



Library Indian Institute of Science Education and Research Mohali



DSpace@IISERMohali (/jspui/)

/ Publications of IISER Mohali (/jspui/handle/123456789/4)

/ Research Articles (/jspui/handle/123456789/9)

Please use this identifier to cite or link to this item: <http://hdl.handle.net/123456789/1953>

Title:	Electrical and magnetic properties of polycrystalline magnetic Weyl semimetal Co ₃ Sn ₂ S ₂
Authors:	Shama (/jspui/browse?type=author&value=Shama) Singh, R.K. (/jspui/browse?type=author&value=Singh%2C+R.K.)
Keywords:	Polycrystals Weyl semimetal Crystals
Issue Date:	2019
Publisher:	American Institute of Physics
Citation:	AIP Conference Proceedings, 2115.
Abstract:	We have performed magneto-transport measurements on recently discovered magnetic Weyl semimetal Co ₃ Sn ₂ S ₂ Polycrystals[8]. An unprecedented and very large anomalous Hall conductivity with a chiral anomaly has been observed in this Weyl semimetal. The unusual electrical properties are solely driven by the large Berry curvature between the Weyl points present in the topological band structure of the compound. In this article we have synthesized polycrystalline crystals of Co ₃ Sn ₂ S ₂ . Temperature and magnetic field dependent magnetization measurements reveal that these crystals are ferromagnetic in nature with a Curie temperature TC of 181K. Electrical resistivity measurements show a kink like feature at this transition temperature. Signature of chiral anomaly in Dirac and Weyl semimetals has been attributed to the observation of negative magneto-resistance in collinear magnetic and electrical fields. In order to probe the signature of chiral anomaly we have carried out angle dependent magnetoresistance (MR) measurements but owing to the large grain boundary scattering negative MR could not be resolved. We comment finally that the two dimensional thin films of this material will definitely provide the negative MR
URI:	https://aip.scitation.org/doi/10.1063/1.5113293 (https://aip.scitation.org/doi/10.1063/1.5113293) http://hdl.handle.net/123456789/1953 (http://hdl.handle.net/123456789/1953)
Appears in	Research Articles (/jspui/handle/123456789/9)
Collections:	

Files in This Item:

File	Description	Size	Format	
Need to add pdf.odt (/jspui/bitstream/123456789/1953/1/Need%20to%20add%20pdf.odt)		8.63 kB	OpenDocument Text	View/Open (/jspui/bitstream/123456789/1953/1/Need%20to%20add%20pdf.odt)

[Show full item record \(/jspui/handle/123456789/1953?mode=full\)](#)

[Statistics \(/jspui/handle/123456789/1953/statistics\)](#)

Items in DSpace are protected by copyright, with all rights reserved, unless otherwise indicated.

