

Abstract Submitted  
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**Quasiparticle duality in the Kondo-screened state of YbInCu4**

MARCO GUARISE, EPFL, Lausanne, JASON HANCOCK, JOHN SARRAO, Los Alamos, THORSTEN SCHMITT, PSI, Switzerland, MARCO GRIONI, EPFL, Lausanne — We present a study of the excitation spectra of YbInCu4. This system exhibits a first-order isoelectronic phase transition which separates regimes with very different  $T/T_K$ . Using infrared optics, we were first able to demonstrate the existence of a hybridization gap feature which is ubiquitous in heavy fermion systems. More recently, using the burgeoning technique of resonant inelastic X-ray scattering (RIXS) at the Yb M5 edge, we identify a feature at the same energy, strongly suggesting that components of this excitation have mixed itinerant and localized character. Prospects for the future studies using the RIXS technique in the context of heavy fermion materials will be discussed.

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