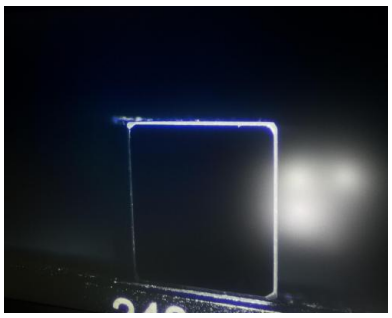
ZnGeP2 (ZGP)

ZGP crystals have large nonlinear coefficients (d36=75pm/V), wide infrared transparency range(0.75-12 μ m), high thermal conductivity(0.35W/(cm • K), high laser damage threshold (2-5J/cm2)and well machining property. ZnGeP2 crystal was called the king of infrared nonlinear optical crystals and is still the best frequency conversion material for high power, tunable infrared laser generation.



Typical applications:

- Producing coherent radiation in submillimeterrange from 70.0 μm to 1000 μm
- Second, third, and fourth harmonic generation of CO2-laser
- Optical parametric generation with pumping at a wavelength of 2.0 μm
- Generation of combined frequencies of CO2- and CO-lasers radiat ion and other lasers are working in the crystal transparency region

Main features:

- Large nonlinear coefficients (d36=75pm/V)
- Wide infrared transparency range(0.75-12μm)
- High thermal conductivity(0.35W/(cm·K)
- High laser damage threshold (2-5J/cm2)
- Well machining

Technical Parameters

Parameters	Values & Ranges
Density(g/cm^3)	4.162
Mohs hardness(Mohs)	5.5
Thermal conductivity @ T= 293K	35 W/m·K (⊥c)36 W/m·K(∥c)
Thermal Expansion@ T = 293 K to 573 K	17.5 x 106 K-1 (⊥c)15.9x106K-1(∥c)
Crystal parameters	a=5.467 Å , c=12.736 Å
Crystal structure	Tetragonal, -42m
Parallelism	< 30 arc sec
Perpendicularity	< 5 arc min
Flatness	PV< λ/4@632.8 nm