

TWO-PHOTON ABSORPTION OF $\text{CdS}_x\text{Se}_{1-x}$
NANOCRYSTALS IN A GLASS MATRIX

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S u m m a r y

The method of a single light source has been used to determine the value of the two-photon absorption coefficient β of commercial glasses with $\text{CdS}_x\text{Se}_{1-x}$ nanocrystalline inclusions at the lasing frequency of a ruby laser. The value of β for the system of nanocrystals in a glass matrix was found to become three orders of magnitude lower than that for bulk $\text{CdS}_x\text{Se}_{1-x}$ single crystals. This phenomenon correlates by its order of magnitude with a reduction of the concentration of absorption centers. It has been shown that, as the energy of pump light quanta approaches the energy gap width in $\text{CdS}_x\text{Se}_{1-x}$, the value of β for such systems grows more slowly than that for $\text{CdS}_x\text{Se}_{1-x}$ single crystals.