

UCLA Department of Physics & Astronomy

# COLLOQUIUM

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PAB 1-434

## Symmetry Protected Topological Phases: Old and New

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The theory of symmetry protected topological (SPT) phases, which are generalized topological insulators, is one of the triumphs of modern condensed matter theory. In particular, these phases admit a complete classification using quantum field theory methods. What lessons do SPT phases provide for other interacting many-body systems? In this talk I will review the theory of SPTs and discuss two settings where we can find SPT physics beyond the old paradigm, namely gapless systems and classical statistical mechanics.