

Activation mechanisms for charge noise

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Reference:

arXiv 1202.5350

URL:

<http://arxiv.org/abs/1202.5350> [2]

Measurements of the temperature and bias dependence of Single Electron Transistors (SETs) show that charge noise increases linearly with temperature above a voltage-dependent threshold temperature, and that its low temperature saturation is due to self-heating. We show further that the two-level fluctuators responsible for charge noise are in strong thermal contact with hot electrons on the SET island, and at a temperature significantly higher than that of the substrate. We suggest that the noise is caused by electrons tunneling between the island and nearby potential wells.

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