Mathematical Physics

Uniform existence of the integrated density of states on metric Cayley graphs

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Given a finitely generated amenable group we consider ergodic random Schr\"odinger operators on a Cayley graph with random potentials and random boundary conditions. We show that the normalised eigenvalue counting functions of finite volume parts converge uniformly. The integrated density of states as the limit can be expressed by a Pastur-Shubin formula. The spectrum supports the corresponding measure and discontinuities correspond to the existence of compactly supported eigenfunctions.

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