

Caltech Mathematical Physics Seminar
Spring 2008–09

Poisson Statistics for Eigenvalues of Continuum Random Schrödinger Operators

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Abstract. We show absence of energy levels repulsion for the eigenvalues of random Schrödinger operators in the continuum. We prove that, in the localization region at the bottom of the spectrum, the properly rescaled eigenvalues of a continuum Anderson Hamiltonian are distributed as a Poisson point process with intensity measure given by the density of states. We also obtain simplicity of the eigenvalues. We derive a Minami estimate for continuum Anderson Hamiltonians. We also give a simple and transparent proof of Minami's estimate for the (discrete) Anderson model.