

Local electrodynamics in heavy ion irradiated $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$

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Transport measurements in the flux transformer and c -axis geometries are used to investigate vortex dynamics in heavy ion irradiated BSCCO crystals. In the flux transformer geometry there is a range of fields, temperatures, and angles where the primary and secondary voltages show close correspondence, as observed in YBCO. This occurs because the columnar defects suppress thermal fluctuations and decrease ρ_c . Values for ρ_{ab} and ρ_c are extracted from the flux transformer data assuming local anisotropic electrostatics and compared with directly measured c -axis data. Good agreement confirms the validity of local resistivity. This is supported by both measurement configurations indicating that ρ_c vanishes faster than ρ_{ab} .