

Abstract Submitted  
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**High temperature heaviness in CeCoIn<sub>5</sub>**<sup>1</sup> SOOYOUNG JANG, Lawrence Berkeley Natl Lab, J.D. DENLINGER, Lawrence Berkeley National Lab,, J.W. ALLEN, U. of Michigan, V. S. ZAPF, Los Alamos National Lab, M.B. MAPLE, UC San Diego, JAE NYEONG KIM, BO-GYU JANG, JI HOON SHIM, POSTECH — The temperature-dependent evolution of the Kondo lattice is a long-standing topic of theoretical and experimental investigation and yet it lacks a truly microscopic description of the relation of the basic  $f - d$  hybridization processes to the fundamental  $T$  scales of Kondo screening and Fermi-liquid lattice coherence. The  $T$ -dependence of  $f - d$  hybridization dispersions and  $f$  spectral weight in the Kondo lattice system CeCoIn<sub>5</sub> is investigated using  $f$ -resonant angle-resolved photoemission (ARPES) with comparison to first principles dynamical mean field theory (DMFT) calculations. Three different  $f - d$  hybridization scenarios at different  $k$ -locations of the Fermi surface(FS) are measured from two orthogonal (001) and (100) cleaved surfaces. In contrast to a commonly accepted belief that  $f - d$  hybridization occurs only below the lattice coherence temperature of  $T^* \sim 45$  K, ARPES, in agreement with DMFT, reveals  $f$  participation in the FS at temperatures much higher than  $T^*$ , well into the incoherent partial-screening regime of logarithmic Kondo-coupling spin-flip scattering.

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Sooyoung Jang  
Lawrence Berkeley Natl Lab

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