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Type: **Parallel Talk**

CEvNS and BSM physics within the reactor neutrino experiment CONUS

Friday, 8 July 2022 17:15 (15 minutes)

The CONUS experiment (COherent elastic NeUtrino nucleus Scattering) aims to detect coherent elastic neutrino-nucleus scattering (CEvNS) of reactor antineutrinos on germanium nuclei in the fully coherent regime. The CONUS experiment –operational since April 2018 –is located at a distance of 17m from the 3.9 GWth core of the Brokdorf nuclear power plant (Germany). The possible CEvNS signature is measured by four 1 kg point-contact high-purity germanium (HPGe) detectors, which provide a sub keV energy threshold with background rates in the order of 10 events per kg, day and keV.

The analysis of the first CONUS data set allows to establish the current best limit on CEvNS from a nuclear reactor with a germanium target. Moreover, competitive limits on neutrino physics beyond the standard model can be set such as on non-standard neutrino interactions or on the neutrino electromagnetic properties. These results together with the upgrades and the analysis status of the current run will be presented in this talk

In-person participation

Yes

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