NEW MAGNETIC PHENOMENA IN VANADIUM HEXACYANOCROMATES

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9.7 cm

Magnetic properties of two vanadium hexacyanochromates belonging to the Prussian blue family of moleculebased magnetic materials are presented. It has been shown from magnetization measurements M(T) that the hexacyanocomplex **1** with V^{IV} orders ferrimagnetically below $\mathrm{T_c}$ = 120 K and the complex **2** with V^{III} orders ferrimagnetically below $\mathrm{T_c}$ = 180 K. Maximum in the magnetization at $\mathrm{T_{max}}$ = 8 K (sample **1**) and at $\mathrm{T_{max}}$ = 37 K (sample **2**) measured at H = 25 Oe shift to lower temperatures and becomes less pronounced at higher magnetic fields. The irreversibility in the field cooled and zerofieldcooled magnetization measurements performed up to magnetic field H = 1 kOe suggests a cluster glass behavior in the low temperature region for both samples. Both samples exhibit a strong paramagnetic resonance signal at g(**1**) = 1.84 and g(**2**) = 1.79 with the peak to peak linewidth $\nu(\mathbf{1})$ = 73 G and $\nu(\mathbf{2})$ = 944 G at room temperature. The results are discussed in relation with stoichiometry of three dimensional material and the nature of constituting metal ions.

13.4 cm

Subject category :

3. Transition Metals, Alloys and Compounds

Presentation mode :
poster

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