

Abstract Submitted  
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**Emergence of anisotropic heavy fermions in antiferromagnetic Kondo lattice CeIn<sub>3</sub> revealed by photoemission** YUN ZHANG, Department of Engineering Physics, Tsinghua University, Beijing 100084, China, HAIYAN LU, XIEGANG ZHU, SHIYONG TAN, QIUYUN CHEN, WEI FENG, DONGHUA XIE, LIZHU LUO, WEN ZHANG, XINCHUN LAI, Science and Technology on Surface Physics and Chemistry Laboratory, Mianyang 621907, China, DONGLAI FENG TEAM, HUIQIU YUAN TEAM — One basic concept in heavy fermions systems is the entanglement of localized spin state and itinerant electron state. It can be tuned by two competitive intrinsic mechanisms, Kondo effect and Ruderman-Kittel-Kasuya-Yosida interaction, with external disturbances. The key issue regarding heavy fermions properties is how the two mechanisms work in the same phase region. To investigate the relation of the two mechanisms, the cubic antiferromagnetic heavy fermions compound CeIn<sub>3</sub> was investigated by soft x-ray angle resolved photoemission spectroscopy. The hybridization between f electrons and conduction bands in the paramagnetic state was observed directly, providing compelling evidence for Kondo screening scenario and coexistence of two mechanisms. The hybridization strength shows slight and regular anisotropy in K space, implying that the two mechanisms are competitive and anisotropic. This work illuminates the concomitant and competitive relation between the two mechanisms and supplies some evidences for the anisotropic superconductivity of CeIn<sub>3</sub>

Yun Zhang  
Department of Engineering Physics, Tsinghua University, Beijing 100084, China

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