Contribution ID: 205 Type: Oral report

IDREAM detector at Kalinin NPP: status and prospects

Friday, 24 September 2021 15:45 (25 minutes)

At present, various neutrino applications are widely discussed through the community. One such topic is the use of neutrinos for nuclear nonproliferation and reactor monitoring. Industrial detector of reactor antineutrinos for monitoring (IDREAM) is the prototype detector, developed for antineutrinos registration from the reactor core through the inverse beta decay process. Neutrino target is 1 ton of liquid scintillator based on linear alkylbenzene doped with gadolinium. The detector has been installed at Kalinin nuclear power plant (Russia), 19 m from the reactor core. The IDREAM data taking is ongoing since spring 2021. In this talk the concepts and schemes of the experiment will be presented. The results of gamma and neutron background measurements at the detector's location, as well as efficiency estimation of the IDREAM radiation shielding will be discussed.

Primary author: KONSTANTINOV, Andy (Kurchatov institut)

Presenter: KONSTANTINOV, Andy (Kurchatov institut)

Session Classification: Section 3. Modern nuclear physics methods and technologies

Track Classification: Section 3. Modern nuclear physics methods and technologies.