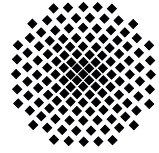


Stuttgarter Physikalisches Kolloquium

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

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17.15 Uhr

Hörsaal 2 D5

Stuttgarter Max-Planck-Institute, Heisenbergstraße 1, 70569 Stuttgart-Büsnau

Aspects of topology and symmetry in unconventional superconductors

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Abstract

Unconventional superconducting phases incorporate most intriguing features through symmetries and topological properties of their order parameters, as already several decades ago has been found in the superfluid He-3. This Colloquium will be an overview on a few superconductors where it is believed that Cooper pairs realize a form of topological order. One example is the chiral p-wave superconductor Sr_2RuO_4 , another is found in the class of non-centrosymmetric superconductors. In both cases topological properties emerge most impressively at surfaces, interfaces and domain walls. I will show how the symmetry and topology of the superconducting order parameter is responsible for a series of unusual, but characteristic properties, ranging from chiral and helical surface states to the mixing of different orders.