

Abstract Submitted  
for the HAW14 Meeting of  
The American Physical Society

**Spin-isospin response of neutron-rich nucleus  ${}^8\text{He}$  via (p,n) reaction in inverse kinematics** MOTOKI KOBAYASHI, KENTARO YAKO, SUSUMU SHIMOURA, SHOICHIRO KAWASE, KEIICHI KISAMORI, YUKI KUBOTA, CHEONGSOO LEE, SHIN'ICHIRO MICHIMASA, HIROYUKI MIYA, SHINSUKE OTA, MOTONOBU TAKAKI, Center for Nuclear Study, the University of Tokyo, MASANORI DOZONO, HIDEYUKI SAKAI, MASAKI SASANO, RIKEN Nishina Center, SHARAQ06 COLLABORATION — We measured the Gamow-Teller (GT) strength of the neutron-rich nucleus  ${}^8\text{He}$ , which has the largest neutron-to-proton ratio among all known particle-stable nuclei, to study the spin-isospin response of very neutron-rich nuclei. We performed the first measurement of the  ${}^8\text{He}(p, n){}^8\text{Li}$  reaction at 190A MeV in inverse kinematics at the RIKEN RI Beam Factory. Recoil neutrons with low kinetic energies were detected by the neutron detector array WINDS, which was recently developed. The residual particle  ${}^8\text{Li}$  and its decay product  ${}^7\text{Li}$  were detected by auxiliary beam line detectors, a plastic scintillator and a multi-wire drift chamber. We obtained the double differential cross sections at excitation energies up to  $E_x \sim 20$  MeV, where two peaks were observed at  $\sim 1$  MeV and  $\sim 8$  MeV. We evaluated the GT strength for the neutron decay channel of the observed 8-MeV state. The result suggests that most of the GT strength is concentrated in the resonance state at  $\sim 8$  MeV. It was the first direct observation of the GT Resonance of  ${}^8\text{He}$ .

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Date submitted: 30 Jun 2014

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