Application of the individual site anisotropy (ISA) model to the intermetallics with the $ThMn_{12}$ structure

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Abstract: The individual site anisotropy model was applied to the $Y(Fe_{1-x}Co_x)_{11}Ti$, $Y(Fe_{1-x}Co_x)_{10}Mo_2$ and $YFe_{12-x}V_x$ compounds with the $ThMn_{12}$ structure. Based on the relation between the $CaCu_5$ and $ThMn_{12}$ structures, the results are discussed in comparison with those previously obtained for $R(Co_{1-x}Fe_x)_5$ and related compounds. ?? 1995.

Index Keywords: Crystal structure; Magnetic anisotropy; Magnetic variables measurement; Magnetization; Mathematical models; Neutron diffraction; Phase transitions; Thorium compounds; Anisotropy constant; Concentration dependence; Effective anisotropy constant; Individual site anisotropy model; Magnetocrystalline materials; Thorium manganese compound; Intermetallics

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