Spin-resolved full counting statistics of Anderson and Kondo impurities

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We analyze the spin-resolved full counting statistics of electron transfer through an ultrasmall quantum dot coupled to metallic electrodes. Modelling the setup by the Anderson Hamiltonian, we explicitly take into account the onsite Coulomb repulsion. We calculate the cumulant generating function for the probability to transfer a certain number of electrons with a preselected spin orientation during a fixed time interval both for weak interactions and in the Kondo limit. With the cumulant generating function at hand we are then able to calculate the spin current correlations which are of outmost importance in the emerging field of spintronics. We confirm the existing results for the charge statistics and report the discovery of the new type of correlation between the spin-up and -down polarized electrons flows.