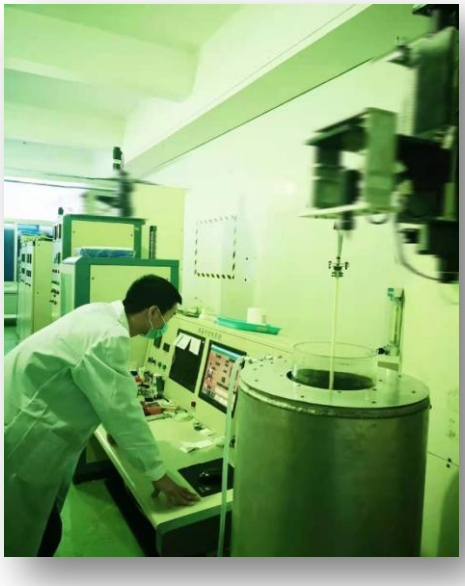
HG Optronics., INC

Professional Manufacture of Crystals Over 12 years



HG Optronics., INC grows and processes all kinds of YLF crystal: Nd:YLF, Pr:YLF, Tm:YLF, Yb:YLF, Ho:YLF and YLF diffusion bonded crystal, etc.

Our advantage: Lower than the market price with good quality

一. Ho:Tm:YLF

Ho:Tm:YLF crystal is 2μm laser crystal with Tm ion sensitized. Conveniently pumped at 792nm, 2.05μm linearly polarized beam is output. Working mode is: First, Tm ion absorbs 792nm pump light energy, and transfers the energy to upper laser level of Ho ion by non-radiative transition, then Ho ion emits laser. The advantage of above working mode is simple structure and high efficiency of laser, so it contributes to miniaturization of laser. But the defect is that the crystal must bear higher heat loss, therefore it is unsuitable for high power laser output.

Advantages of Ho:Tm:YLF Crystals：

Linearly polarized output beam

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Little heat effect while laser

Conveniently LD pumped

Suit to miniature compact laser

■ Specifications

Dopant concentration	Tm:0~10at% Ho:0~3at% Upon request of customer
Orientation	[100] or [001] within 5º
Wavefront distortion	≤0.25λ/25mm @632.8nm
Rod sizes	Diameter 3~9.5mm, Length 5~120mm Upon request of customer (rod or slab)
Dimensional tolerances	Diameter:+0.00/-0.05mm , Length: ± 0.5mm
Barrel finish	Ground or polished
Parallelism	≤10"
Perpendicularity	≤5'
Flatness	≤ λ/10@632.8nm
Surface quality	10-5 (MIL-O-13830B)
Chamfer	0.15±0.05mm
AR coating reflectivity	≤0.25%

■ Optical and Spectral Properties

Laser transition	$^5I_7 \rightarrow {}^5I_8$
Laser wavelength	2.05μm
Index of refraction	n_o=1.443 n_e=1.464 @633nm n_o=1.448 n_e=1.470 @1064nm

■ Physical and Chemical Properties

Crystal Structure	Tetragonal
Melting Point	825℃
Moh Hardness	4-5
Density	3.95g/cm^3
Thermal Conductivity	0.06W/cm/K
Young's Modulus	7.5×10^{11}dynes cm^{-2}
Tensile Strength	3.3×10^{8}dynes cm^{-2}
Thermal Expansion Coefficient	[100] Direction:13×10^{-6}/K
	[001] Direction:8×10^{-6}/K

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