

Fe substitution effects on the magnetic properties of the $\text{RCo}_{4-x}\text{Fe}_x\text{Al}$ compounds (R: Ho and Y)

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Abstract: Fe substitution for Co leads to the increase of the Curie temperatures of both $\text{HoCo}_{4-x}\text{Fe}_x\text{Al}$ and $\text{YCo}_{4-x}\text{Fe}_x\text{Al}$ and of the spin-reorientation temperature of $\text{HoCo}_{4-x}\text{Fe}_x\text{Al}$. In contrary, the anisotropy field of $\text{YCo}_{4-x}\text{Fe}_x\text{Al}$ decreases quickly with increasing Fe content. The results are explained in terms of the individual site anisotropy model. ?? 1995.

Index Keywords: Cobalt; Composition effects; Holmium compounds; Ingots; Iron; Magnetic anisotropy; Magnetic fields; Magnetic permeability; Magnetic properties; Magnetic variables measurement; Magnetization; Substitution reactions; Anisotropy model; Curie temperature; Holmium cobalt iron aluminum compounds; Iron substitution effects; Spin orientation temperature; Yttrium cobalt iron aluminum compounds; Rare earth compounds

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