

## Optical Properties:

	GTR-KTP	BBO	LBO	KTA	BIBO	LiNbO3	KD*P	AgGaS2	RTP
T range	350 – 4500nm	189-3500 nm	155-3200 nm	350-5300nm	286- 2500 nm	420nm-5200 nm	200-1600nm	0.5÷12μm	350~4500 nm
SHG range:	1000 - 1800nm	409-3400nm	554-2600nm	1075-1134nm	574-2480nm	1064-3700nm	532-1498nm		1038-3100
Nonlinear optical coefficients: (pm/V)	$d_{31}=6.5\text{pm/v}$ , $d_{32}=5\text{pm/v}$ , $d_{33}=13.7\text{pm/v}$ , $d_{24}=7.6\text{pm/v}$ , $d_{15}=6.1\text{pm/v}$	$d_{11} = 2.2$ $d_{31} = 0.08$ $d_{22} < 0.05 \times d_{11}$	$d_{31} = 1.05$ $d_{32} = -0.98$ $d_{33} = 0.05$	$d_{15} = 2.3$ , $d_{24} = 3.2$ , $d_{31} = 2.8$ , $d_{32} = 4.2$ , $d_{33} = 16.2$	$d_{12}=d_{14}=2.3$ , $d_{25}=d_{36}=2.4$ , $d_{11}=2.53$ , $d_{13}=-1.3$ , $d_{35}=-0.9$ , $d_{26}=2.8$	$d_{33} = 34.4$ $d_{31} = d_{15} = 5.95$ $d_{22} = 3.07$	$d_{36}=0.40$	$d_{36} = 13$	$d_{15} = 2.0$ $d_{24} = 3.6$ $d_{33} = 8.3$
Effective nonlinearity expressions	$d_{\text{eff}}(\text{II}) \approx (d_{24} - d_{15})\sin 2\phi \sin 2\theta - (d_{15}\sin^2\phi + d_{24}\cos^2\phi)\sin\theta$	$d_{\text{ooe}} = d_{31} \sin\theta + (d_{11} \cos 3\phi - d_{22} \sin 3\phi) \cos\theta$ $d_{\text{eoe}} = (d_{11} \sin 3\phi + d_{22} \cos 3\phi) \cos^2\theta$	$d_{\text{ooe}} = d_{32} \cos\theta$ (in XY plane) $d_{\text{eoe}} = d_{31} \cos\theta$ (in YZ plane)	$d_{\text{eff}}(\text{II}) \approx (d_{24} - d_{15})\sin 2\phi \sin 2\theta - (d_{15}\sin^2\phi + d_{24}\cos^2\phi)\sin\theta$		$d_{\text{ooe}} = d_{31} \sin\theta - d_{22} \cos\theta$ $d_{\text{eoe}} = d_{22} \cos 3\phi \cos^2\theta$	$d_{\text{ooe}} = d_{36} \sin\theta \sin 2\phi$ $d_{\text{eoe}} = d_{36} \sin 2\theta \cos 2\phi$	$d_{\text{ooe}} = d_{36} \sin\theta \sin 2\phi$ $d_{\text{eoe}} = d_{36} \sin 2\theta \cos 2\phi$	$d_{\text{eff}}(\text{II}) \approx (d_{24} - d_{15})\sin 2\phi \sin 2\theta - (d_{15}\sin^2\phi + d_{24}\cos^2\phi)\sin\theta$
Electro-optic coefficients: (pm/V)	$\gamma_{13} = 9.5\text{pm/V}$ $\gamma_{23} = 15.7\text{pm/V}$ $\gamma_{33} = 36.3\text{pm/V}$ $\gamma_{42} = 7.3\text{pm/V}$ $\gamma_{51} = 9.3\text{pm/V}$	$\gamma_{11} = 2.7 \text{ pm/V}$ , $\gamma_{22}, \gamma_{31} < 0.1\gamma_{11}$		$\gamma_{13} = 11.5\text{pm/V}$ $\gamma_{23} = 15.4\text{pm/V}$ $\gamma_{33} = 37.5\text{pm/V}$		$\gamma_{33}^T = 32$ , $\gamma_{31}^T = 10$ , $\gamma_{31}^S = 8.6$ $\gamma_{22}^T = 6.8$ , $\gamma_{22}^S = 3.4$	$r_{41} = 8.8\text{pm/V}$ $r_{63} = 25\text{pm/V}$		$r_{13} = 10.6$ $r_{23} = 12.5$ $r_{33} = 38.5$
Ab.coef.@1064	$\alpha < 50\text{ppm}$	$\alpha < 1000\text{ppm}$	$\alpha < 50\text{ppm}$	$\alpha < 1000\text{ppm}$	$\alpha < 1000\text{ppm}$	$\alpha < 1000\text{ppm}$	$\alpha < 1000\text{ppm}$	$< 0.09/\text{cm}$	$\alpha < 500\text{ppm}$
N @ 1064nm	$n_x = 1.7377$ $n_y = 1.7453$ $n_z = 1.8297$	$n_e = 1.5425$ , $n_o = 1.6551$	$n_x = 1.5656$ , $n_y = 1.5905$ , $n_z = 1.6055$	$n_x = 1.782$ $n_y = 1.790$ , $n_z = 1.868$	$n_1 = 1.9166$ , $n_2 = 1.9166$ , $n_3 = 1.7835$	$n_e = 2.156$ , $n_o = 2.232$	$n_o = 1.4948$ , $n_e = 1.4554$	$n_o = 2.4508$ , $n_e = 2.3966$	$n_x = 1.7424$ $n_y = 1.8211$ $n_z = 1.7905$
D T (10 ns):	8J/cm <sup>2</sup>	13J/cm <sup>2</sup>	25J/cm <sup>2</sup>	8J/cm <sup>2</sup>	3J/cm <sup>2</sup>	2J/cm <sup>2</sup>	10J/cm <sup>2</sup>	5J @10.6μm	8J/cm <sup>2</sup>