Abstract Submitted
for the HAW05 Meeting of
The American Physical Society

Giant resonance study by ^{6}Li scattering X. CHEN, Y.-W. LUI, H.L. CLARK, Y. TOKIMOTO, D.H. YOUNGBLOOD, Texas A&M University — The compressibility of nuclear matter K_{nm} can be related to the energies of the isoscalar giant monopole resonance (ISGMR). Essentially all of the precise data on the ISGMR energies have been obtained with inelastic α scattering. Dennert et al[1] have successfully studied the ISGMR in ^{24}Mg with ^{6}Li scattering, and we have chosen to study ^{6}Li scattering as an alternate means of obtaining these energies. A ^{6}Li target might also be viable for studying the ISGMR in unstable nuclei. A beam of 240MeV ^{6}Li ions from the Texas A&M University K500 superconducting cyclotron bombarded self-supporting target foils of ^{24}Mg, ^{28}Si, ^{116}Sn in the target chamber of the multipole-dipole-multipole(MDM) spectrometer. Elastic scattering from 5^0 $\sim 35^0$ and inelastic scattering from 0^0 $\sim 6^0$ deg were measured. Both Woods-Saxon phenomenological potentials and N-N effective M3Y interaction folded potentials have been used to fit the elastic scattering data from ^{116}Sn. ^{6}Li inelastic scattering to low-lying states and the giant resonance region of ^{116}Sn was analyzed by both the deformed potential model and folded potential model. [1] H. Dennert et al, Phys. Rev. C 52, 3195 (1995)

Dave Youngblood
Texas A&M University

Date submitted: 26 May 2005 Electronic form version 1.4