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Critical State Models for Intergrain Junctions of Polycrystalline Superconductors by Third Harmonic ac Susceptibility Measurements

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Abstract: High harmonic response of high- T_c and Chevrel-phase polycrystalline superconductors are measured in the presence of small ac excitation field and dc magnetic field applied on it. The aim of this work is to study the Josephson weak link behavior and compare the two systems in order to understand the granular nature of polycrystalline superconductors. Critical state models are used to explain the nonlinear magnetic response in polycrystalline superconductors.

Key Words: Low field, Josephson junction, Critical state models

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