



第 71 回トポロジカル物質科学セミナー
Topological Materials Science Seminar (71)

Vestiges of Topological Phase Transitions in Kitaev Quantum Spin Liquids

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Place: Seminar room, Bldg. South 7, Mejiro Campus, Gakushuin Univ. (学習院大学目白キャンパス南 7 号館 4 階会議室)

Date: Aug. 7 (Tuesday), 2018

Time: 11:00-12:30

Abstract:

We investigate vestiges of topological quantum phase transitions (TQPTs) between the Z₂ quantum spin liquids (QSLs). In two spatial dimensions, Z₂ QSLs and their TQPTs are not well-defined at non-zero temperatures, and it is imperative to clarify their observable signatures at non-zero temperature. Here, we present the nonzero temperature signature of TQPTs between Z₂ QSLs with Majorana fermions by using path-integral and parton mean field analysis on a modified Kitaev model with next-nearest neighbor interactions. We discuss the implication of our results to the recent experiments in RuCl₃.