

Abstract Submitted  
for the MAR13 Meeting of  
The American Physical Society

**Noise Intensity-Intensity Correlations and the Fourth Cumulant of Current Fluctuations** JEAN-CHARLES FORGUES, FATOU BINTOU SANE, CHRISTIAN LUPIEN, BERTRAND REULET, Université de Sherbrooke — We report measurements of the correlation between intensities of noise at different frequencies on a tunnel junction under ac excitation. We show that such correlations exist only for certain relations between the excitation frequency and the two detection frequencies, which are similar to three-wave and four-wave mixing in optics, depending on the dc bias of the sample. We demonstrate that the correlation we measure is proportional to the fourth cumulant of current fluctuations.

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Date submitted: 11 Dec 2012

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