

BIBO



DESCRIPTION

BiB₃O₆ (Bismuth Borate), abbreviated as BIBO, as a new type of nonlinear optical crystal, not only has the characteristics of no deliquescence, stable physical and chemical properties, high threshold of optical damage, large bifolding rate, and sensitive change of phase matching wavelength with angle, but also has the outstanding advantage that the effective nonlinear coefficient deff can reach 3.32 pm/V, which is higher than the BBO and LBO crystals that are commonly used nowadays, and its conversion efficiency can reach nearly 70% in 1064 nm out-of-cavity frequency doubling experiments. BIBO crystals can be used not only as high-efficiency frequency doubling and frequency summing devices, but also have broad application prospects in the field of optical parametric oscillation (OPO).

FEATURES

- Stable physical and chemical properties
- Moderate light transmission band
- High frequency doubling conversion efficiency
- The threshold of light damage resistance is large
- The effective nonlinear optical coefficient is large
- Not easy to deliquesce
 Temperature receiving angle width
 Good internal optical uniformity and less envelope

APPLICATIONS

- For frequency doubling laser
- For visible femtosecond optical parametric oscillator

www.crylink.com

+86-21-66566068

Building 7, No.718 Baoqi Road, Baoshan District, Shanghai, China



BIBO

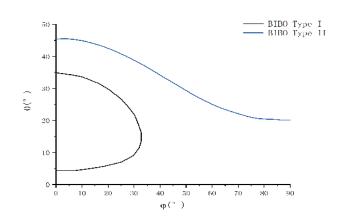
LINEAR AND NONLINEAR OPTICAL PROPERTIES

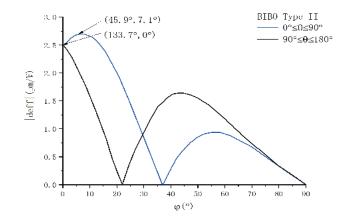
Light transmission range	286- 2500 nm
absorption coefficient	<0.1%/cm @ 1064nm
Frequency doubling (1064, 532)	Matching angle: 168.9° from Z axis in YZ plane
	Deff: 3.0 +/- 0.1 pm/V
	Receiving angle: 2.32 mrad.cm
	Discrete angle : 25.6 mrad
	Receiving temperature: 2.17° C.cm
axial	X//b, (Z,a)=31.6°,(Y,c)=47.2°

PHYSICAL AND CHEMICAL PROPERTIES

numerical value
BiB3 O6
Monoclinic, point group 2
5.033 g/cm ³
<0.1%/cm @ 1064nm
0.5J/g ·K @ 330K
726°C
10 ⁻⁶ /cm
5.5
weak
500 MW/cm ² @ 1064nm, 10ns
-26.4 x 10 ⁻⁶ /°C
50.4 × 10 ⁻⁶ /°C
8.5 x 10 ⁻⁶ /°C
a=7.116Å
b=4.993Å
c=6.508Å
β=105.62°
Z=2
anisotropy
1079.5nm: n1=1.9166 539.75nm: n1=1.9260
1070 Epm $n_2 = 1.7660 \text{ E} 20.76 \text{ Epm}$ $n_2 = 1.7974$
1079.5nm: n2=1.7569 539.75nm: n2=1.7874
-

SPECTRA





+86-21-66566068

www.crylink.com

sales@crylink.com

Building 7, No.718 Baoqi Road, Baoshan District, Shanghai, China