Contribution ID: **1187** Type: **Parallel Talk**

Coherent elastic neutrino-nucleus scattering in argon with a scintillating bubble chamber

Friday, 8 July 2022 17:45 (15 minutes)

The scintillating bubble chamber is a new technology under development ideal for both GeV-mass WIMP searches and coherent elastic neutrino-nucleus scattering (CEνNS) detection at reactor sites. A 10-kg bubble chamber using liquid argon with the potential to reach and maintain sub-keV energy thresholds is currently under construction. This detector will combine the event-by-event energy resolution of a liquid noble scintillation detector with the world-leading electron-recoil discrimination capability of the bubble chamber. The CEνNS physics program of this detector will be presented in this talk, including the sensitivity to the weak mixing angle, neutrino magnetic moment, and a light Z' gauge boson mediator, in addition to other sensitivity to New Physics scenarios such as light scalar mediators, sterile neutrino oscillations, unitarity violation, and non-standard interactions.

In-person participation

Yes

Primary author: VAZQUEZ-JAUREGUI, Eric

Presenter: VAZQUEZ-JAUREGUI, Eric

Session Classification: Neutrino Physics

Track Classification: Neutrino Physics