

## **Nonlinear Optics**

**BBO.** The crystals are useful for wave mixing in high power laser systems, especially effective generating into UV region up to 200 nm. High damage threshold and optical homogeneity, wide temperature bandwidth, 6 times greater than KDP nonlinearity are main advantages of the crystal. Useful as active media in pulsed parametric oscillators. Available: up to 10x12 mm aperture and 15 mm length, AR-coated.

**LBO.** The crystal useful for wave mixing and parametric conversion in high power pulsed and mode locked CW laser systems. Very high damage threshold compensates lower nonlinearity of about three times of KDP and makes the crystal even more efficient in some applications like frequency doubling of mode locked CW Nd:YAG. Small walk-off, wide acceptance angle, unique non critical phase matching range makes it useful for ultra-short pulse and parametric laser systems. Available: up to 15x15 mm aperture and 20 mm length, AR-coated.

**AGS.** The crystal (AgGaS<sub>2</sub>) useful for wave mixing in infrared laser systems. High nonlinearity makes it one of the best choices to extend you laser system spectral range down to 11 micron spectral region. Available: up to 12x15 mm aperture and 15 mm length, AR-coated.

**GaSe.** The crystals useful for wave mixing in far infrared laser systems. Allows to extend you laser system spectral range down to 18 micron spectral region. Available: up to 50 mm aperture and 20 mm length, cleavage cut, uncoated.

**KDP, DKDP, LiIO<sub>3</sub>.** Classic laser nonlinear crystals that should not be forgotten. Low price of KDP and very high nonlinearity of LiIO<sub>3</sub> sometimes are the best choice. DKDP with 92-95% of Deuterium is widely used as electrooptic material. Available: LiIO<sub>3</sub> up to 30x30 mm aperture and 30 mm length. KDP, DKDP - up to 30x30 mm aperture and 60 mm length, AR-coated.

**KTP.** The crystals are useful for optical wave mixing, electrooptical modulation, optical wave guiding. Besides high electro-optic coefficients have also low dielectric constant. Typically used for Type II doubling of 1064 nm radiation in CW and quasi-CW laser systems at intensities up to 180 MW/cm<sup>2</sup> with efficiency exceeding 50% and more. Useful as active media in CW and quasi-CW parametric oscillators. Available: up to 15x15 mm aperture and 20 mm length, AR-coated.

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