SFB1242

SFB 1242 Nichtgleichgewichtsdynamik kondensierter Materie in der Zeitdomäne

UNIVERSITÄT DUISBURG ESSEN

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Dynamics of single-electron tunneling in a.c.-driven quantum dots

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Electronic transport through quantum dots is governed by single-electron tunneling due to Coulomb blockade. Detailed investigations of the statistics of single-electron tunneling in a.c.-driven quantum dots allow not only for the direct observation of a quantum stochastic resonance [1], an effect long sought for, but also for studies of the transition regime to quantized pumping [2] and for an accurate control of the emission time statistics of single-electron transistors [3] as e.g. needed in some quantum technologies involving qubit measurements.

[1] T. Wagner, P. Talkner, J.C. Bayer, E.P. Rugeramigabo, P. Hänggi, and R.J. Haug, Nature Physics **15**, 330 (2019).
[2] R. Hussein, S. Kohler, J.C. Bayer, T. Wagner, and R.J. Haug, Phys. Rev. Lett. **125**, 206801 (2020).
[3] F. Brange, A. Schmidt, J.C. Bayer, T. Wagner, C. Flindt, and R.J. Haug, Science Advances **7**, eabe0793 (2021).

Für diese Zeit steht eine Kinderbetreuung nach vorheriger Anmeldung zur Verfügung.

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