

Abstract Submitted
for the DNP19 Meeting of
The American Physical Society

Update on the Status of the CUPID-Mo Demonstrator

JONATHAN OUELLET, Massachusetts Institute of Technology, CUPID-MO COLLABORATION — CUORE is the first ton-scale cryogenic bolometer experiment searching for neutrinoless double-beta decay. The successor to CUORE, called CUPID, is designed to improve the half-life sensitivity of CUORE by almost two orders of magnitude and fully probe the so-called inverted hierarchy region of the effective majorana neutrino mass. The technology for CUPID is currently being employed in the CUPID-Mo demonstrator, which is searching for the $0\nu\beta\beta$ decay of ^{100}Mo . CUPID-Mo consists of 20 enriched ~ 0.2 kg $\text{Li}_2^{100}\text{MoO}_4$ scintillating crystals, complemented by 20 light-detecting Ge bolometers. By comparing the heat vs light signals, CUPID-Mo is able to distinguish α events from β/γ events for a powerful background discriminant. CUPID-Mo began data taking in Spring 2019. In this talk, we will present early results from the first data collected with CUPID-Mo, an updated prediction for its expected sensitivity, and an outlook on the prospects of CUPID.

Jonathan Ouellet
Massachusetts Institute of Technology

Date submitted: 28 Jun 2019

Electronic form version 1.4