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Features of Radiative Recombination of Iron-doped Gallium Antimonide

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We report on the results of the studies of the features of radiative recombination of iron-doped gallium antimonide at $T=2K$, in the absence of an external magnetic field. Specimens were prepared by a modified method of zone melting. The concentration of iron incorporated in the melt varied in the range of $0.001\div 3$ (atomic percent). The studied specimens exhibited p-type conductivity. It was demonstrated that in gallium antimonide iron created a shallow acceptor level with the ionization energy of (22 ± 0.2) meV. In addition, the structure of the radiative recombination spectra was determined and the concentration of radiative centers was found out.