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Thermo-Hysteresis Phenomenon of the Electrical Resistivity in Fe₂Ti Suggesting Its Martensitic Transformation*

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Abstract

Some indirect evidence is found of the occurrence of a martensitic transformation below room temperature in the Laves phase compounds in the Fe-Ti alloy system. The detailed measurements of the electrical resistivity from 4.2 to 1200°K show a large thermo-hysteresis, suggesting that the low temperature transformation develops just below room temperature and the high temperature one begins at about 560°K in the stoichiometric compound. Although the X-ray powder photographs show no clear evidence of a new phase, it may be interpreted that the new phase consists of a very small volume with a fine structure.

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