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Size and alloying effects on magnetic interactions in CePt2+x Y.Y. CHEN, Institute of Physics, Academia Sinica, Taipei, Taiwan 115 ROC, P.H. HUANG, C.T. CHEN, P.C. LEE, J.M. LAWRENCE, Department of Physics and Astronomy, University of California, Irvine, CA92717 USA, C.H. BOOTH, Chemical Science Division, Lawrence Berkeley National Laboratory, Berkeley, CA 94720-8175 — Alloying and size effects on magnetic correlations and Kondo interactions were investigated in CePt_{2+x} (x= 0-1). magnetic and specific confirmed that Ce in CePt_2 bulk are entire magnetic Ce^{3+} , but only 0.95 and 0.93 molein $\text{CePt}_{2.5}$ and CePt_3 respectively. Alloying not only suppresses magnetic correlations but also enhances the quantity of Ce^{3+} in Kondo interactions from 0.6 to 0.9 mole as x rises from 0 to 1. A decrease of T_K with Pt alloying was revealed as well. Similar consequences with size reduction were also discovered, disorders created from alloying and size reduction are conjectured to be the origin of these consequences.

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