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The RED-100 results & prospects

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RED-100 is a two-phase detector designed and built to study coherent elastic neutrino nucleus scattering (CEvNS) of reactor antineutrinos. In 2022, it was deployed at Kalinin Nuclear Power Plant (Udomlya, Russia) with xenon as a target material. Data collection included both reactor ON and OFF periods. The results of this run such as the sensitivity and the limit on CEvNS on Xe are presented. Various methods of data processing and analysis, including neural networks for background mitigations, are discussed. At the present moment, preparations for the new experiment with argon are underway. Future plans and results of engineering tests and simulations are shown and discussed.

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