Contribution ID: **69** Type: **Oral**

Experiment nuGeN at Kalinin NPP. Status and latest results.

Wednesday 27 August 2025 14:20 (20 minutes)

The νGeN experiment is aimed at studying rare processes from antineutrino scattering on germanium. It is located in the close vicinity of the reactor core of the Kalinin Nuclear Power Plant (KNPP) at Udomlya, Russia. The experimental setup is installed under reactor unit #3 of KNPP on the moving platform, which allows changing the distance from the center of the 3.1 GW_{th} core from 11.1 to 12.2 m. In this way, we obtain an enormous antineutrino flux of (3.6-4.4)x10^{13} $\nu/cm^2/s$. Materials of the reactor surrounding provide about 50 m w.e. overburden, which serves as a good shielding against cosmic radiation. In combination with a low ambient background, it gives us a unique opportunity to investigate antineutrino properties at the best experimental location in the world. To detect signals from the neutrino scattering, we use a high-purity, low-threshold germanium detector surrounded by passive and active shielding. A specially developed acquisition system allows suppressing events that correspond to noise. The current status of the experimental setup, data taking, and new results will be presented.

Collaboration you are representing

nuGeN collaboration

Author: LUBASHEVSKIY, Alexey (Joint Institute for Nuclear Research)

Presenter: LUBASHEVSKIY, Alexey (Joint Institute for Nuclear Research)

Session Classification: Neutrino Physics and Astrophysics

Track Classification: Neutrino Physics and Astrophysics