

Abstract Submitted  
for the APR16 Meeting of  
The American Physical Society

**Study on nuclear structures of Te isotopes beyond  $N = 82$  shell closure** PILSOO LEE, CHUN SIK LEE, Chung-Ang Univ., CHANG-BUM MOON, Hoseo Univ., EURICA RIBF-87 COLLABORATION COLLABORATION — Tellurium which has two valence protons above the  $Z = 50$  proton shell closure is well known for collective behavior in low-lying states. Therefore, Te isotopes are known to be a good test ground for studying nuclear collective modes but also the effect of neutron-proton interaction on the shell evolution with variation of neutron numbers owing to the valence protons above  $Z = 50$ . For this reason Te isotopes always attract our attention, however, most available spectroscopic nuclear data of Te isotopes remains below  $N = 82$ , and experimental data is severely limited above  $N = 82$ . Meanwhile, recent study of  $^{138}\text{Te}$  by means of  $\beta$ - $\gamma$  spectroscopy with fission fragments of  $^{238}\text{U}$  has provided us with new clues on excited states in  $^{138}\text{Te}$ , and the new experimental result has proposed new excited states that were unexpected in the previous theoretical studies. This study aims at understanding structural evolution in Te isotopes above  $N = 82$  with respect to below  $N = 82$  including the new data set available today. In this presentation we discuss the nuclear structures and effective interactions in Te isotopes above  $N = 82$  based on the nuclear shell model and interacting boson approximations.

Pilsoo Lee  
Chung-Ang Univ

Date submitted: 30 Dec 2015

Electronic form version 1.4