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**ARPES study of the Kitaev Candidate $RuCl_3$** XIAOQING ZHOU, HAOXIANG LI, JUSTIN WAUGH, STEPHEN PARHAM, University of Colorado at Boulder, HEUNG-SIK KIM, HAE-YOUNG KEE, JENNIFER SEARS, YOUNG-JUNE KIM, University of Toronto, DANIEL DESSAU, University of Colorado at Boulder — $RuCl_3$ has been identified as a spin-orbital-assisted Mott insulator with possible Kitaev magnetic orders at low temperature by X-ray absorption, susceptibility, specific heat and Raman scattering[1-3]. Here we report high resolution ARPES spectroscopy measurements on single crystal $RuCl_3$, and compare it with DFT calculations with and without magnetic order. Furthermore, the possible spin-orbital-assisted Mott transition is investigated through electron doping. [1] K.W.Plumb et al., Phys. Rev. B, 90, 041112 (2014). [2] J.A.Sears et al., Phys. Rev. B, 94, 144420 (2015). [3] L. J. Sandilands et al. Phys. Rev. Lett. 114, 147201 (2015).

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