

Theoriekolloquium

Am **26. Januar 2023** um **14.15 Uhr** in **W2 1-143** hält

Herr Prof. Dr. Achim Rosch (Köln)

einen Vortrag mit dem Titel

Emergent gauge fields and dynamics of visons

One of the most powerful concepts of physics is the principle of gauge invariance. Remarkably, gauge symmetries naturally emerge in the description of the low-energy properties of certain frustrated quantum magnets. A famous example is the Kitaev model, which at low energies is described by Majorana fermions coupled to the magnetic flux of a Z_2 gauge theory, the so-called vison.

While visons are immobile in the pure Kitaev model, they become a dynamical degree of freedom in the presence of perturbations. We study an isolated vison in weakly perturbed Kitaev models. We calculate its dispersion and obtain, for example, a fully universal low- T mobility, independent of the amplitude of the perturbations. We discuss experimental signatures of dynamical gauge field in thermal Hall effects and quench experiments.

Interessierte sind herzlich eingeladen.

gez. Prof. Dr. Martin Holthaus