



EINLADUNG
zum
VERA - SEMINAR
von

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**Trapping magnetic quanta by topological defects in
superconductors: a new route to Fluxonics ?**

Inside a superconductor, a magnetic field can exist only in small quanta, the fluxons. They are promising candidates for use in ultrafast data processing circuits with very low dissipation, the so-called *Fluxonics*. In homogeneous superconductors, the fluxons are arranged as a hexagonal lattice in the ground state. From the viewpoint of Fluxonics, however, the ground state carries little information and is therefore rather useless. Trapping the fluxons into predefined formations by topological defects leads to the creation of non-equilibrium fluxon patterns that pave the way for possible applications. In our experiments, the defects are fabricated by a masked ion beam technology that offers many advantages over other nanopatterning methods and allows for virtually any desired pattern. The various electrical transport phenomena and commensurability effects that emerge from a large ensemble of trapped fluxons will be discussed.

Donnerstag, 17. Mai 2018, 16:30 Uhr

**1090 Wien, Währinger Str. 17, "Kavalierstrakt",
1. Stock, Victor-Franz-Hess Hörsaal**