

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

STM Studies on the Surface Structure of Ba122 iron pnictides cleaved at Low Temperature ANG LI, Department of Physics and Texas Center for Superconductivity, University of Houston, JIHUA MA, Department of Physics and Texas Center for Superconductivity, University of Houston/Department of Physics, Boston College, A. SEFAT, M. MCGUIRE, B. SALES, D. MANDRUS, Oak Ridge National Laboratory, R. JIN, Department of Physics and Astronomy, Louisiana State University, CHENGLIN ZHANG, PENGCHENG DAI, Physics Department, University of Tennessee, SHUHENG PAN, Department of Physics and Texas Center for Superconductivity, University of Houston — We have performed scanning tunneling microscopy/spectroscopy (STM/STS) studies on electron- and hole-doped BaFe_2As_2 iron pnictides ($\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ and $\text{Ba}_{1-x}\text{K}_x\text{Fe}_2\text{As}_2$). Two types of surface topography are always found when the samples are cleaved at low temperature. One has a square-like structure and the other shows a dimerization into rows. Details of these two surfaces, particularly at their boundaries, will be utilized to argue about the surface termination. We also show the impacts of these two surface structures and some topographic features on the tunneling spectrum.

Ang Li
Department of Physics and Texas Center for
Superconductivity, University of Houston

Date submitted: 27 Nov 2010

Electronic form version 1.4