



Seminar

Strongly Correlated Majorana Transistors

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Time: 16:00am, July 28, 2016 (Thursday)

时间: 2016年7月28日 (周四) 下午 16:00

Venue: Room W563, Physics Building, Peking University

地点: 北京大学物理楼 西563

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.

About the Speaker

Dr. Zhang has been an Assistant Professor at the University of Texas at Dallas since 2014. His research focuses primarily on topological quantum matter, many-body interactions, and 2D quantum materials. More information can be found at <https://sites.google.com/site/zhangfansetsail/home>.