

## Abstract

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### *Bounds on the spectral shift function and a lower Wegner estimate for continuum random Schrödinger*

We consider continuum random Schrödinger operators with iid random variables and an absolutely continuous single-site distribution with bounded density. We show pointwise-in-energy bounds on the expectation of the spectral shift function at *all* energies for such operators and perturbations corresponding to additional Dirichlet or Neumann boundary conditions along the boundary of a cube, i.e. perturbation by a delta-function on a hypersurface. We show that the bound scales with the area of the hypersurface where the boundary conditions are changed. We use these bounds to show a lower Wegner estimate. This implies a strictly positive, locally uniform lower bound on the density of states (DOS) of continuum random Schrödinger operators on the *entire spectrum*, i.e. the DOS does not have a zero within the spectrum.