Multicomponent materials from the system Cu-In-As-Se are interesting objects of investigation because under the high pressure and at the low temperature it shows the negative magnetoresistance [1].

This paper deals with the high pressure (up to 50 GPa) influence on electrical properties of polycrystalline (InSe)$_x$(CuAsSe$_2$)$_{1-x}$, $x = 0.05$, in DC and AC (1 Hz – 32 MHz) electric fields and in a transverse magnetic field $0.2 < B < 1$ T. High pressure has been achieved using the high pressure cell which detail descriptions and methods its calibration are presented in paper [2].

With increasing of pressure from 16 to 50 GPa electroresistance of the studied material decrease in DC and AC electrical fields: in DC electrical field electroresistance decrease on three orders, in AC – on one order. It was found, that studied material has a negative magnetoresistance at pressure region over 36 GPa. In pressure dependences of electroresistance measured in DC electrical field and impedance and other electrical properties measured in AC electrical field features are observed near 24 GPa and 38 GPa. The obtained results are agree with the results of paper [3] where the high pressure influence on electrical properties of materials CuAsSe$_2$ and (GeSe)$_{0.05}$(CuAsSe$_2$)$_{0.95}$ was studied.

This work was supported in part by the Russian Foundation for Basic Research, project no. 13-02-00633 and by the Ural Federal University development program with the financial support of young scientists.