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Type: Parallel Talk

Neutrino, DM, and Axion Physics with IsoDAR @ Yemilab

Thursday, 7 July 2022 18:45 (15 minutes)

The IsoDAR (Isotope Decay At Rest) experiment, to be installed at Yemilab in Korea, utilizes a cyclotron proton source (60 MeV) to produce an intense source of neutrinos from Li-8 decays at a level of 10^{23} /year, with a kiloton-scale mineral oil detector in close proximity. In addition to its neutrino oscillation program, IsoDAR can test new physics in the neutrino sector, namely non-standard neutrino interactions (NSI) and sterile neutrinos. In particular, IsoDAR has power to discriminate between sterile neutrino scenarios like the 3+2 and 3+1 variants. The beam target environment also produces a rich spectrum of nuclear excited states, which can be exploited to search for axion-like particles and other dark sector states produced in such nuclear transitions. In this talk, IsoDAR's broad physics capabilities, like the ones outlined here, will be discussed.

In-person participation

Yes

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