



Interference of ordinary and extraordinary waves in AgAsS₂ crystals

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Abstract

The anisotropy of the near-bandgap absorption is investigated in AgAsS₂ crystals. The refraction indices, n^{\parallel} and n^{\perp} respectively for the E_{||c} and E_{⊥c} polarizations as well as the spectral dependence of the refraction indices difference, $\Delta n = n^{\parallel} - n^{\perp}$ are determined from the interference spectra of AgAsS₂ crystals. A transmission band with four maxima is observed in the transmission spectra of crystals placed between crossed polarizers. The optical parameters n , k , ϵ_1 , and ϵ_2 for the E_{||c} and E_{⊥c} polarizations are calculated from the reflection spectra by using the Kramers–Kronig relations.