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## The Effect of Atomic Ordering on the Magnetic Properties of Fe-Al Alloys\*

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### Abstract

The effect of atomic ordering on the magnetic properties of Fe-Al alloys has been studied for the specimens with different compositions. The so-called "double-Curie point" phenomenon has been studied at a magnetic field strength of 242 Oe: the behavior of the magnetization in this temperature range is different from that observed at lower magnetic field strengths, and Pál and Tarnóczy's interpretation, which is based on the demagnetizing field caused by the formation of a finely dispersed paramagnetic  $\text{Fe}_3\text{Al}$  ordered phase, cannot apply to this case. There is some evidence that the Curie temperature of FeAl ordered phase is higher than that of  $\text{Fe}_3\text{Al}$  ordered phase, and at high Al concentrations both of these temperatures are lower than the  $\text{Fe}_3\text{Al}$ -FeAl transformation temperature. The difference in the paramagnetic behavior between the FeAl ordered phase and disordered phase has been observed and discussed.

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