TSAG

DESCRIPTION

TSAG crystals, also known as Terbium Scandium Aluminum Garnet crystals, with the chemical formula $Tb_3Sc_2Al_3O_{12}$, are ideal for visible and infrared light magneto-optical crystals. TSAG crystals have high Verdet constants, and excellent thermodynamic and mechanical properties, and are used in a wide range of applications such as Faraday spinners, isolators, and imaging applications. TSAG Faraday crystals are used in the 400- 1600 nm wavelength range. It has a larger Verdet constant (20% higher than TGG) and a lower absorption coefficient (30% lower than TGG) than TGG, making it ideal for compact magneto-optical devices.

FEATURES

- Verdet constant large
- Low thermally induced birefringence
- About 20 to 30% higher than TGG low absorption
- About 30% lower than TGG high power compatible
- The ideal choice for compact magneto-optical devices

APPLICATIONS

- Faraday Isolator
- Imaging Applications

CRYSTAL SPECIFICATION

Direction	Within ± 15 ′
Extinction ratio	>30dB
Diameter Tolerance	±0.1mm
Length Tolerance	±0.2mm
Surface quality	10/5
Flatness	<λ/8 @633nm
Wavefront distortion	<λ/8 @633nm
Parallelism	<20″
verticality	≤15′
Chamfer	≤0.2mm ×45°
Antireflective film	<0.2% @1064nm (other coatings available upon request)

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BASIC PROPERTIES

Chemical formula	$Tb_3Sc_2AI_3O_{12}$
Transparency range	400-1600nm
crystal structure	Cubic, space group la3d
Lattice parameters	a=12.3 Å
density	5.91g/cm3
melting point	1970℃±10℃

SPECTROGRAM