

Abstract Submitted  
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**ARPES Study on  $\text{Ca}_{1.8}\text{Sr}_{0.2}\text{RuO}_4$**  MADHAB NEUPANE, P. RICHARD, Y. XU, A.K.P. SHEKHARAN, Z. WANG, H. DING, Boston College, R. JIN, D. MANDRUS, Oak Ridge National Laboratory, T. VALLA, P.D. JOHNSON, Brookhaven National Laboratory — The phase diagram of  $\text{Ca}_{2-x}\text{Sr}_x\text{RuO}_4$  shows a rich variety of physical phenomena covering the unconventional superconductor  $\text{Sr}_2\text{RuO}_4$  to antiferromagnetic Mott-insulator  $\text{Ca}_2\text{RuO}_4$ . In particular, the  $x = 0.2$  compound is at the boundary between a magnetic metal and a canted antiferromagnetic insulator. It has been argued that the surprisingly large effective mass observed at low temperature in this compound may be due to the Kondo-like coupling between the localized and itinerant Ru 4d valence electrons which coexist in this system. We will report ARPES results on this material, which may shed light to the unusual heavy-fermion behavior in this d-electron system.

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