Contribution ID: **432** Type: **Poster**

Searching for Coherent Elastic Neutrino-Nucleus Scattering (CEvNS) with the NUCLEUS detectors

Friday, 21 June 2024 17:30 (2 hours)

Coherent Elastic Neutrino-Nucleus Scattering (CEvNS) is an interaction well predicted by the Standard Model. Its large cross-section allows to study neutrinos with relatively small detectors. Precision measurement of the CEvNS cross-section is a way to study neutrino properties and search for new physics beyond the Standard Model. The NUCLEUS experiment aims to detect and characterize CEvNS using reactor neutrinos, in an ultra-low background environment. The NUCLEUS target detector will be a 10g array of cubic CaWO4 and Al2O3 crystals with 5mm side. The experiment will be installed between two 4.25 GW reactor cores at the Chooz-B nuclear power plant in France. The experiment is currently under commissioning at the 15 m.w.e. underground lab at TUM (Munich) and will move to Chooz in 2024. The recent results and prospects of NUCLEUS will be presented.

Poster prize

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