Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

ARPES measurements of superconducting gaps in iron-chalcogenide superconductors PIERRE RICHARD, H. MIAO, T. QIAN, Y.-B. SHI, N. XU, X.-P. WANG, P. ZHANG, H. DING, X. DAI, Institute of Physics, Chinese Academy of Sciences, J.-P. HU, Purdue University, Y.-M. XU, Lawrence Berkeley National Laboratory, Y. TANAKA, K. NAKAYAMA, K. UMEZAWA, T. SATO, T. TAKAHASHI, Tohoku University, H.-B. YANG, Z.-J. XU, J.-S. WEN, G.-D. GU, Brookhaven National Laboratory — The size and momentum dependence of the superconducting gap are crucial to the determination of the mechanism leading to Cooper pairing. Previous ARPES results on iron-pnictides superconductors reveal nearly-isotropic superconducting gaps with size varying from one Fermi surface to another. Here we show that this scheme is also valid in the iron-chalcogenide superconductors. We demonstrate that the superconducting gaps can be fitted by a single function derived from local pairing scenarios. Our finding of an apparent universality in iron-based superconductivity is a serious challenge to weak coupling approaches and rather favors pairing from local antiferromagnetic exchange interactions.

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Date submitted: 31 Oct 2011 Electronic form version 1.4