Abstract Submitted
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Compressional-mode Giant Resonances in ^{24}Mg.[1] P.V. MADHUSUDHANA RAO, T. LI, B.K. NAYAK, U. GARG, Physics Department, University of Notre Dame, Notre Dame, IN 46556, USA, M. ITOH, M. YOSOI, M. UCHIDA, H. TAKEDA, Y. YASUDA, H. SAKAGUCHI, Dept. of Physics, Kyoto University, Kyoto 606-8502, Japan, H. FUJIMURA, K. HARA, M. FUJIWARA, RCNP, Osaka University, Osaka 567-0047, Japan, T. KAWABATA, CNS, University of Tokyo, Tokyo 113-0033, Japan, H. AKIMUNE, Dept. of Physics, Konan University, Hyogo 658-8501, Japan, M.N. HARAKEH, KVI, 9747 AA Groningen, The Netherlands — A precise measurement of the incompressibility of nuclear matter (K_{nm}) is required for understanding the properties of nuclei, neutron stars and supernova explosions. This can be achieved through the measurements of compressional-mode giant resonances–the isoscalar giant monopole resonance (ISGMR) and the isoscalar giant dipole resonance (ISGDR). We have performed measurements on GMR and ISGMR in ^{24}Mg using forward-angle inelastic scattering of 400 MeV α-particles. Differential angular distributions were measured over an angular range of 0-10 degree and an excitation energy range of 10-50 MeV. Strength distributions for both the compressional-mode giant resonances were obtained by employing the multi-pole decomposition procedure. The experimental results and their implications on the K_{nm} will be discussed.

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