

SPP 1929 – Seminar

10 January 2019, 2:00 pm (c.t.)

Johannes Gutenberg Universität Mainz

Lorentz-Raum (05-127)

Staudingerweg 7, 55128 Mainz

Igor Lesanovsky
(University of Nottingham)

Kinetically constrained Rydberg gases --- Non-equilibrium processes in continuous and discrete time

The out-of-equilibrium behaviour of Rydberg gases is governed by emergent kinetic constraints. Such constraints are often used to mimic dynamical arrest or excluded volume effects in idealised models of glass forming substances and lead to a remarkably rich physics including non-equilibrium phase transitions and localisation phenomena. Moreover, Rydberg gases offer intriguing opportunities for the systematic exploration of the role of competing quantum and classical dynamical effects on non-equilibrium phase transitions.

I will present recent results regarding this research direction, considering ordered and disordered Rydberg gases and competing classical and quantum processes, both in discrete and continuous time.