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Bound exciton in $CuGaS_2$

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Abstract

In $CuGaS_2$ crystals absorption and luminescence spectra at the temperature 9K at excitation by different wavelengths of Ar laser are investigated. A series of lines available in luminescence and absorption spectra is found. Another series of lines is found only in absorption spectra. The found series of lines of absorption and luminescence are determined by excitons bound on neutral acceptor. A model of electron transitions between the energy levels of the exciton bound on neutral acceptor is proposed.