Contribution ID: **38** Type: **Poster**

A new data analysis tool for NUCLEUS and first results from the commissioning phase

Wednesday 12 June 2024 18:00 (5 minutes)

Coherent elastic neutrino nucleus scattering (CEvNS) with its large cross- section allows the study of neutrino interactions with a small target of highly sensitive cryogenic phonon detectors. The NUCLEUS experiment aims for an observation of CEvNS from reactor antineutrinos at recoil energies below 100 eV using gram-scale cryogenic detector crystals with superconductive Transition-Edge Sensors (TES).
In order to understand the response to sub-keV nuclear recoils, a direct energy calibration method is proposed by the CRAB project, detecting the emission of single MeV - gammas following thermal neutron capture.
The full experimental setup is being commissioned this year in the shallow underground lab at the Technical University Munich (Germany), preparing for the relocation of the experiment to the reactor site in Chooz (France).
In this poster, I will introduce a newly developed independent software tool designed for the analysis of NUCLEUS and CRAB data. I will also report on the latest results of the commissioning phase.

Author: PETERS, Lilly Charlotte (Technical University Munich (D))

Presenter: PETERS, Lilly Charlotte (Technical University Munich (D))

Session Classification: Lightning talks