Susceptibility measurements in $Pr_xLa_{1-x}InAg_2$ with Γ_3 doublet ground state

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Recently, Pr-based compounds with the cubic symmetry have attracted much attention because of the discovery of their fascinating features. These features are believed to be related to the quadrupolar Kondo effect proposed by Cox.

We have studied the low-temperature properties of $\Pr_x \operatorname{La}_{1-x} \operatorname{InAg}_2$ for a wide concentration range of Pr ions. We reported that the susceptibility above T=15 K is well reproduced by the crystal-electricfield level scheme with a non-Kramers Γ_3 doublet in the ground state for each concentration, while that below T=15 K shows a non-Fermi-liquid (NFL) behavior with a logarithmic temperature dependence¹. However, the quadrupolar Kondo theory does not predict NFL behavior in the susceptibility. In order to clarify the origin of NFL behavior in the susceptibility below T=15 K, we measured the susceptibility and magnetization in the lower temperature region down to $T\sim 0.5$ K by SQUID magnetometer with a home-made ³He insert.

¹T. Kawae *et al.*, J. Phys. Soc. Jpn. **74** 2332 (2005).