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The Effect of Halogen Impurities on Electroconductivity of Chalcogenide Glass Semicunductor
Se-As System

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Abstract: DC conductivity has been measured as function of dopant concentration for Se-As glass containing 2-10 % As, doped with Cl or Br. It was established that concentration dependences of the conductivity have maxima for concentration of Cl or Br between 10^{-3} and 10^{-2} at %. The effect of halogen impurities on electroconductivity of Se-As glasses has been attributed to the change of relative concentrations of the charged defect centers (C^{-}_1 , C^{+}_3) and to the occurrence of new Cl^{-} , Br^{-} centers associated with chlorine (bromine) atoms and the compensation of the effect of arsenic on the energy spectrum of electron states.

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