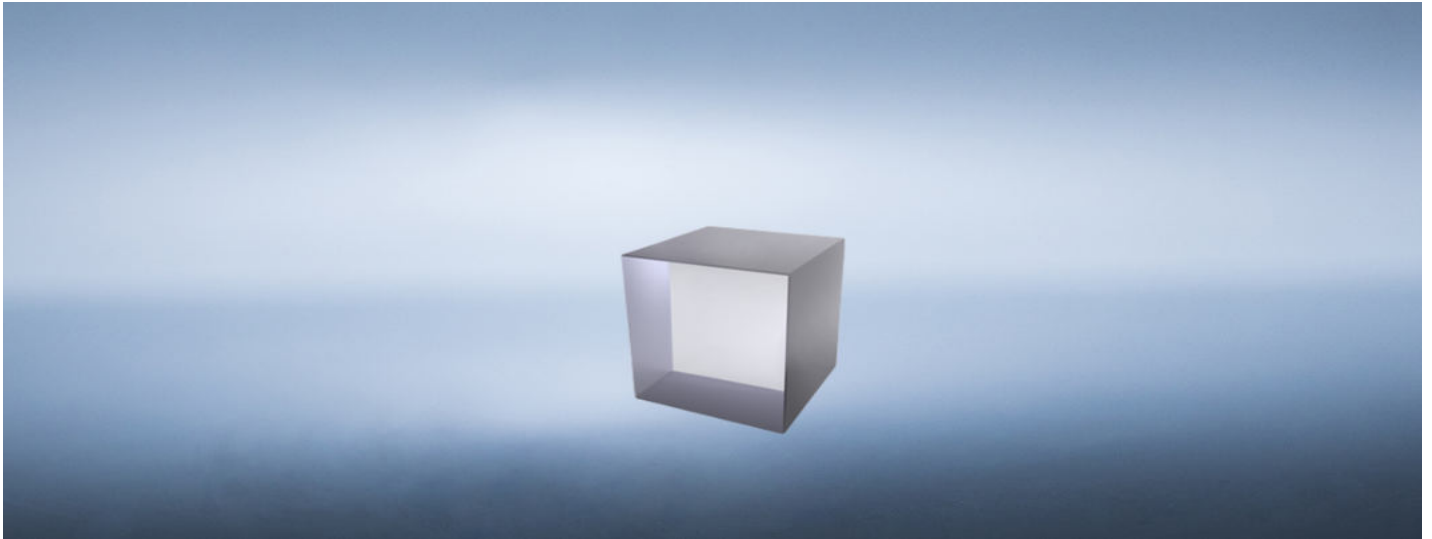


Ho:YLF



DESCRIPTION

CRYLINK's Ho:YLF crystal product, also known as holmium doped yttrium fluoride lithium crystal. It is a laser product with excellent comprehensive performance. It is widely used in industry, medical treatment and scientific research. The product has the characteristics of low nonlinear refractive index, low thermal optical constant value and long service life of 517 energy level. Can be used in remote sensing, pollutant monitor solid laser products.

FEATURES

- High emission cross-section
- Long upper laser level lifetime
- Naturally birefringent material
- Efficient Q switch operation (up to 37 mJ per pulse)
- Low value of dn/dT leading to a weak thermal lensing
- The continuous wave output of the YLF laser can be up to 21W

APPLICATIONS

- Military
- Industry
- Remote sensing
- Medical treatment
- pollutant detection



Ho:YLF

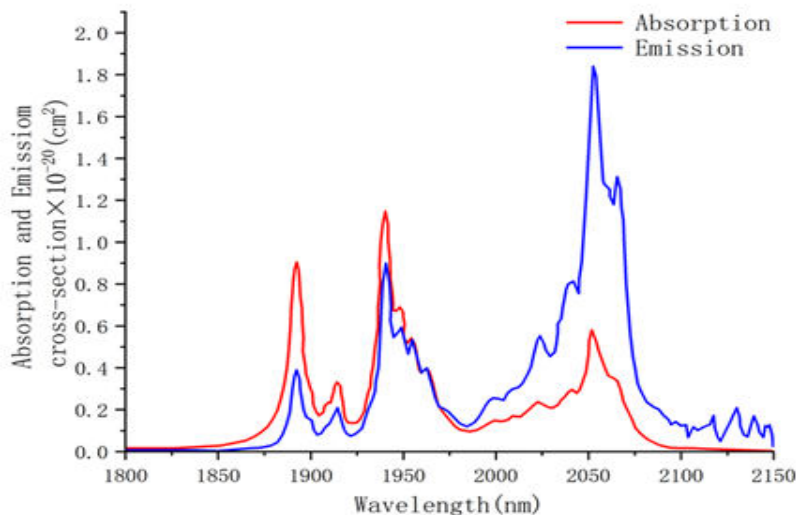
SPECTROSCOPIC AND THERMO-MECHANICAL PROPERTIES

Absorption peak wavelength	1940nm
Absorption cross-section at peak	$1.2 \times 10^{-20} \text{ cm}^2$
Absorption bandwidth at peak wavelength	-18nm
Laser wavelength	2060nm
Lifetime of 5I7 energy level	10ms
Emission cross-section	$1.8 \times 10^{-20} \text{ cm}^2$
Refractive index @1064 nm	$n_0=1.448, n_e=1.470$
Crystal structure	tetragonal
Density	3.95 g/cm^3
Mohs hardness	5
Thermal conductivity	$6 \text{ Wm}^{-1}\text{K}^{-1}$
dn/dT	$-4.6 \times 10^{-6} (c) \text{ K}^{-1}$, $-6.6 \times 10^{-6} (a) \text{ K}^{-1}$
Thermal expansion coefficient	$10.1 \times 10^{-6} (c) \text{ K}^{-1}$, $14.3 \times 10^{-6} (a) \text{ K}^{-1}$
Typical doping level	0.5-1%

STANDARD SPECIFICATIONS

Orientation	a-cut
Clear aperture	>90%
Face dimensions tolerance	+ 0/-0.1mm
Length tolerance	$\pm 0.1 \text{ mm}$
Parallelism error	<10arcsec
Perpendicularity error	<10arcmin
Protective chamfers	<0.1mm @45°
Surface quality	10-5 S-D
Surface flatness	$< \lambda/10 @ 632.8 \text{ nm}$
Coatings	$R < 0.35\% @ 1900-2100 \text{ nm}$
LIDT	$> 10 \text{ J/cm}^2 @ 2060 \text{ nm}, 10 \text{ ns}$

SPECTROGRAM



Ho:YLF absorption and emission curves

