Structural and electrical conductivity studies of polycrystalline copper selenide at low temperature

Abstract

This paper reports the structural and electrical conductivity characterization of the copper selenide (CuSe) metal chalcogenide semiconductor in bulk form. In situ X-ray powder diffraction analysis of CuSe at low temperature (100 – 300 K) is studied to support the electrical conductivity analysis. The electrical conductivity of the polycrystalline CuSe was measured and analyzed at low temperature (100 to 286 K)using 4 point probe technique. The electrical conductivity values obtained were in the range of 1.69 x 103 to 2.58 x 103 S/cm.

Keyword: Copper selenide; Metal chalcogenide semiconductor; Bulk form