

Invariant measures for quantum trajectories and dark subspaces

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Quantum trajectories are Markov chains modeling the evolution of a quantum system subject to repeated indirect measurements. It was shown by Kümmerer and Maassen that, asymptotically, a quantum trajectory performs a random walk between the so-called 'dark subspaces'. We show that this random walk admits a unique invariant probability measure and that the convergence towards this measure is geometric. We also provide a classification of invariant measures for quantum trajectories inside dark subspaces. Joint work with T. Benoist and C. Pellegrini.

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