

ELECTRICAL PROPERTIES OF FeGa₂Se₄

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The temperature dependence of electroconductivity and current-voltage ($J \sim U$) characteristics have been investigated under different conditions in FeGa₂Se₄ crystals. The following regions are revealed in the the $I-U$ characteristics: a linear region ($I \sim U$), a quadratic region ($I \sim U^2$), and a region of sharp current increase ($I \sim U^n, n > 2$). It was shown that current transport mechanism in the nonlinear region is due to the monoplanar injection. The depth and concentration of traps are determined from the temperature dependence of the trapping factor $\theta(T)$ and the conductivity $\sigma(T)$. A strong compensation takes place in FeGa₂Se₄ crystals.