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Excess Voltage Noises in the Superconducting Transition in Tin Films HENGSONG ZHANG, FULIN ZUO, University of Miami — 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. The noise spectral power $S^{1/2}$ is peaked during the superconducting transition, with the peak temperature shifted downward from that of dR/dT . Comparison with the dc noise measurement shows the $S^{1/2}$ is much larger with ac current than dc. I-V characteristics and voltage noises are measured simultaneously to correlate the voltage noise with the vortex motion. The noise depends on the voltage with a characteristic \sqrt{V} dependence for small V , suggesting shot noise nature for the excess noises.

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