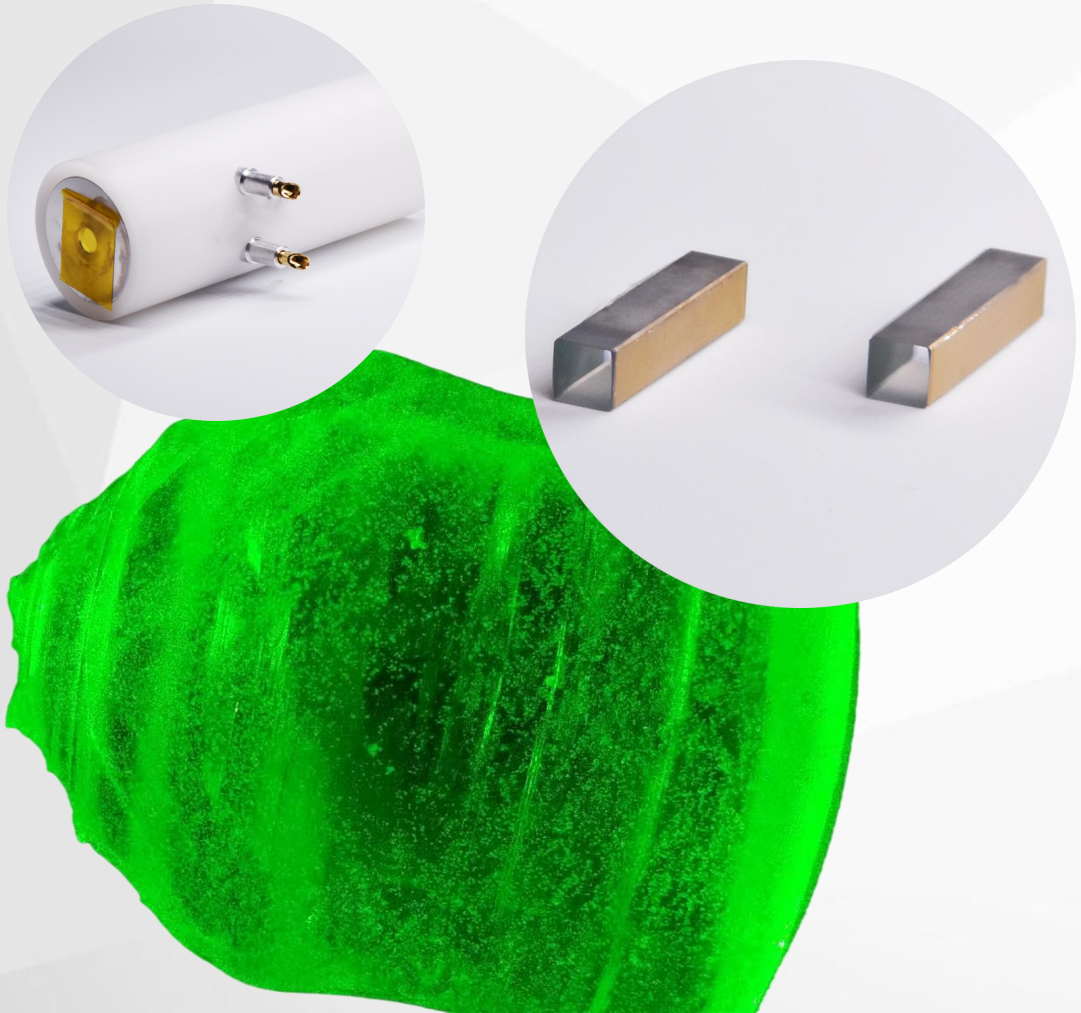
LiNbO3 crystals

LiNbO3 Crystal has unique electro-optical, piezoelectric, photoelastic and nonlinear optical properties. They are strongly birefringent. They are used in laserfrequency doubling, nonlinear optics, Pockels cells, optical parametric oscillators, Q-switching devices for lasers, other acousto-opticdevices, optical switches for gigahertz frequencies, etc. It is an excellent material for manufacture of optical waveguides, etc.

Usually LiNbO3 wafer is indexed as X cut, Y cut or Z cut with trigonal structure, it also can be indexed with hexagonal structure. Conversion from the trigonal - index system to hexagonal as [u ' v ' w '] ---> [u v t w] is accomplished by the following formulas:
X-cut (110) = (11-20) or (22-40) XRD 2theta is 36.56 or 77.73 degrees
Y-cut (010) = (10-10),(20-20) or (30-30) XRD 2theta is 20.86,42.46,65.83 degrees.

LiNbO3 crystals& Pockels Cell



LiNbO3 and MgO:LN Pockels Cell has high transmission in the very wide wavelength range from 420 - 5200 nm. MgO:LiNbO3 EO Crystal have similar electro-optic properties to LiNbO3 Crystal but with higher damage threshold. Regarding MgO: LN Crystal, the refractive index of an optical medium is altered by the presence of sound, this is called acousto-optic effect which can be used in many devices include optical modulators, q switches, deflectors, filters, frequency shifters and spectrum analyzers. LN EO Q-switch and MgO:LN EO Q-Switch manufactured by Coupletech has higher reliability and higher conversion.

We provide LN crystal with optical grade or Acoustic grade. Also with different doping, such as: MgO、Fe、Pr、Er、Tm etc...