

## OpenQMBP2023: New perspectives in the out-of-equilibrium dynamics of open many-body quantum systems



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### Gaussian quantum trajectories for open and closed systems

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I will discuss the use of Gaussian states for the modeling of open quantum systems within the quantum trajectory framework, with applications to bosonic systems and spin systems: the two-photon driven cavities and the dissipative XYZ model. Thanks to the dissipation, the quantum fluctuations typically remain small at all times, therefore improving the validity of the Gaussian states as compared to their use for the dynamics of closed systems. It is therefore suggested to introduce some fictitious dissipation to closed systems in order to improve their simulability.

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