Heat Treatment Effect on the Parameterisation of the Critical Current of a Nb₃Sn Strand

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Heat treatment dependence of the critical current of an internal-tin processed Nb_3Sn strand has been measured using a modified Walter spiral probe with which compressive and tensile strain can be applied reversibly to a strand soldered on the outskirt of the spiral. The critical current is measured at various temperatures and field. The measurement results are presented and analyzed by various scaling laws.

Keywords: Nb₃Sn strand, Scaling law, critical current