

Terbium Scandium Aluminum Garnet (TSAG)

Introduction:

TSAG is a crucial isolator material for the next generation of fiber lasers, and as an ideal visible and infrared magnetic crystal, it has the advantages of high verdet constant, good thermal and mechanical performance.

Main Advantages:

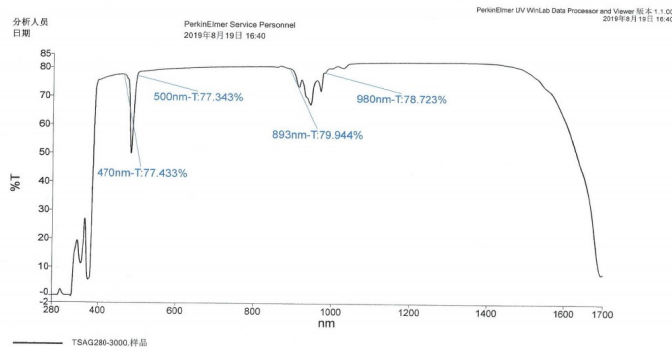
- ✧ Verdet constant 20% higher than TGG ($48\text{radT}^{-1}\text{m}^{-1}$ @ 1064nm)
- ✧ Low Absorption(<3000ppm/cm @ 1064nm)
- ✧ High power laser Application
- ✧ Low thermally-induced birefringence
- ✧ Make isolator more compact and smaller



Typical applications:

- ✧ Faraday rotator
- ✧ optical isolator

Transmission Curve:



Material Properties:


Chemical Formula	Tb ₃ Sc ₂ Al ₃ O ₁₂
Crystal Structure	Cubic, Space group Ia3d
Lattice Constant	a=12.3Å
Growth Method	Czochralski
Density	5.91g/cm ³
Melting Point	1970±10°C
Transmission Range	400nm-1600nm
Verdet (rad/M/T)	218/152/48@532nm/633nm/1064nm

Crystro Offers:


Orientation	(111)±15'
Wave Front Distortion	< λ/8
Extinction Ratio	> 30dB
Diameter Tolerance	+0mm/-0.05mm
Diameter Tolerance	±0.2mm
Chamfer	< 0.1mm@45°
Flatness	< λ/10@633nm
Parallelism	< 30"
Perpendicularity	< 15'
Surface Quality	10-5
AR Coating	R<0.2%@1064nm

Note: Above parameters for reference only, please contact our sales Rep. for your specific requirement.

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