Abstract Submitted
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Searching for Tensor Currents in the Weak Interaction Using ^{8}Li β Decay[1] M.T. BURKEY, G. SAVARD, University of Chicago, Argonne National Laboratory, R.E. SEGEL, Northwestern University, J.A. CLARK, J. KLIMES, Argonne National Laboratory, N.D. SCIELZO, A.T. GALLANT, K. KOLOS, S.W. PADGETT, B.S. WANG, Lawrence Livermore National Laboratory, T. HIRSH, Soreq NRC, Yavne 81800, Israel, E. HECKMAIER, University of California, Irvine, S.T. MARLEY, G. MORGAN, Louisiana State University, R. ORFORD, McGill University, K.S. SHARMA, University of Manitoba — The Standard Models description of the weak interaction follows a pure vector-axial-vector structure. Any observation of scalar or tensor contributions would indicate new physics. We will present preliminary analysis of a calibrated, high-statistics, ^{8}Li beta decay data set taken with the Beta decay Paul Trap (BPT) at Argonne National Lab that has been used to precisely measure the tensor current-sensitive $\beta - \nu$ correlation coefficient ($a_{\beta\nu}$). This data set contains over ten times more statistics with reduced systematic effects compared to our collaborations previous experiment, which constrained $a_{\beta\nu}$ to 1 percent of its predicted value and improved on the previous best limit set by ^{6}He in 1963. Upon completion of the analysis, we are poised to further constrain the value of $a_{\beta\nu}$ to approximately 0.1 percent relative uncertainty.

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