

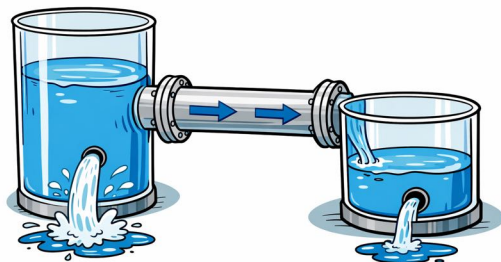
Friday, 03.07.2026, 1:15 p.m.
in Lecture Hall **ROT (0.056)**

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„Exotic types of phase transitions in solids“

The concept of phase transitions emerged in the nineteenth century within the framework of thermodynamics. In such transitions, a small change in external conditions can lead to a drastic transformation of the ground-state properties of a material. The melting of ice into water is perhaps the most familiar example. Traditionally, phase transitions are classified as first or second order and are often described in terms of symmetry breaking within the Landau theory of phase transitions.

With the current surge of interest in quantum materials as systems in which quantum coherence plays a central organizing role, new types of phase transitions are attracting increasing attention. In some of these systems, it is the topology rather than the symmetry of the state that changes at the transition point. Others exhibit quantum phase transitions, where quantum fluctuations, rather than thermal ones, drive the change of phase. Yet other examples arise in non-Hermitian systems, where the transition affects the dynamical properties of a material rather than its ground state.



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In my talk, I will highlight several examples from this emerging landscape of “exotic phase transitions” and discuss the new perspectives they offer for our understanding of condensed matter, as well as their potential implications for future technologies.

Everybody is welcome, especially students of all semester

