

Conformal invariance and boundary multifractality at Anderson transition in two dimensions

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At Anderson (metal-insulator) transitions critical wave functions show multifractal scaling behavior. It turns out that the multifractal spectra of critical wave function amplitudes at boundaries are different from those in the bulk. Recent numerical studies of boundary multifractal spectra has indicated that there exists emergent conformal symmetry at Anderson transitions in two dimensions. I will give an overview of these recent studies on boundary multifractality and conformal invariance: (i) angle dependence of corner multifractal spectra and (ii) universal relation between γ_0 and normalized localization length in quasi-1D geometry. These results are illustrated for the metal-insulator transition in the symplectic (spin-orbit) class and also for the integer quantum Hall plateau transition.

Reference:

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