

Abstract Submitted  
for the MAR13 Meeting of  
The American Physical Society

**Physics of three dimensional bosonic topological insulators II** S. TODADRI, Massachusetts Institute of Technology, ASHVIN VISHWANATH, University of California Berkeley — We discuss physical properties of interacting boson/spin analogs of free fermion topological insulators and superconductors. We discuss general constraints on the surface theories of these phases, and their field theoretic descriptions. We illustrate some of the results in the context of quantum paramagnetic phases of spin systems. For the 3d states we describe the 2d surface either spontaneously breaks symmetry or is in a spin liquid phase. In the latter case the symmetry is realized in the surface spin liquid in a way that is forbidden in strictly two dimensional quantum magnets.

Senthil Todadri  
Massachusetts Institute of Technology

Date submitted: 12 Nov 2012

Electronic form version 1.4