

The ν GeN neutrino experiment at the Kalinin NPP

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The ν GeN experiment is performed at the Kalinin Nuclear Power Plant at a distance of 11 m from the center of the reactor core. The goals of the experiment include observation of coherent elastic scattering of reactor antineutrinos off nuclei (CEvNS) and search for the magnetic moment of antineutrino (NMM) using a 1.4 kg low-threshold germanium detector. Based on the data from September 2022 to May 2023 we report a 90% C.L. upper limit on CEvNS cross-section of 4.3/1.4 times larger than the Standard model prediction (depending on the value of germanium recoils quenching factor). The 90% C.L. sensitivity of ν GeN to NMM evaluated for the same dataset is $5.3 \cdot 10^{-11} \mu\text{B}$. The increase of the setup exposition up to 1100 kg-days allows to aim for an upper limit of $2.6 \cdot 10^{-11} \mu\text{B}$.

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