Fachgruppe
Physik und Astronomie
Universität Bonn

Physikalisches Kolloquium

Fachgruppe Physik/Astronomie der Universität Bonn

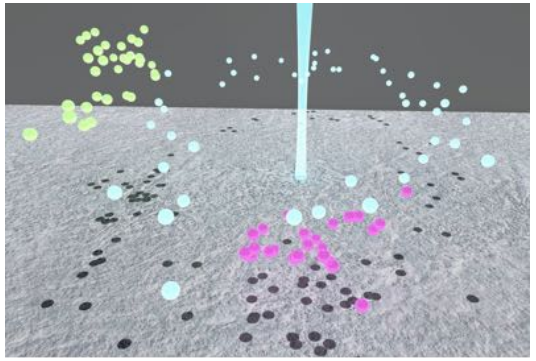
UNIVERSITÄT BONN

Freitag, 08. April 2022, 15 Uhr c.t. im Hörsaal I des Physikalischen Instituts

Tilman Esslinger

ETH Zürich

„A self-reflecting quantum gas begins to twist and turn“



The interplay between matter and light is one of the most fundamental interactions in nature. The essence is often captured by considering a single localized dipole interacting with the field of a cavity mode. But what changes when matter is also considered as a field rather than a localized particle? Such a situation can be realized by placing a Bose-Einstein condensate inside a high-finesse optical cavity. The external degree of freedom of matter now plays an important role, leading to a wide range of phenomena, from fundamental phase transitions to dissipation induced oscillations. In particular, I will report on a self-oscillating pump realized in a dissipative atom-cavity system, merging the concepts of topological pumping and time-crystals.

Es gelten die Corona-Regelungen des Landes Nordrhein-Westfalen