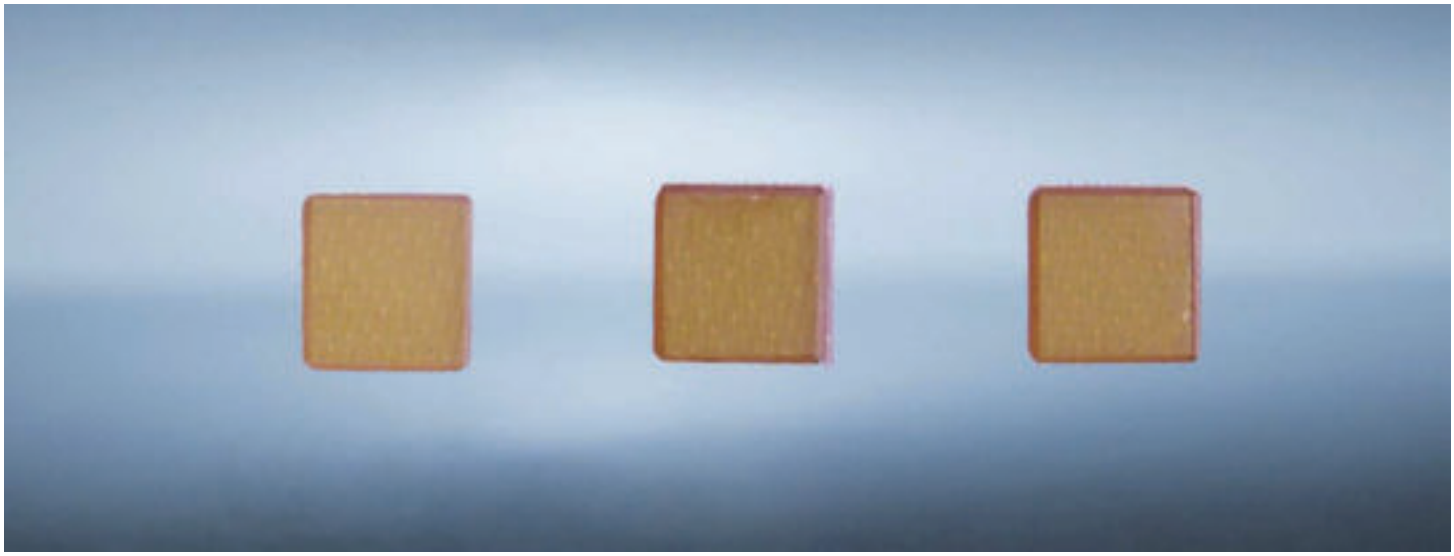
LiGaS2



DESCRIPTION

$LiGaS_2$ (Lithium Gallium Sulfide, LGS), a new infrared nonlinear optical material (space group Pna21, point group mm^2) with fibrillated zincite structure, is expected to be a new generation of nonlinear optical material with excellent overall performance due to its large nonlinear optical coefficient (d31=5.8 @2.26μm), wide transmission band (0.33~12 μm), large enough birefringence (Δn=0.04), and low two-photon absorption. $LiGaS_2$ is expected to be a new generation of nonlinear optical material with excellent comprehensive performance in the mid-infrared band. Moreover, $LiGaS_2$ has a wide band gap of 4.15 eV among the mid-infrared nonlinear crystals and is therefore effectively used in tunable laser systems in a wide spectral range.

FEATURES

- High damage threshold
- Large band gap width
- Low two-photon absorption
- Stable physical and chemical properties
- Wide transparent range
- Low group velocity mismatch

APPLICATIONS

- Mid infrared optical parametric oscillation laser OPO
- Fully automatic optical parametric amplifier OPA
- Tunable laser system DFG

MATERIAL SPECIFICATION

verticality	< 30′
Parallelism	< 30″
Flatness	λ/4@546 nm
Surface quality, scratch/dig	30/20

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LiGaS2

PRODUCT PARAMETERS

Crystallographic system	Orthorhombic system
Transmission range, μm	0.33 – 11.6
Symmetry	mm^2
band gap, eV	4.15
Nonlinear coefficient, pm/V (at 2.3 μm)	d31=5.8;
	d24=5.1;
	d33= -10.7
Absorption edge of far infrared at 0.2 light transmission level	92μm
	3.25THz @1064 nm (t=14 ns)
damage threshold, MW/cm^2	>240 @1064 nm (t=14 ns)
thermal conductivityk, WM/M°C	6-8 calc.
SHG scope	1.47 - 7.53
melting point	1050℃
Birefringence	~0.04（1-10μm）

SPECTRA