

Abstract Submitted  
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**Chiral-EFT corrections to Gamow-Teller transitions in light nuclei**<sup>1</sup> SOHAM PAL, SHIPLU SARKER, ROBERT BASILI, PIETER MARIS, JAMES P. VARY, Iowa State University, PATRICK J. FASANO, MARK A. CAPRIO, University of Notre Dame — Chiral effective field theory ( $\chi$ EFT) is a framework to systematically derive internucleon interactions, like the LENPIC interaction, and electroweak currents. We have constructed the Gamow-Teller (GT) transition operator from the one-body and two-body weak axial currents. The operator is consistent with the LENPIC interaction up to N2LO. We have applied this operator within the no-core shell model (NCSM) approach to light nuclei. We present preliminary results for the GT transition matrix elements calculated in a harmonic oscillator basis. We also discuss the convergence of the transition matrix elements at each chiral order as function of the basis expansion, and the impact of the  $\chi$ EFT regulator on the operator.

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