

Abstract Submitted  
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**Magneto-transport measurement in BiTeI single crystal**<sup>1</sup> CHANG-RAN WANG, Institute of Physics, Academia Sinica, CHIA-TSO HSIEH, Institute of Physics, Academia Sinica, Department of Physics, National Taiwan University, RAMAN SANKAR, Center for Condensed Matter Sciences, National Taiwan University, WEI-LI LEE, Institute of Physics, Academia Sinica, GUANG-YU GUO, Graduate Institute of Applied Physics, National Chengchi University, Department of Physics, National Taiwan University, FANG-CHENG CHOU, Center for Condensed Matter Sciences, National Taiwan University, INSTITUTE OF PHYSICS, ACADEMIA SINICA TEAM, DEPARTMENT OF PHYSICS, NATIONAL TAIWAN UNIVERSITY COLLABORATION, CENTER FOR CONDENSED MATTER SCIENCES, NATIONAL TAIWAN UNIVERSITY COLLABORATION, GRADUATE INSTITUTE OF APPLIED PHYSICS, NATIONAL CHENGCHI UNIVERSITY COLLABORATION — Noncentrosymmetric BiTeI has attracted many attentions in recent years. It exhibits unusual giant bulk Rashba-type spin splitting that may have great potential in spin electronics application. Here, we show the magneto-transport measurement results in high quality BiTeI single crystals with magnetic field up to 15 Tesla. Two distinct frequencies in Shubnikov-de Hass (SdH) oscillation were observed giving extremal Fermi surface areas of  $A_{e1} = 9.1 \times 10^{12} \text{ cm}^{-2}$  and  $A_{e2} = 3.47 \times 10^{14} \text{ cm}^{-2}$ . From temperature dependence of the SdH oscillation amplitude, we determined the corresponding cyclotron masses to be  $m_1 = 0.036 m_e$  and  $m_2 = 0.17 m_e$ . Those results are in good agreement with relativistic band structure calculations showing large bulk Rashba-type spin splitting effect.

<sup>1</sup>National Science Council in Taiwan

Chang-Ran Wang  
Institute of Physics, Academia Sinica

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