Condensed Matter Theory Center Seminar

Monday, April 15
2:00 – 3:30 pm, Physics Building 2205

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"Classifying fractionalization: symmetry classification of gapped Z2 spin liquids in two dimensions"

Quantum number fractionalization is a remarkable property of topologically ordered states of matter, such as fractional quantum Hall liquids, and quantum spin liquids. For a given type of topological order, there are generally many ways to fractionalize the quantum numbers of a given symmetry. What does it mean to have different types of fractionalization? Are different types of fractionalization a universal property that can be used to distinguish phases of matter? In this talk, I will answer these questions, focusing on a simple class of topologically ordered phases, namely two-dimensional gapped Z2 spin liquids, and I will present a symmetry classification of these phases. I will also discuss efforts in progress to find microscopic models realizing different symmetry classes.

(All are welcome to attend)

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