Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Antiferromagnetism in the Kondo lattice system Ce($Ni_{0.25}In_{1.75}$).[1]
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— The pseudobinary compound Ce($Ni_{0.25}In_{1.75}$), which crystallizes in a hexagonal AlB_2 type structure with space group P6/mmm, exhibits antiferromagnetic ordering below the temperature 3.9 K, as revealed in the magnetic susceptibility, electrical resistivity and low-temperature specific-heat data. A ln(T) dependence is seen in the high temperature region for the magnetic contribution to the resistivity ρ_m, which is one of the characteristic features of dense Kondo systems. The magnetic entropy $S_m(T_N)$ associated with the magnetic structure of Ce($Ni_{0.25}In_{1.75)}$) is found to be only 62% of Rln(2), corresponding to a reduction of 38% of the cerium moment. This large magnetic reduction may be able to be attributed to Kondo effect. The heat capacity C(T) of Ce($Ni_{0.25}In_{1.75}$), in the paramagnetic state at temperatures between 8 and 20 K, can be fitted to the expression $C_n = \gamma T + \beta T^3$ by a least squares analysis, which yields the value $\gamma = 123$ mJ/mol K^2 and $\beta = 1.2$ mJ/mol K^4, the latter value corresponding to the Debye temperature $\Theta_D = 169$ K.

[1]Supported by the National Science Council of ROC under grant no. NSC 96-0212-M-194-008-MY3

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Date submitted: 05 Dec 2007 Electronic form version 1.4