Magnetic properties of RNi_4B (R=Y, Gd): Magnetic and specific-heat measurement

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Abstract: YNi_4B is a paramagnetic compound with the susceptibility equal to $2.7??10^{-6}$ emu/g at 5 K. From the low-temperature specific heat, values of 458 K for the Debye temperature and 14.1 mJ/K^2 mol for the coefficient of the electronic specific heat are obtained. $GdNi_4B$ is ferromagnetic below T_c=35.0 K where the ?-type anomaly is observed in the specific heat. Magnetic and specific-heat measurements provide strong evidence that the 3d band in YNi_4B and $GdNi_4B$ is completely filled.

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