Dephasing of the weak localization correction in networks of quantum dots

JOERN N. KUPFERSCHMIDT, PIET W. BROUWER, LASSP, Cornell University — We consider the corrections to the conductance of networks of quantum dots due to electron-electron interactions. Interaction corrections are calculated to first order in the propagator associated with the capacitive coupling among the dots. We focus in particular on calculating the dephasing correction to the weak localization correction and the Altshuler-Aronov correction to the conductance.

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