

Status of the nuGeN experiment

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The ν GeN experiment is aimed to study neutrino properties at the close vicinity of the reactor core of Kalinin Nuclear Power Plant (KNPP) at Udomlya, Russia. The experimental setup is installed under reactor unit #3 of KNPP at the moving platform which allow to change distance from the center of the 3.1 GW_{th} core from 11.1-12.2 m. In this way, we obtain an enormous antineutrino flux of $(3.6-4.4)\times 10^{13}$ $\nu/\text{cm}^2/\text{s}$. Materials of the reactor surrounding provide about 50 m w.e. overburden, that 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 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 results of comparison of the spectra with reactor on and off regimes will be presented.

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