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Measurement of theta13 in the reactor neutrino events with neutron captures on Hydrogen at RENO

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RENO has been taking data since August, 2011 and successfully measured the smallest neutrino mixing angle, theta13. The measurement values are obtained from the observed reactor antineutrino events with neutron captures on gadolinium (n-Gd) in the target detector region. In addition, RENO has successfully measured the mixing angle as well, using an independent sample with neutron captures on hydrogen (n-H). Because of a large accidental background in the n-H sample, the analysis requires additional reduction of backgrounds. This independent measurement provides a valuable systematic cross-check of the theta13 measurement using the n-Gd sample. In this talk, we will present the results from the 1500 days of n-H data sample.

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