Sonderforschungsbereich 631

Festkörperbasierte Quanteninformationsverarbeitung

TECHNISCHE UNIVERSITÄT MÜNCHEN

SEMINARANKÜNDIGUNG

Dienstag, 20. November 2007

17:15 Uhr

WSI, Seminarraum S 101

“ Measurement of the finite frequency shot noise of a quantum point contact ”

We report on direct measurements of the electronic shot noise of a Quantum Point Contact (QPC) at frequencies nu in the range 4-8GHz. The very small energy scale used ensures energy independent transmissions of the few transmitted electronic modes and their accurate knowledge. Both the thermal energy and the QPC drain-source voltage Vds are comparable to the photon energy leading to observation of the shot noise suppression when Vds < h nu/e. The measurements provide the first direct comparison to the high frequency shot noise scattering theory without adjustable parameters.

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