

Brief Reports

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Mössbauer study of $\text{Cr}_x\text{Fe}_{1-x}\text{S}$

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The hexagonal mixed system $\text{Cr}_x\text{Fe}_{1-x}\text{S}$ has been studied by Mössbauer spectroscopy and x-ray diffraction. As the Cr concentration increases, there is a progressive crystallographic α transition from the NiAs structure to a superstructure and the temperature range of coexistence of the two phases widens. The temperature of maximum coexistence decreases with increasing Cr content at a rate an order-of-magnitude higher than for either Néel temperature or the magnetic hyperfine field.