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NEOS Detector for Reactor Antineutrinos

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The NEOS experiment intends to understand the short-distance behavior of reactor neutrino oscillation. The detector has been collecting about 2000 IBD events per day, since its operation was stabilized in September 2015. We present the design and the performance of the NEOS detector. Especially, the mixing recipe of the liquid scintillator will be introduced, which was tuned well enough to reduce the level of background. The signal-to-background ratio reached over 20. We will show the energy reconstruction procedure including the source calibration and a tuning result of the GEANT4 simulation for the position dependence.

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