NON-FERMI LIQUID BEHAVIOR IN UCu_4Pd AND RELATED ALLOYS

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UCu_4Pd is one of the first reported canonical non-Fermi liquid systems. Despite extensive research, the ground state properties of this compound and related $UCu_{5-x}Pd_x$ alloys is poorly understood. It is fair to say that neither of theoretical scenarios proposed accounts for the whole spectrum of unique properties of this solid. Among the intriguing and important questions we address is the persistence of non-Fermi liquid like behavior over extended range of concentrations x and strong sensitivity of UCu_4Pd to preparation conditions.