Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

New High Energy Scales in Quasi-One-Dimensional $K_{0.3}MoO_3$ Revealed by High Resolution Angle-Resolved Photoemission Spectroscopy DAIXIANG MU, WENTAO ZHANG, LIN ZHAO, HAIYUN LIU, XIAOWEN JIA, SHANYU LIU, GUODONG LIU, XIAOLI DONG, JUN ZHANG, X.J. ZHOU, National Laboratory for Superconductivity, Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, XIAOYANG WANG, QINJUN PENG, ZHIMIN WANG, SHENJIN ZHANG, FENG YANG, CHUANGTIAN CHEN, ZUYAN XU, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences — High resolution angle-resolved photoemission (ARPES) measurements have been carried out on $K_{0.3}MoO_3$, a prototypical quasi-one-dimensional material that exhibits Peierls transition at 180 K. Two high energy scales around 100meV and 300meV are revealed in the dispersion measured using super-high resolution vacuum ultra-violet (VUV) laser-based ARPES measurements. These new high energy features emerge in the charge-density-wave state. The origin of these new energy scales will be discussed.

Daixiang Mu

Date submitted: 14 Dec 2010 Electronic form version 1.4