Magnetic phase transitions in $Ho(Co_{1-x}Cu_x)_2$

Hien T.D., Duc N.H., Franse J.J.M.

Cryogenic Laboratory, University of Hanoi, Viet Nam; Natuurkundig Laboratorium, Universiteit van Amsterdam, Valckeniersstraat 65, 1018 XE Amsterdam, Netherlands

Abstract: Magnetization and thermal expansion measurements have been performed on the series of pseudobinary cubic Laves phase compounds $Ho(Co_{1-x}Cu_x)_2$ for x=0, 0.05, 0.10, 0.20 and 0.30. The magnetization and thermal expansion data show discontinuities at the ferromagnetic transition temperature, T_c, for x-values between 0 and 0.10, indicating first-order transitions for these compounds. In the remaining compounds a second-order transition is observed at T_c. This change is explained by a reduction of the susceptibility of the Co, Cu sublattice at increasing x-values. The T_c-values for the series $Ho(Co, Cu)_2$ are compared with those for other $RE(Co, Cu)_2$ compounds with RE=Gd, Tb and Dy. ?? 1986.

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Authors with affiliations:

1. Hien, T.D., Cryogenic Laboratory, University of Hanoi, Viet Nam
2. Duc, N.H., Cryogenic Laboratory, University of Hanoi, Viet Nam
3. Franse, J.J.M., Natuurkundig Laboratorium, Universiteit van Amsterdam, Valckeniersstraat 65, 1018 XE Amsterdam, Netherlands