

Abstract Submitted  
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**Magnetoresistance and electrical properties of multi-component copper chalcogenides at pressures up to 50 GPa** NINA MELNIKOVA, ALEXANDER TEBENKOV, ALEXEY BABUSHKIN, KIRILL KUROCHKA, Ural Federal University, PHASE TRANSITIONS TEAM, TRANSPORT PROPERTIES TEAM, NOVEL MATERIALS TEAM — Multi-component chalcogenides based on layered semiconductors  $A^3B^6$  (such as InS, InSe, GaS, GaSe, etc) are new objects of study, they have interesting physical properties and undergo temperature and baric phase transitions. This paper presents the results of a study of the electrical properties and magnetoresistance of  $CuInS_2$ ,  $CuInSe_2$ ,  $CuInAsS_3$ ,  $CuInAsSe_3$ ,  $CuInSbS_3$  at pressures up to 50 GPa. High pressures have been generated in the cell with synthetic carbonado-type diamond anvils that can be used as electric contacts [1]. Electric properties at high pressure have been investigated on dc current and by means of impedance spectroscopy. Magnetoresistance has been measured in transverse magnetic field. The pressure ranges of noticeable changes in a behavior of magnetoresistance, of impedance and admittance, tangent of loss angle, relaxation time upon a pressure increase and a pressure decrease are established. This behavior of physical parameters can be due to structural transitions and due to a change of electron structure. This work was supported in part by the Russian Foundation for Basic Research, project no. 13-02-00633.

[1] A.N. Babushkin. High Press. Res. 1992, 6. P 349.

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