

# Quantum trajectory of the one atom maser model

*mardi 27 juin 2023 11:00 (45 minutes)*

The evolution of a quantum system undergoing repeated indirect measurements naturally leads to a Markov chain on the set of states, and which is called a quantum trajectory. When the system under consideration is finite dimensional, and under some natural assumption related to the non-existence of so-called dark subspaces, the state of the systems tends to become pure along the trajectory, a result which goes back to Kummerer and Maassen ('2006). This purification result is then a key step to prove uniqueness of the invariant measure (Benoist et al. 2019). In this talk I will present some results concerning purification and invariant measure for the quantum trajectory associated to the (infinite dimensional) one atom maser model. This talk is based on a joint work with T. Benoist and C. Pellegrini

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