# INFLUENCE OF HYDROGEN BONDS ON MAGNETIC PROPERTIES OF Cu($dmen$)$_2$M(CN)$_4$, (M=Ni, Pt) - $S = 1/2$ LOW-DIMENSIONAL HEISENBERG ANTIFERROMAGNETS

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The magneto-structural correlations in materials Cu($dmen$)$_2$M(CN)$_4$, where M=Ni or Pt, and *dmen* is N,N-dimethylethylenediamine, have been investigated. In previous work [M. Orendáč *et al.*, Solid State Commun. **94** (1995) 833] devoted to the study of Cu($en$)$_2$Ni(CN)$_4$, where *en* is ethylenediamine, layered magnetic structure is created by weak exchange paths between magnetic Cu(II) ions. The ligand *en* was consequently replaced by larger *dmen* with aim to weaken the exchange coupling through the ligands. Thermodynamic and magnetic properties of the studied systems suggest the presence of a weak antiferromagnetic exchange interaction. Observed $\lambda$-like anomaly in the temperature dependence of the specific heat of Cu($dmen$)$_2$Ni(CN)$_4$ at T=0.19 K might be attributed to the formation of long-range order due to the presence of exchange coupling between the planes but the entropy removed above the transition temperature represents 50% of the total magnetic entropy suggesting low-dimensional character of the system. The influence of hydrogen bonds connecting larger *dmen* ligands on magnetic dimensionality of studied materials is discussed.

9.7 cm

13.4 cm

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