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Thermal Stability of $Fe_{85.5}B_{14.5}$ Metallic Glass

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Abstract: The thermal stability and crystallization behaviour of metallic glass Fe\(_{85.5} \)B\(_{14.5} \) were investigated by Dynamic Temperature Resistivity Measurement (DTRM) technique from room temperature to 1050K in forward and reverse mode at a heating rate of 40 K/hr. The slope of Resistivity-Temperature-Curve (RTC) changes sign and magnitude at the temperature where the transition takes place. Differential Thermal Analysis (DTA) was carried out at the heating rates of 10, 20, 30 \& 40 K/min. A comparison of the results of DTRM and DTA measurements shows that crystallization in this alloy is two-stage process. Activation energy for two crystallization steps was calculated from DTA data, using various peak shift equations. The activation energy for first step was found to be lower than the second.

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