TRANSPORT AND MAGNETIC PROPERTIES OF YbCu₄Ni

I. Čurlik^a, Š. Máťošová^a, S. Ilkovič^b, M. Reiffers^{a,b}, M. Giovannini^c

^aInstitute of Experimental Physics, Watsonova 47, SK-040 01 Koice, Slovakia
^bFaculty of Sciences, University of Prešov, 17.novembra, SK-080 78 Prešov, Slovakia
^cDepartment of Chemistry, University of Genova, Via Dodecaneso 31, I-16146 Genova, Italy

Strong correlation between electrons, due to hybridization of f-electrons and conduction electrons, can cause a number of outstanding low temperature features. Among the rare earths, a large number of these phenomena is found for Ce- and Yb - based compounds. The interest in this topic was triggered by the investigation on the heavy fermions YbCu₄T (T = Ag, Au), which crystallize in an ordered derivative of the AuBe5-type. Recently the new compounds YbCu₄Ni was studied. This compound is a new heavy fermion (HF) member of the series of YbCu₄M (M = metal). In this paper we present the results of study of an influence of magnetic field on the temperature dependence of electrical resistivity till 0.4 K. Moreover, we extended our previous susceptibility measurements till high temperatures of 1000 K, in order to study possible mixed valence behaviour.

______13.4 cm _____

Subject category:

1. Strongly Correlated Electrons and High Temperature Superconductivity

Presentation mode:

poster

Corresponding author:

Š. Máťošová

Address for correspondence:

Institute of Experimental Physics Watsonova 47 SK-043 53 Košice Slovakia

Email address:

matosova@saske.sk

 $9.7~\mathrm{cm}$