PhD–Symposium Driven-Dissipative Quantum Systems (SYDD)

organized by Working Group young DPG (AGjDPG)
supported by all divisions of the section AMOP

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The interplay between deterministic driving and non-deterministic fluctuations simultaneously imparted upon a quantum system opens experimentally and theoretically intriguing perspectives for quantum control, in diverse sub-disciplines of AMO and condensed matter physics. Specifically, access to highly engineered many-particle systems now allows to appreciate the much enhanced margin of manoeuvre provided by the theory of open, driven quantum systems for the control of the non-equilibrium dynamics of quantum optical systems of increasing complexity. Applications reach from the preparation of correlated many-particle quantum states over tunable quantum transport properties to triggering phase transitions on the quantum level.

The present symposium designed by students for students offers an introduction to the experimental and theoretical foundations, as well as to recent developments in this vital research area, on a tutorial level.

BSc, MSc and PhD students are particularly welcome!

Overview of Invited Talks and Sessions

(Lecture room P 1)

Invited Talks

SYDD 1.1	Mon	14:30–15:00	P 1	**Controlling (?) Quantum Dynamics with Open Systems** — •Dieter Meschede
SYDD 1.2	Mon	15:00–15:30	P 1	**Many-body physics of driven, open quantum systems: optically driven Rydberg gases** — •Michael Fleischhauer
SYDD 1.3	Mon	15:30–16:00	P 1	**Theorie getriebener dissipativer Quantensysteme / theory of driven dissipative quantum systems** — •Tobias Brandes
SYDD 1.4	Mon	16:00–16:30	P 1	**Calorimetry of a Bose-Einstein-condensed photon gas** — •Martin Weitz

Sessions

SYDD 1.1–1.4	Mon	14:30–16:30	P 1	**Driven-Dissipative Quantum Systems**