

Specific heat of the $\text{Ce}(\text{Ni}_{1-x}\text{Cu}_x)_4\text{Mn}$ compounds

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Specific heat of the $\text{Ce}(\text{Ni}_{1-x}\text{Cu}_x)_4\text{Mn}$ compounds has been studied. The samples are prepared by induction melting and it is found, based on the X-ray diffraction, that all the compounds keep the CaCu_5 -type structure. This series exhibits a transition between the ferromagnetically ordered CeNi_4Mn and the spin-glass CeCu_4Mn compounds [1], which is well visible in the measurements of the ac susceptibility peak as a function of the magnetic field frequency and in the magnetization relaxation. In the present research we explore the behavior of the specific heat for various x . The changes of the electronic specific heat coefficient γ are determined by analysis of the low temperature part of the $C_p(T)$ dependence. We also observe that the magnetic phase transition is only detectable after extraction of the magnetic contribution of the Mn atoms. This is carried out by subtraction of the specific heat of the appropriate reference samples.

[1] T. Toliński, K. Synoradzki, *Intermetallics* 19 (2011) 62.

13.4 cm

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9.7 cm