

Abstract Submitted  
for the MAR11 Meeting of  
The American Physical Society

**Avalanches in gauge theories** STEFANOS PAPANIKOLAOU, Cornell University — I consider the non-equilibrium behavior of disordered systems which contain a residual gauge symmetry. Remarkably, in this limit each avalanche is a Wilson loop of the associated gauge theory. Such gauge invariant avalanches present interesting critical behavior that we characterize. Also, I show that, when the gauge symmetry is violated, the behavior drastically changes. Finally, the relation of these results to current experimental efforts on spin ice compounds is discussed.

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Date submitted: 19 Nov 2010

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