Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Electronic structure of the iron arsenic parent compound LaFeAsO studied by angle resolved photoemission spectroscopy CHANG LIU, YONGBIN LEE, ARI PALCZEWSKI, JIAQIANG YAN, TAKESHI KONDO, BRUCE HARMON, ADAM KAMINSKI, Ames Laboratory and Department of Physics and Astronomy, Iowa State University, TOM LOGRASSO, Materials and Engineering Physics Program, Ames Laboratory — The current availability of millimeter-sized single crystals of LaFeAsO opened the door to the detailed investigation on the physical properties of this iron pnictide parent compound. In this talk we report our latest results on the electronic structure of this material measured by angle resolved photoemission spectroscopy (ARPES) with special focus on the observation of a surface-driven electronic state. By comparison with theoretical calculations we show that at least the extra large Γ-pocket seen by ARPES is generated by the surface atomic layer of the crystal. Detailed Fermi surface topology and other related topics will also be discussed.

Chang Liu
Ames Laboratory and Dept of Physics and Astronomy,
Iowa State University

Date submitted: 13 Nov 2009 Electronic form version 1.4