Massachusetts Institute of Technology
Department of Physics

Condensed Matter Theory Seminar

"Real-space classification of bosonic space-group SPT states"

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Abstract: We construct a complete classification scheme for bosonic SPT states protected by a combination of space-group symmetries and onsite symmetries in 2D and 3D. The construction starts with a symmetrically-arranged real-space assembly of finite-size pieces of lower-dimensional SPT states. We then check whether such an assembly can be glued together in a symmetric and gapped way on edges and points, and whether two assemblies can be symmetrically deformed to each other without closing the gap. Such a construction can be computed using the mathematical tool of spectral sequence, and it can be shown that the construction gives a complete classification of bosonic SPT states given by group-cohomology.

12:00pm noon
Monday, August 20, 2018
Duboc Room (4-331)

Host: Max Metlitski