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## Precise measurement of reactor neutrino flux and spectrum at RENO

The RENO experiment has been taking data since Aug. 2011 to measure the smallest neutrino mixing angle  $\theta_{13}$  at Hanbit nuclear power plant. It is essential to compare the observed and expected fluxes of reactor anti-neutrinos for determining their disappearance. The reactor neutrino flux is calculated from the reactor thermal power and the fission rate of individual fuel isotope. Based on the precisely measured baselines we can calculate the baseline dependent reduction of reactor neutrino fluxes in better than 0.1% at near and far detectors.

Time-dependent fuel composition changes not only neutrino fluxes but also the anti-neutrino spectrum. The precise prediction of the spectrum is critical to a shape analysis. In this presentation, we describe how to obtain the expected reactor neutrino fluxes and spectra in near and far detectors, and present their comparison with ones observed at RENO.

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