

## The RED-100 results & prospects

venerdì 21 giugno 2024 17:30 (2 ore)

Coherent elastic neutrino nucleus scattering (CEvNS) off atomic nuclei was predicted in 1974, but only in 2017 it was experimentally observed by the COHERENT collaboration. RED-100 is a two-phase detector designed and built to study CEvNS of reactor antineutrinos. In 2022, the detector completed exposure at Kalinin Nuclear Power Plant with xenon as target material. Data collection included both reactor ON and OFF periods. In this poster, the final results of the experiment with Xe are presented. Various methods of data processing and analysis, including neural networks for background mitigation, are discussed. At the present moment, preparations for the new experiment with argon as target material are underway. Future plans and results of engineering tests and simulations are shown and discussed.

### Poster prize

Yes

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Female

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**Classifica Sessioni:** Poster session and reception 2

**Classificazione della track:** Reactor neutrinos