Excess noises and its correlation with vortex motion

FULIN ZUO, University of Miami, HENGSONG ZHANG, The State University of New York Buffalo — We report voltage noise studies in the superconducting transition of thin Tin (Sn) films. Voltage noises are measured as a function of temperature and applied current. Simultaneous measurement of the noise power and I-V characteristics suggest strong correlation of the excess noises with vortex motion. The noise power displays the same temperature dependence as that of the third harmonics voltage signal. The results will be discussed in terms of vortex-antivortex pair and pair-pair interactions.

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