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# Exciton - phonon spectra and energy band structure of crystals

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## Abstract

The excitonic reflectivity spectra and the wavelength derivative reflection spectra have been investigated. The  $n = 1$ ,  $n = 2$  and  $n = 3$  states of the A, B and C exciton series are determined. The exciton binding energies and exact values of the band gaps of all three intervals  $\Gamma_7^{VI} - \Gamma_7^{C1} - \Gamma_6^{V2} - \Gamma_6^{C1}$  and  $\Gamma_7^{V3} - \Gamma_6^{C1}$  have been calculated. Data on the splitting due to the crystal-field and the spin - orbit interaction are determined as well.