THE MAGNETIC PROPERTIES OF $(Y_{1-x}Zr_x)Co_4B$ COMPOUNDS

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9.7 cm

The $(Y_{1-x}Zr_x)Co_4B$ compounds with $x \leq 0.8$ crystallize in $CeCo_4B$ -type structure having $P6/mmm$ space group in the whole studied composition range. The lattice parameters decrease when yttrium atoms are substituted by zirconium ones. The magnetic measurements were performed in the temperature range 5 - 900 K and external magnetic fields up to 9 T. The compounds are ferromagneticaly ordered. The spontaneous magnetizations at 5 K decrease and the Curie temperatures increase when yttrium is gradually substituted by zirconium. Above the Curie points, the thermal variations of magnetic susceptibilities obey a Curie-Weiss type behaviour. The mean effective magnetic moments per cobalt atom were determined. The magnetic behaviour was correlated with the structure and composition of the compounds.

13.4 cm

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