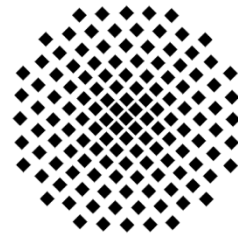


Stuttgarter Physikalisches Kolloquium

Fachbereich Physik, Universität Stuttgart
Max-Planck-Institut für Festkörperforschung
Max-Planck-Institut für Intelligente Systeme

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Login data will be announced by e-mail and on the colloquia webpage

Dienstag, 11. Mai 2021

16:15 Uhr

Online-Vortrag

Universität Stuttgart, Pfaffenwaldring 57, 70569 Stuttgart-Vaihingen

Gastgeber: Prof. Dr. Martin Dressel, Universität Stuttgart, Telefon: 0711 - 685-64946

The Strange World of Fractionalized Quantum Numbers in Quantum Matter

Nandini Trivedi
Ohio State University

Abstract

Within the Landau paradigm we define a phase or a state of matter by a local order parameter, as in crystals, magnets, and superconductors. However, due to frustration generated by geometry and interactions, some materials do not order, even at the lowest temperatures, and enter a new state of matter called a quantum spin liquid. These states are identified by long range quantum entanglement and a new type of topological order with fractionalized excitations. I will give an overview of the theoretical developments in this field and discuss recent experiments that point to the existence of such fractionalized excitations.