

TEMPERATURE DEPENDENCE
OF PHOTOLUMINESCENCE OF CdTe
QUANTUM DOTS IN A POLYMER MATRIX

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S u m m a r y

Temperature dependences of photoluminescence (PL) spectra of CdTe quantum dots (QDs) in a polymer matrix have been studied. The CdTe QDs in a polymer matrix were prepared by transferring them from an aqueous colloid solution. A long storage of specimens was found to result in a bimodal distribution of CdTe QDs by their size in the polymer matrix. The activation energies of the temperature quenching of photoluminescence bands of CdTe QDs in the polymer matrix that correspond to PL bands produced by QDs with different sizes have been determined. The photoluminescence of investigated specimens was found to have the exciton mechanism, which is confirmed by the temperature dependence of the PL peak position and the dependence of the integral PL intensity on the optical excitation intensity.