



清华大学高等研究院

Institute for Advanced Study, Tsinghua University

学术报告

Title: Strongly Correlated Majorana Transistors

Speaker: Prof. Fan Zhang
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Time: 3:00pm, Friday, 2016-07-29

Venue: Conference Hall 322, Science Building, Tsinghua University

Abstract

We are witnessing and participating the grand discovery of various topological states of matter. In this talk, I will introduce time-reversal-invariant topological superconductivity and its two experimental realizations in one dimension. Each boundary hosts one Majorana Kramers pair, producing tabletop supersymmetry, quantized tunneling conductance, and fractional Josephson effects beyond Kitaev's classification. I will then highlight the tantalizing roles played by the many-body interactions. One prime example is the emergence of quadruple periodicity and fractionalized parafermions in a Josephson junction. Another paradigmatic setup is a weakly probed floating topological superconductor, in which a two-channel Kondo ground state becomes topologically stabilized.