



Birefringence and excitonic spectra of TlGaS₂ crystals

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Abstract

The anisotropy of transmission spectra was investigated in TlGaS₂ crystals. An intensive transmission line was found in samples placed between two crossed polarizers. Ground and excited states of excitons were detected in reflectivity spectra of TlGaS₂ crystals measured in E||a and E||b polarizations. The reflection spectra of excitons were calculated according to dispersion equations, and the main parameters of excitons and energy bands were determined in the center of the Brillouin zone. The refractive indices n_a and n_b were estimated for E||a and E||b polarizations.