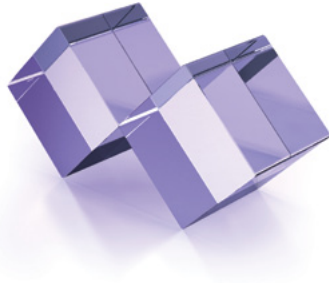


Yb:KGW and Yb:KYW Crystals



Description

Yb³⁺ doped KY(WO₄)₂ (KYW) and KGd(WO₄)₂ (KGW) single crystals are well known laser crystals for diode and laser pumped solid-state laser applications.

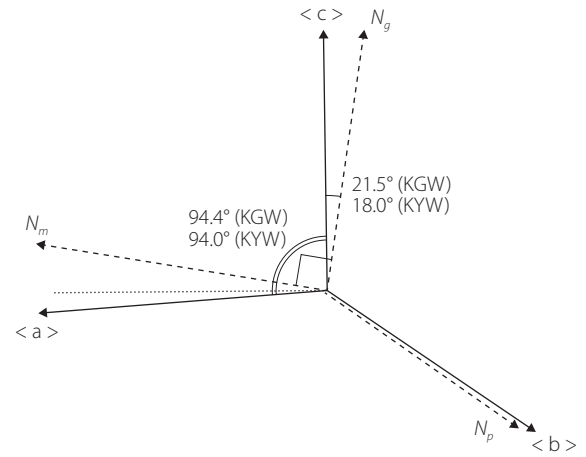
Yb:KGW and Yb:KYW crystals are used as a lasing materials to generate ultrashort high power pulses. Yb:KGW can be used as ultrashort pulses amplifiers and these crystals are one of the best materials for high power thin disk lasers.

The broad spectral emission band of Yb:KYW allows the tuning of the laser radiation over 1020-1060 nm range and the generation of femtosecond pulses shorter than 70 fs, enhanced storage capacity, wide absorption spectrum at 980 nm and high absorption of pump radiation in a small crystal region allows an efficient use of diode laser pump.

As compared to YAG or glasses used as hosts for Yb³⁺, KYW and KGdW have the advantage of a larger absorption cross section than YAG, which decreases minimum pump intensity necessary to achieve transparency in the quasi-two-level system of ytterbium.

Features

- High absorption coefficient @ 980 nm
- High stimulated emission cross section
- Low lasing threshold
- Extremely low quantum defect
- Broad output at 1020-1060 nm
- High slope efficiency with diode pumping (>55%)
- High Yb-doping concentration



Standard specifications

Material	Yb:KGW/Yb:KYW
Orientation: N _g or b-cut	N _m axis is parallel to input/output faces
	Other orientations available
Doping concentration	0.5-5.0 atm.% for Yb:KGW
	0.5-100 atm.% for Yb:KYW
Dimensions tolerance	+0/-0.1 mm
Length tolerance	±0.1 mm
Surface quality	10-5 S-D
Surface flatness	<λ/10 @ 632.8 nm
Parallelism error	<10 arcsec
Perpendicularity	<10 arcmin
Protective chamfers	<0.1 mm x 45°

→ Read further

Miscellaneous

- Custom design production is available
- Different doping levels available
- Various end cuts available (plano/plano, wedge/wedge, brewster cut, etc.)
- Various dielectric coatings are available.

