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Angle-resolved Photoemission Study of $Ca_{1.8}Sr_{0.2}RuO_4$ MADHAB NEUPANE, P. RICHARD, Z.-H. PAN, Y. XU, Department of Physics, Boston College, Chestnut Hill, MA 02467, USA, R. JIN, D. MANDRUS, Oak Ridge National Laboratory, Oak Ridge, Tennessee 37831,USA, X. DAI, Institute of Physics and National Laboratory for Condensed Matter Physics, Beijing, China, Z. WANG, H. DING, Department of Physics, Boston College, Chestnut Hill, MA 02467, USA —
We report angle-resolved photoemission spectroscopy results of the Fermi surface of $Ca_{1.8}Sr_{0.2}RuO_4$ which is at the boundary between a magnetic metal and an antiferromagnetic insulator in the phase diagram of the Ca-substituted strontium ruthenates. We did observe an orbital-selective Mott transition, which is, however, different with what has been predicted theoretically [1] for this material. Our ARPES results are consistent with both magnetic and transport properties observed in this material.
[1] V. I. Anisimov et al., Eur. Phys. J. B **25**, 191(2002)

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