Cr\textsuperscript{4+}:YAG CRYSTALS
ALL-SOLID-STATE HIGH POWER PASSIVE Q-SWITCH
AND ACTIVE MEDIUM FOR INFRARED FEMTOSECOND LASERS

Material parameters:

- **Material:** Cr\textsuperscript{4+}:YAG (Cr\textsuperscript{4+} doped Y\textsubscript{3}Al\textsubscript{5}O\textsubscript{12})
- **Recovery time:** 8.5 µs
- **Saturation fluence:** 0.5 J/cm\textsuperscript{2}
- **Refractive index:** 1.82 @ 1064 nm
- **Crystal structure:** cubic garnet
- **Hardness:** Mohs 8.5
- **Density:** 4.56 g/ccm
- **Orientation:** [100] +/- 10° (standard)

**Size:**
- **Standard apertures:** Ø9.5 mm, 8x8 mm\textsuperscript{2}, 4x4 mm\textsuperscript{2}, Ø2.5 mm
- **Clear aperture:** min. 0.75 of dimension.
- **Thickness:** depends on the specified O.D. or initial transmission, Cr\textsuperscript{4+} concentration and may vary +/- 30% from the specified value.

**Surfaces:**
- **Wedge:** <30 arcmin
- **Flatness:** 0.5 wave @ 633 nm
- **Surface quality:** 20-10 s/d

**Coatings** (standard):
- AR/AR@1064 nm, R<0.3%

**Damage threshold** (coated):
- >500 MW/cm\textsuperscript{2} for 10 ns pulses

We have a large variety of Cr\textsuperscript{4+}:YAG standard crystals in stock for:
- Flashlamp-pumped lasers with T=0.25, T=0.32, T=0.50
- Diode-pumped lasers with T=0.80, T=0.85, T=0.9 and T=0.95

We are exclusive supplier of Brewster-cut crystals for very high peak power applications. We also offer specially coated Cr\textsuperscript{4+}:YAG crystals that serve as OUTPUT COUPLERS. In this way one can save the output mirror and considerably simplify the laser design. Standard reflections at the exit side are:
- R=8.5%, R=50%, R=90%, R=95%.
- We also supply crystals with custom specific parameters.