

## **Magnetic behaviour of $\text{RCo}_2$ compounds where R is a heavy rare-earth**

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Above the Curie temperatures, in an external field, the magnetic moments of rare earths and cobalt atoms, in  $\text{RCo}_2$  ( $\text{R} = \text{Tb}, \text{Ho}, \text{Er}, \text{Tm}$ ) compounds, are antiparallely oriented. Some authors correlated this behaviour with the occurrence of short-range magnetic order [1]. Staring from polarized neutron studies, magnetic measurements and band structure calculations, no evidence of magnetically ordered clusters was shown in ferrimagnetic  $\text{RCo}_2$  compounds, at  $T > T_c$ . The relative orientations of R and Co moments are determined by the balance between exchange and thermal energies, as well as that involved by interactions with external fields. The nature of the quantum critical fluctuations were studied. The Grüneisen exponent is in agreement with the 3D-SDWQCP prediction, located at the magnetic transition temperature,  $T_c$ .

[1]. J. Herrero-Albillos et al Phys. Rev. B76 094409 (2007) and references.

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