$YAlO_3$ – Yttrium Aluminium Perovskite

PROPERTIES

Yb:YAP crystals	
Density	5,35 g/cm^3
Mohs hardness	8,5
Crystal structure	Orthorhombic
Absorption peak wavelength	978 nm
Absorption cross-section at peak	6,6 × 10^{-20} cm^2
Absorption bandwidth at peak wavelength	4 nm
Laser wavelength	1040 nm
Lifetime of $^2F_{5/2}$ energy level	500 µs
Emission cross-section @1040 nm	0,5 × 10^{-20} cm^2
Refractive index @632.8 nm	1,96 (//a), 1,94 (//b), 1,97 (//c)
Thermal conductivity	11,7 (//a), 10,0 (//b), 13,3 (//c) W/m*K
dn/dT	7,7 × 10^{-6} (//a) K^{-1}, 11,7 × 10^{-6} (//b) K^{-1}, 8,3 × 10^{-6} (//c) K^{-1}
Thermal expansion coefficient	2,32 × 10^{-6} (//a) K^{-1}, 8,08 × 10^{-6} (//b) K^{-1}, 8,7 × 10^{-6} (//c) K^{-1}
Typical doping level	<2 at.%

Ce:YAP crystals	
Density	5,4 g/cm^3
Melting Point	1875 °C
Hardness	8,5 Mohs
Decay time	25 ns
Peak Emission	370 nm
Light yield	25000 Photons/MeV
Light output	70% to NaI:Tl
Refractive index	1,96
Hygroscopicity	None
Energy resolution	<5%