Mesoscopic fluctuations in disordered superconductors with broken time-reversal symmetry

SHINSEI RYU, University of Tokyo, AKIRA FU-RUSAKI, RIKEN, ANDREAS LUDWIG, University of California, Santa Barbara, CHRISTOPHER MUDRY, PSI — The mesoscopic regime in the problem of Anderson localization is a scaling regime in which disorder effects remain weak. It can be realized in quasi-one and higher dimensional systems. Fluctuations in the global density of states, the local density of states, as well as in the conductance were first studied for conventional metals in the pioneering works of Stone and Lee on the one hand, and Altshuler, Kravtsov, and Lerner, on the other hand. Here we extend the analysis of the conductance fluctuations by Altshuler, Kravtsov, and Lerner to dirty superconductors with broken time-reversal symmetry in near two spatial dimensions.