Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Observation of Fermi Arcs in non-CentrosymmetricWeyl Semimetal Candidate NbP DIFEI XU, State Key Laboratory of Surface Physics, Department of Physics,and Laboratory of Advanced Materials, Fudan University, YONGPING DU, National Laboratory of Solid State Microstructures, Collaborative Innovation Center of Advanced Microstructures, and College of Physics, Nanjing Univ., ZHEN WANG, YUPENG LI, Department of Physics, and State Key Lab of Silicon Materials, Zhejiang University, XIAOHAI NIU, QI YAO, State Key Laboratory of Surface Physics, Department of Physics,and Laboratory of Advanced Materials, Fudan University, PAVEL DUDIN, Diamond Light Source, Harwell Science and Innovation Campus, ZHUAN XU, Department of Physics, Zhejiang University, XIANGANG WAN, National Laboratory of Solid State Microstructures, Collaborative Innovation Center of Advanced Microstructures, and College of Physics, Nanjing Univ., DONGLAI FENG, State Key Laboratory of Surface Physics, Department of Physics,and Laboratory of Advanced Materials, Fudan University — We report the surface electronic structure of niobium phosphide NbP single crystal on (001) surface by vacuum ultraviolet angle-resolved photoemission spectroscopy. Combining with our first principle calculations, we identify the existence of the Fermi arcs originated from topological surface states. Furthermore, the surface states exhibit circular dichroism pattern, which may correlated with spin texture. Our results not only provide critical evidence for the existence of the Weyl Fermions in NbP, but also lay foundations for further investigations.

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Date submitted: 04 Nov 2015 Electronic form version 1.4