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Quantum criticality and non Fermi liquid behavior in $\text{Sc}_{1-x}\text{U}_x\text{Pd}_3$

N. P. Butch¹, J. R. Jeffries¹, P.-C. Ho¹, M. B. Maple¹, S. D. Wilson²,
Pengcheng Dai³, D. T. Adroja⁴, S.-H. Lee⁵, J.-H. Chung⁶, J. W. Lynn⁵

¹ *Department of Physics and Institute for Pure and Applied Physical Sciences,
University of California, San Diego, La Jolla, CA 92093*

² *Department of Physics and Astronomy, The University of Tennessee, Knoxville,
Tennessee 37996-1200, USA*

³ *Condensed Matter Sciences Division, Oak Ridge National Laboratory, Oak
Ridge, Tennessee 37831, USA*

⁴ *ISIS Facility, Rutherford Appleton Laboratory, Chilton, Didcot, Oxon OX11
0QX, United Kingdom*

⁵ *NIST Center for Neutron Research, National Institute of Standards and Tech-
nology, Gaithersberg, Maryland 20899, USA*

⁶ *Department of Materials Science and Engineering, University of Maryland, Col-
lege Park, Maryland 20742, USA*

The intermetallic system $\text{Sc}_{1-x}\text{U}_x\text{Pd}_3$ is an archetypal example of a non Fermi liquid material. While original interpretations of its unusual properties focused on unconventional Kondo models, recent neutron scattering measurements have demonstrated ω/T scaling of the imaginary dynamical susceptibility for $x = 0.35$, in the vicinity of a spin glass quantum critical point. We present the results of recent neutron scattering, specific heat, and transport measurements, along with ongoing studies into the nature of the quantum critical point and the observed non Fermi liquid behavior in $\text{Sc}_{1-x}\text{U}_x\text{Pd}_3$.

Keywords : quantum criticality, non Fermi liquid, Kondo effect