Investigating a possible positive value of K_τ, and implications for the symmetry energy[1] KEVIN HOWARD, UMESH GARG, SIERRA WEYH-MILLER, University of Notre Dame, HIDETOSHI AKIMUNE, KYOKO NOSAKA, Konan University, SOUMYA BAGCHI, Saint Marys University, 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 — The isoscalar giant monopole resonances (ISGMR) in isotopic chains with large neutron-excess provide excellent constraints for K_τ, the asymmetry term in the nuclear incompressibility. K_τ has been extracted from the ISGMR in tin and cadmium to be -550 ± 100 MeV, and is critical input to the symmetry energy of nuclear matter. Recent reports on the ISGMR in ^{40,44,48}Ca contradict the prior studies, concluding that $K_\tau > +500$ MeV. A simultaneous study of the ISGMR in ^{40,42,44,48}Ca was thus completed at the Research Center for Nuclear Physics. The spectrograph, Grand Raiden, allowed for measurements of background-free angular distributions for inelastic scattering of 386 MeV α-particles. Multipole decomposition analyses isolated the ISGMR strength, and the energies of the compressional mode were extracted. The results and implications will be discussed.

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