Abstract Submitted
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Status of an Experiment to Measure the Parity-odd Neutron Spin Rotation in ^{4}He[1] JERALD BALTA, Indiana Univ - Bloomington, NSR COLLABORATION — The NN weak interaction is sensitive to quark-quark correlations in the nucleon and provides the means to test the Standard Model in the low energy strongly interacting limit. Recent theoretical work [1,2] along with the measurement of the weak pion exchange component of the NN weak interaction [3] implies a large parity-odd neutron spin rotation in ^{4}He just outside the previous measurement of $d\phi/dz = [+2.1 \pm 8.3(stat.) \pm 2.9(sys.)] \times 10^{-7}$ rad/m [4]. Upgrades to the NSR apparatus enable an experimental sensitivity $< [\pm 1.0(stat.) \pm 1.0(sys.)] \times 10^{-7}$ rad/m [5] on the NG-C beamline at NIST. The status of the NSR apparatus as well as implications of the recent measurement in the n-3He system [6] will be discussed.

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