

Prof. Dr. Peter van Loock
Institut für Physik
loock@uni-mainz.de

JOHANNES GUTENBERG
UNIVERSITÄT MAINZ



Dr. Lars von der Wense
Institut für Physik
lars.vonderwense@uni-mainz.de

Seminar über Quanten-, Atom- und Neutronenphysik (QUANTUM)

Jan. 9, 2020 at 2 p.m. c.t.
Lorentz-Raum (05-127), Staudingerweg 7

Jun.-Prof. Dr. Jamir Marino
Institut für Physik, Universität Mainz

Dynamical phase diagrams of non-equilibrium quantum many body systems with drive and dissipation

The talk will discuss instances of dynamical phases of interacting quantum many body models where coherent and dissipative dynamics occur on equal footing, shaping novel non-equilibrium phase diagrams. The first part of the talk will discuss long-range interacting quantum simulators where an external periodically driven field can stabilise phases without equilibrium counterpart against instabilities triggered by many body quantum fluctuations. In the second part, I will present an instance of 'cold' time crystal occurring in open quantum systems, where neither MBL or pre-thermalisation are required to stabilise a strongly interacting non-equilibrium steady state. Time permitting, I will advertise some novel results on a purely dissipative analogue of long-range interacting quantum simulators, which can be implemented in quantum optics or solid state platforms.

Contact:
Andrea Graham
Institut für Physik
graham@uni-mainz.de