

Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

On time-dependent counting statistics of mesoscopic electron transport WOLFGANG BELZIG, University of Konstanz — Full counting statistics (FCS) has emerged as a key concept to understand quantum transport in mesoscopic systems like heterostructures, quantum wires, and quantum dots. The knowledge of the FCS not only enables to predict all measurable zero-frequency quantities accessible via charge detection, but also allows to identify the elementary transport events and the correlations between them. We demonstrate this concept for a standard quantum point contact between normal and/or superconducting leads under dc- and ac-bias. [M. Vanevic, Yu. V. Nazarov, W. Belzig, Phys. Rev. Lett. 99, 076601 (2007)] Finally we address the question, how these concepts can be applied to time-resolved current measurements. [A. Bednorz and W. Belzig, Phys. Rev. Lett. 101, 206803 (2008)]

Wolfgang Belzig
University of Konstanz

Date submitted: 19 Nov 2008

Electronic form version 1.4