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Phenomena of Radiative Recombination in Single Crystals of Cadmium Thiogallate with Cadmium ($\text{CdGa}_2\text{S}_4:\text{Cd}$) or Sulfur ($\text{CdGa}_2\text{S}_4:\text{S}$) Excess

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The experimental results related to the influence of non-stoichiometry on the emission spectra of CdGa_2S_4 single crystals excited by accelerated electrons are presented. Cadmium thiogallate single crystals with the excess of cadmium or sulfur were prepared by the method of chemical transport reactions with iodine, and the cathodoluminescence spectra of $\text{CdGa}_2\text{S}_4:\text{Cd}$ and $\text{CdGa}_2\text{S}_4:\text{S}$ were studied. A model of energy levels and optical transitions for this compound is proposed.