

Abstract Submitted
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Electronic Structure of PuCoGa₅ and PuSb₂ Using Angle-Resolved Photoemission¹ J.J. JOYCE, Los Alamos National Laboratory, T. DURAKIEWICZ, K.S. GRAHAM, D.P. MOORE, J.M. WILLS, JIAN-XIN ZHU, E.D. BAUER, J. MITCHELL — The Electronic structure of PuCoGa₅ and PuSb₂ is investigated using angle-resolved photoemission (ARPES). Details of the sharp quasiparticle peak at the Fermi energy are presented giving insight into the details of the mechanisms which give rise to strongly correlated characteristics in these materials. Additionally, the details of the dual nature of the 5f electrons are explored via characterization of more localized 5f states well removed from the Fermi energy. The ARPES data is compared with electronic structure models which move beyond the density functional theory approach to address the strong electron correlations present in Pu compounds as well as the dual nature of the 5f electrons.

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John Joyce
Los Alamos National Laboratory

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