The n-3He Parity Violation Experiment

CHRISTOPHER CRAWFORD, University of Kentucky, N3HE COLLABORATION — We are proposing an experiment at the SNS Fundamental Neutron Physics Beamline to measure the parity violating longitudinal neutron spin asymmetry from the reaction $n + ^3\text{He} \rightarrow p + ^3\text{H}$. Recent calculations of 4-body wave functions and P-odd operators have shown that this observable is sensitive to both the I=1 long range and I=0 components of the hadronic weak interaction. The experimental setup and expected sensitivity will be discussed.

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