AgGaGeS4 crystals

The AgGaGeS4 crystal is one of the solid solution crystal with extremely tremendous potential among the increasingly developed new nonlinear crystals. It inherits a high nonlinear optical coefficient(d31=15pm/V), a wide transmission range(0.5-11.5um) and low absorption coefficient(0.05cm-1 at 1064nm). Such excellent properties are of enormous benefit to frequency-shifting near-infrared 1.064um Nd:YAG laser into the Mid-infreard wavwlengths of 4-11um. Besides, it has a better performance than its parent crystals on the laser damage threshold and the range of phase-matching conditions, which is demonstrated by high laser damage threshold, making it compatible with sustained and high-power frequency conversion.

Due to its higher damage thresholdand greater variety of phase-matching schemes AgGaGeS4 could become an alternative to the widely spread now AgGaS2 in high power and specifific applications.

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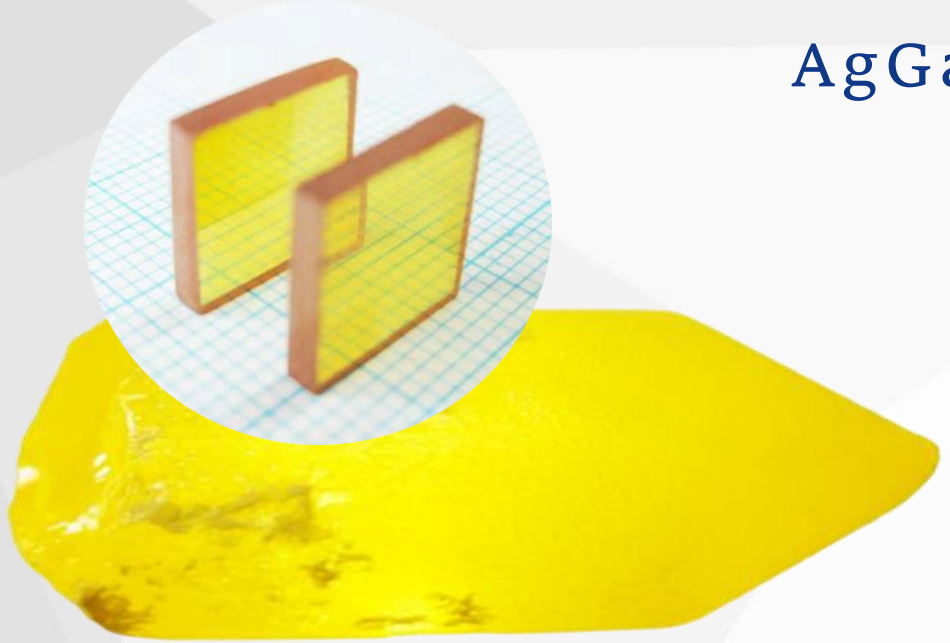

Feature:

Surface damage threshold: 1.08J/cm2

Body damage threshold: 1.39J/cm2

Dimensions:

Standard cross sections are 8x 8mm, 5 x 5mm, Crystal length range from 1 to 30 mm. Custom sizes are also available on request.

Technical Parameters	
Wavefront distortion	less than λ/6 @ 633 nm
Dimension tolerance	(W +/-0.1 mm) x (H +/-0.1 mm) x (L +0.2 mm/-0.1 mm)
Clear aperture	> 90% central area
Flatness	λ/6 @ 633 nm for T>=1.0mm
Surface Quality	Scratch/dig 20/10 per MIL-O-13830A
Parallelism	better than 1 arc min
Perpendicularity	5 arc minutes
Angle tolerance	$\Delta\theta < +/-0.25^{o}$, $\Delta\phi < +/-0.25^{o}$

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