

Abstract Submitted  
for the MAR09 Meeting of  
The American Physical Society

**The ferromagnetic transition in  $\text{LiHoF}_4$**  ANDERS BILTMO, PATRIK HENELIUS, KTH, Stockholm — The rare-earth magnetic compound  $\text{LiHoF}_4$  is considered to be one of the best realizations of a long-range dipolar Ising model. Several experimental studies have been carried out probing the magnetic properties of the material in the context of classical, as well as quantum, phase transitions. In this work we revisit the effective model for the non-dilute material using numerical simulations. We examine the accuracy of the model in relation to experiments and consider the logarithmic corrections derived in renormalization group theory.

Anders Biltmo  
KTH, Stockholm

Date submitted: 21 Nov 2008

Electronic form version 1.4