

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

Thursday 18 July 2024 20:40 (20 minutes)

Coherent elastic neutrino-nucleus scattering (CEvNS) can provide interesting physics such as measuring neutrino properties and proving non-standard interactions. CEvNS was observed in 2017 with neutrinos from a stopped pion source, but detecting CEvNS from lower-energy reactor neutrinos is still challenging. Neutrino Elastic-scattering Observation with NaI(Tl) experiment (NEON) is design to address this challenge by aiming to detect CEvNS in a NaI(Tl) crystal using reactor anti-electron neutrino at Hanbit nuclear power plant. Since April 2022, physics data taking has been smoothly underway using a 16.7 kg NaI(Tl) crystal array positioned at the tendon gallery, located 23.7 m away from the reactor core. Current physics data were collected ~399 days reactor-On and 144 days reactor-OFF data. In this talk, we will provide an overview of the experiment, including the detector design and operation, progress in data analysis, and the detector sensitivity.

Alternate track

I read the instructions above

Yes

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