

Studies of the α - ϵ Transformation in Iron at various temperatures by Synchrotron Mössbauer Spectroscopy

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The α -Fe to ϵ -Fe transition has been studied extensively by various techniques [1-5]. However, a detailed study of the dP/dT slope for the α - ϵ transformation from cryogenic to elevated temperatures is lacking. We have performed studies of the α - ϵ transformation under hydrostatic pressure at 11, 300 and 467 K using high precision synchrotron Mössbauer spectroscopy (SMS) in hybrid mode at the APS. The accurate dP/dT slope shed lights to understanding the driving mechanism of α - ϵ transformation in Fe.

References:

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