

Dark Interactions 2024

Vancouver, Oct. 16-18



Contribution ID: 55

Type: **not specified**

Beyond Standard Model Interactions at CCM

Wednesday, 16 October 2024 14:40 (20 minutes)

The Coherent CAPTAIN Mills (CCM) experiment uses a 10-ton liquid argon scintillation detector at Los Alamos National Laboratory to search for physics beyond the standard model. Such physics includes light dark matter (LDM), axion like particles (ALPs), and Dark Sector coupling to Meson Decay (DSCMD) produced by the LANSCE accelerator. The Lujan Center delivers a 100-kW, 800 MeV, 290 ns wide proton pulse onto a tungsten target at 20 Hz to generate a particle source. The fast pulse, in combination with the speed of the CCM scintillation detector, is crucial for isolating prompt speed of light particles generated by fast source processes such as stopped pions and electromagnetic showers to reduce neutron and steady state background. This talk will describe the CCM experiment and present published and preliminary results from completed runs, as well as the projected reach of our ongoing 3-year run.

Primary author: DUNTON, Edward (Los Alamos National Laboratory (LANL))

Presenter: DUNTON, Edward (Los Alamos National Laboratory (LANL))

Session Classification: Dark Sectors

Track Classification: Contributed Talks