

Abstract Submitted  
for the MAR06 Meeting of  
The American Physical Society

**Possible New Physics at Quantum Critical Points: Skyrmions as critical Spin 1/2 Excitations of 2+1 D Antiferromagnets** DAVID SANTIAGO, Stanford University, ZAIRA NAZARIO, Stanford University — We show that despite the absence of a Hopf term and zero Berry phase terms, the Néel ordered phase of 2 + 1 D quantum antiferromagnets have spin 1/2 excitations, i.e. *spinons*. The spinons are skyrmion excitations of a topological nature. Since skyrmion gap is proportional to the spin stiffness, quantum criticality corresponds to skyrmion gap collapse. We speculate that skyrmions are relevant at criticality and are, perhaps, related to recent suggestions of critical fractionalization.

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Date submitted: 30 Nov 2005

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