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Asymmetric noise probed with a Josephson junction¹

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Using a Josephson junction, we have measured the fluctuations of the current through a tunnel junction. The current noise adds to the bias current of the Josephson junction and affects its switching out of the supercurrent branch. The experiment is carried out in a regime where switching is determined by thermal activation. The variance of the noise results in an elevated effective temperature, whereas the third moment, related to its asymmetric character, leads to a difference in the switching rates observed for opposite signs of the current through the tunnel junction. Measurements are compared quantitatively with recent theoretical predictions.

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