Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

**The Extended Haldane Phase in Bilinear-Biquadratic Spin-1 chains** COLIN WEST, ARTUR GARCIA-SAEZ, TZU-CHIEH WEI, C.N. Yang Institute for Theoretical Physics and Department of Physics and Astronomy, Stony Brook University — We study the gap of the Haldane phase in the biliniear-biquadratic model as parameterized by $\beta$, the coefficient of the biquadratic term. We then investigate the effect of additional local perturbations on the phase diagram, as first studied at $\beta = 0$ by Gu & Wen [PRB 80, 155131 (2009)], and later by Pollmann & Turner [PRB 86, 125441, (2012)]. In particular, we explore the extended Haldane phase under such perturbations, using the guidance of the perturbation-free gap, Pollmann-Turner topological order parameters, and other physical quantities.

Colin West
C.N. Yang Institute for Theoretical Physics and Department of Physics and Astronomy, Stony Brook University

Date submitted: 14 Nov 2013 Electronic form version 1.4