Contribution ID: **56**   Type: **Poster**

Theta 13 measurement using data with neutron captured on hydrogen at RENO

The RENO experiment has been taking data since August 2011 and successfully measured the smallest neutrino mixing angle, theta13, with neutron captured on Gadolinium (n-Gd) in target detector region. The experiment has also measured the mixing angle using an independent sample of neutron captures on Hydrogen (n-H). Because of a large accidental background in the n-H sample, an improved technique has been developed to make an effective removal of the background. The n-H analysis utilizes events in both target and gamma-catcher and thus obtains a more than twice larger sample than that of n-Gd. This independent measurement provides an important cross-check on the systematic uncertainties of the theta13 measurement from the n-Gd sample. In this presentation, we will also present a combined result based on the n-H rate-only and n-Gd rate-and-spectrum measurements.

Mini-abstract

RENO measured the neutrino mixing angle, theta13, with neutron captured on Hydrogen(n-H).

Experiment/Collaboration

RENO, Neutrino, Hydrogen

Primary author: Dr KWON, Eunhyang (Sungkyunkwan University)

Co-authors: Dr YANG, Byeongsu (Korea Advanced Institute of Science and Technology(KAIST)); Dr SHIN, Chang Dong (Chonnam National University); Ms JUNG, Daeun (Sungkyunkwan University); Prof. MOON, Dong Ho (Chonnam National University); Dr LEE, Dongha (Seoul National University); Prof. JANG, Hanil (Seoyeong University); Mr LEE, Hyun Gi (Seoul National University); Dr SEO, Hyunkwan (Seoul National University); Prof. YU, Intae (Sungkyunkwan University); Prof. LIM, Intaek (Chonnam National University); Dr CHOI, JUNE HO (Dongshin University); Prof. KIM, Jae Yool (Chonnam National University); Dr JANG, Jee Seung (Gwangju Institute of Science and Technology(GIST)); Dr SEO, Jiwoong (Sungkyunkwan University); Mr KIM, Jong Geon (Sungkyunkwan University); Prof. YOO, Jonghee (Korea Advanced Institute of Science and Technology(KAIST)); Mr SEO, Junhoo (Chonnam National University); Mr JU, Kiwon (Korea Advanced Institute of Science and Technology(KAIST)); Prof. JOO, Kyung Kwang (Chonnam National University); Mr YU, Minsang (Korea Advanced Institute of Science and Technology(KAIST)); Prof. PAC, Myoung Youl (Dongshin University); Mr GWAK, Piljoon (Chonnam National University); Mr JEON, Sanghoon (Sungkyunkwan University); Mr KIM, Sangyong (Seoul National University); Mr YOON, Seok-Gyeong (Korea Advanced Institute of Science and Technology(KAIST)); Prof. KIM, Soo-Bong (Seoul National University); Prof. KIM, Wooyoung (Kyungpook National University); Mr ATIF, Zohaib (Chonnam National University)

Presenter: Dr KWON, Eunhyang (Sungkyunkwan University)

Session Classification: Poster session 4