Contribution ID: **2** Type: **not specified**

Status of Neutrino Elastic-scattering Observation with NaI(Tl) experiment

The Neutrino Elastic Scattering Observation with NaI(Tl) (NEON) experiment aims to observe coherent elastic neutrino-nucleus scattering (CEvNS) using reactor electron antineutrinos with a 16.5 kg NaI(Tl) detectors. A novel crystal encapsulation technique has enhanced light collection efficiency, resulting in a yield of 22 to 25 photoelectrons per keV of light. The detection facility of the NEON experiment is situated within the tendon gallery of the Hanbit Nuclear Power Plant Unit 6 in Yeonggwang, South Korea that is 23.7 meters away from the reactor core. Physics data taking started in April 2022 and stable operation since resulted in collections of 461 days reactor-on data and 144 days off data. A background level of 7 counts/day/kg/keV at 0.6 keV was observed. In this presentation, I will provide an overview of the NEON experiment, as well as the analysis status for the low-energy regime to CEvNS observation.

Primary author: KOH, Byoung-cheol (Chung-Ang University, Dept. of Physics)

Presenter: KOH, Byoung-cheol (Chung-Ang University, Dept. of Physics)