Massachusetts Institute of Technology
Department of Physics

CONDENSED MATTER THEORY SEMINAR

"Field Theory and Various Properties of Symmetry Protected Topological Phases"

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Abstract: I will discuss a systematic and convenient formalism of describing bosonic symmetry protected topological (SPT) phases. I will argue that most of the physically relevant bosonic SPT phases on a d-dimensional lattice can be described by an $O(d+2)$ nonlinear sigma model field theory with a topological Theta-term in the bulk. This formalism not only gives us the classification, it also allows us to compute various properties of the SPT phases, for example the boundary states, the bulk wave function, and quantum number of the bulk topological defects.

12:00noon
Friday, October 4, 2013
Duboc Seminar Room
Room 4-331

Host: Senthil Todadri