

## THEORETISCH PHYSIKALISCHES KOLLOQUIUM

**Donnerstag, den 20.04.2017 um 15:30 Uhr in Raum 46-576**

### Accessing new horizons of quantum many-body dynamics through periodic driving

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Recent work on topological materials has revealed a wide variety of intriguing phenomena that may arise when particles move in "non-trivial" Bloch bands. At the same time, modern advances in experimental capabilities for controlling electronic, atomic, and optical systems open new possibilities for dynamically controlling the behaviors of a range of quantum systems. In this talk I will review the basic ideas behind topological band theory, and then explain how periodic driving can be used to gain dynamical control over the topological properties of quantum matter. In the driven case, intriguing new types of robust non-equilibrium topological phenomena emerge. I will show how this occurs, and discuss recent and proposed experiments aimed at harnessing these exciting possibilities.