Abstract Submitted
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Interacting electrons in quantum-critical crossover regime in quantum dots[1] IGOR ROZHKOV, GANPATHY MURTHY, University of Kentucky, Department of Physics and Astronomy — We present numerical study of the statistics of ground state S_z in the crossover in which spin-orbit scattering is tuned in 2D quantum dots [1]. The spin-orbit interaction introduces new symmetry limits of the single-particle Hamiltonian [2]. With the help of universal Hamiltonian for this case [1] we have created a framework for calculation of spin statistics in disordered quantum dots in the large Thouless number limit. In addition we have analyzed the spin excitation spectrum in the quantum critical regime dominated by collective critical fluctuations [3].

References

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