

Effect of the crystalline electric field on the Neel temperatures of RCu_2 compounds

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Abstract: Values for the Neel temperature of the RCu_2 compounds ($\text{R} = \text{Tb-Tm}$) were calculated using a molecular field model including crystalline-electric-field effects as presented by Noakes and Shenoy. The calculated results show that the unusual behavior, at the Neel temperatures, of these compounds can be explained on the basis of this model.

Index Keywords: Computational methods; Crystalline materials; Intermetallics; Mathematical models; Molecular dynamics; Molecular structure; Crystal-field effects; Neel temperatures; Magnetic materials

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