

Laser Crystals

NLO Crystals

Birefringent Crystals

AO and EO Crystals

Cesium Lithium Borate (CLBO single crystal)

Introductions



Cesium Lithium Borate (CLBO single crystal) is a newly developed nonlinear optical crystal. It is a scarce crystal which generate fourth harmonic and fifth harmonics of the Nd:YAG laser output. Due to high damage threshold, it can be application in solid-state UV laser. Besides, CLBO possesses small walk-off angle, large acceptable angular, spectral and temperature bandwidth.

Basic Properties

Items	Specification
Transparent Range	180 - 2750 nm
Nonlinear Susceptibility	d ₃₆ = 1.01 pm/V (Lambda=532nm) d ₃₆ = 1.16 pm/V (Lambda=484nm)
Cell Parameters	a = 10.494, b = 8.939 A
Density	2.45 g/cm ³
Principal refractive indices	n _o =1.4852, n _e =1.4355 (Lambda=1064nm) n _o =1.4985, n _e =1.4462 (Lambda=532nm)
Optical damage threshold	26 GW/cm ² (Lambda=1064nm)
Cut-off SHG wavelength	471 nm
Walk-off angles	1.83° (Lambda=532nm) 0.98° (Lambda=488nm)
Angular bandwidth	1.7mrad·cm (Lambda=1064nm)
Spectrum bandwidth	0.84nm·cm (Lambda=532nm)
Conversion efficiency	45% (532nm→266nm)

Standard Specification

Items	Specification
Dimension Tolerance	±0.1mm
Orientation accuracy of cut angle	< 30arcmin
Flatness	≤ λ / 4 @ 633nm
Surface Quality	Scratch and Dig 20-10
Parallelism	< 30 arc second
Perpendicularity	< 5 arc minute
Damage threshold	>25 GW/cm ² @ 1064 nm

CLBO

Crystal

CLBO 01