Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Extremely Large Magnetoresistance in $\mathbf{Bi_{0.96}Sb_{0.04}}$[1] SUDESH SUDESH, PAWAN KUMAR, SATYABRATA PATNAIK, School of Physical Sciences, Jawaharlal Nehru University, New Delhi-110067, India — Recent experimental evidence for Weyl fermions in topological semimetals has attracted considerable attention. These materials are three-dimensional analogue of graphene. The present work is motivated by the recent prediction of Weyl semi-metallic phase in $Bi_{1-x}Sb_x$ alloys. In this paper we present the electronic transport properties studied under high applied magnetic fields in $Bi_{0.96}Sb_{0.04}$ alloys. The sample exhibits extremely high magneto-resistance; MR(5 K, 8 T) = 9.810^4 %. This value is comparable to the MR observed in recently discovered other members of these emergent materials. Most importantly, this composition shows large MR at room temperature, MR (300 K, 8 T) = 435%, which is almost twice to that observed in Dirac semimetal Cd_3As_2 (= 200 % at 14.5 T) and Weyl semimetal NbP (= 250% at 9 T). We also discuss single crystal growth techniques as well as Hall and Shubnikov de Haas (SdH) oscillation data. **References** [1] S. Singh et.al, *arxiv:1512.00863v2* (2015). [2] C. Shekhar et.al, *Nat. Phys.*11 645–650 (2015). [3] Z. Wang et.al, *Phys. Rev. B* **88** 125427 (2013).

[1]We acknowledge the DIST-FIST supported low temperature-high magnetic field facility at JNU and AIRF, JNU for the access of experimental facilities to carry out this study. Sudesh and P. Kumar thank UGC, (Government of India) for financial support

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Date submitted: 06 Jan 2016 Electronic form version 1.4