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Excitonic States in Brillouin Zone Center of GaSe Layered Crystals

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Abstract

Optical spectra (absorption and reflection) of GaSe layered crystals were studied at room and low (10 K) temperatures. Contours of measured reflection spectra were fitted by help of dispersion equations. Photoluminescence spectra excited by 448 and 325 nm laser lines were measured at low temperatures. The observed features can be explained in the framework of model of the existence of Frenkel and Wannier-Mott excitons.

Keywords: gallium monoselenide, layered crystals, excitonic states, optical spectroscopy, absorption excitons

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