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Optical Spectra and Energy Band Structure of the Monoclinic Crystals ZnP_2 and $ZnAs_2$

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Abstract

The anisotropic spectra of edge absorption, reflection, and photoconductivity of the monoclinic ZnP_2, and ZnA_2, crystals have been experimentally investigated at 293 and 77 °K. The group-theoretical calculations of selection rules for interband transitions and the dispersion relaxation are discussed. Energy band structure models at the band gap are proposed on the basis of known theoretical and obtained experimental data. Polarisation investigations allowed to determine the subband symmetry responsible for transitions in the energy range from 1 to 12.5 eV.