Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Electronic anisotropy in $Ba(Fe_{1-x}Ru_x)_2As_2$ revealed by ARPES YOONYOUNG KOH, YEONGKWAN KIM, WONSIG JUNG, Institute of Physics and Applied Physics, Yonsei University, MANJIN EOM, JUNSUNG KIM, Department of Physics, Pohang University of Science and Technology, CHANGYOUNG KIM, Institute of Physics and Applied Physics, Yonsei University — One of the central issues in field of iron pnitides is the origin of electronic anisotropy observed by in-plane resistivity measurement and STM quasi-particle interference patterns. It is believed that it is related to magnetism and plays an important role in superconductivity in iron pnictides. It was argued that the split bands in ARPES data are from two orthogonal bands with dominant d_{xz} and d_{yz} characters, demonstrating the in-plane electronic anisotropy. It appears to be consistent with anisotropy observed by other probes. We performed temperature dependent ARPES measurements on an iron pnictide system, $Ba(Fe_{1-x}Ru_x)_2As_2$, to experimentally verify existence of electronic anisotropy and compare the results with those of $BaFe_2As_2$ and $Ba(Fe_{1-x}Co_x)_2As_2$.

Yoonyoung Koh
Institute of Physics and Applied Physics, Yonsei University

Date submitted: 27 Nov 2012 Electronic form version 1.4