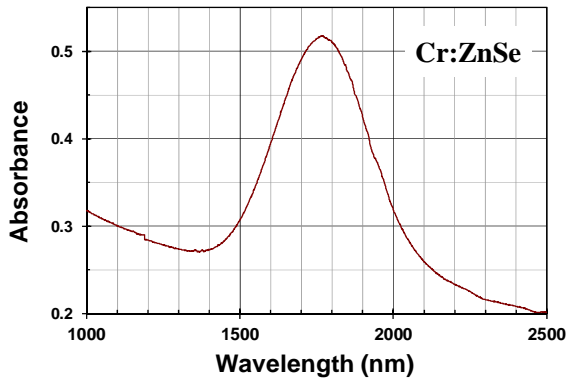
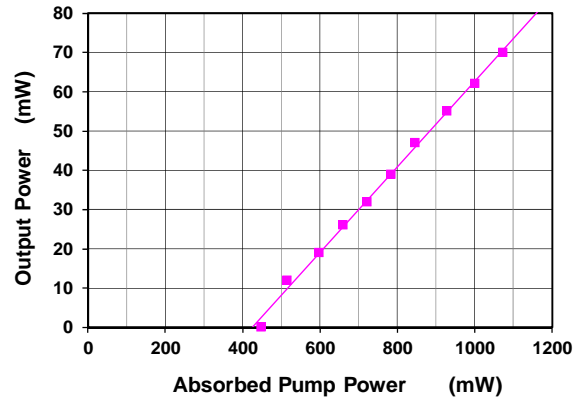


PSI Announces Commercial Availability of Cr:ZnSe Crystals for CW and Ultrafast Lasers Operating in the 2.0-3.0 μm Wavelength Range

Physical Sciences, Inc. (PSI) has developed the capability to fabricate polycrystalline zinc selenide (ZnSe) with divalent chromium-ion doping, suitable for optically pumped, widely tunable, ultrafast lasers. Crystals are available in a variety of sizes, with high-quality optical polishing, and IR-absorption quality characterization. Typical optical absorbance and cw lasing output in a TEM₀₀ transverse mode are shown below. We obtained the lasing result with a Brewster’s angle, 1-mm-thick crystal. The laser, pumped at 1940 nm, had a four-mirror, Z-fold cavity with a 2%-transmission output coupler (data courtesy Q-Peak).



Optical absorption band of Cr:ZnSe crystal.



Lasing output power under optical pumping by 1940 nm laser.

Table 1. Typical specifications of Cr:ZnSe crystals produced at PSI.

| Property | Typical Specification |
|--------------------------------------|--|
| Diameter | 10 to 75 mm |
| Thickness | 1 to 4 mm |
| Clear Aperture | 80% of diameter |
| Tolerances Optical Faces | $\lambda/10$ flat and parallel |
| Chromium-ion absorption (α) | 2.5 cm^{-1} minimum, $\pm 0.5 \text{ cm}^{-1}$ |

For more information contact:

Dr. Joel Hensley, Group Leader, Optical Devices and Technology
 Physical Sciences Inc.
 20 New England Business Center
 Andover, MA 01810

jhensley@psicorp.com
 Telephone: (978) 689-0003
 Fax: (978) 689-3232