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A Method to Account for Hydroxide Contamination in Characterizing the Giant Monopole Resonance to Determine an Accurate K_τ ¹
SIERRA WEYHMILLER, KEVIN HOWARD, UMESH GARG, JOE ARROYO, University of Notre Dame, HIDETOSHI AKIMUNE, KYOKO NOSAKA, Konan University, SOUMYA BAGCHI, Saint Mary's College, TAKANOBU DOI, YUKI FUJIKAWA, SHINTARO OKAMOTO, Kyoto University, MAMORU FUJIWARA, TATSUYA FURUNO, KENTO INABA, NOBU KOBAYASHI, SHOKEN NAKAMURA, ZAIHONG YANG, TAKAHIRO KAWABATA, Osaka University, NASSER KALANTAR-NAYESTANAKI, MUHSIN HARAKEH, University of Groningen, MASATOSHI ITOH, YOHEI MATSUDA, Tohoku University, SHINSUKE OTA, University of Tokyo — Measurements on the isoscalar giant monopole resonance (ISGMR) in finite nuclei over a range of isotopes permit the extraction of K_τ , the nuclear incompressibility asymmetry term. K_τ is critical to understanding proton/neutron asymmetric systems. A recent study has claimed that the energy of the ISGMR is higher in heavier calcium isotopes than lighter ones, indicating a positive K_τ . This is surprising when compared to most research on extracting finite nuclear incompressibilities from giant resonances. To independently verify the claim, a simultaneous study of the GMR of $^{40,42,44,48}\text{Ca}$ was conducted. However, contributions from hydroxide contamination were found in the ^{48}Ca foil used in the experiment. The methodology for accounting for the contribution of ^{16}O to the experimental spectra will be presented, and the implications will be discussed.

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