

Abstract Submitted
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Nuclear Matrix Elements for Tests of Local Lorentz Invariance Violation¹ ALEX BROWN, Michigan State University, GEORGE BERTSCH, University of Washington, LUIS ROBLED0, Universidad Autonoma de Madrid — The nuclear matrix elements for the momentum quadrupole operator are important for the interpretation of precision atomic physics experiments that search for violations of Lorentz and CPT symmetry. We use the configuration-interaction nuclear shell model and self-consistent mean field theory to calculate these matrix elements for ^{21}Ne , ^{131}Xe , ^{173}Yb and ^{201}Hg . We show that these matrix elements are strongly suppressed by the many-body correlations, in contrast to the well known enhancement of the spatial quadrupole moments.

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