

PhD application presentation:

Quantum noise-assisted transport and driven Bose-Hubbard model

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Raum 915, Physikhochhaus, Fri 2.12. 11:00 AM

In the context of an application for a PhD position I will divide the presentation into two main parts where I will talk about my bachelor project and the master thesis I am currently working on.

The first is about how noise can optimize the efficiency in the which a state is transferred (typically an excitation in a light harvesting complex) and the relation between optimization and bringing the dynamics into the classical limit.

In the second and main part of the presentation, I will introduce the driven Bose-Hubbard model that we are using so as to obtain an effective Bose-Hubbard model with a changed sign in the hopping parameter. In order to treat that problem we use a flow equation approach based on infinitesimal unitary transformations, which is also a general method for treating dissipative quantum systems.