

Abstract Submitted
for the DNP19 Meeting of
The American Physical Society

The next-phase search for $0\nu\beta\beta$ decay with CUPID GIOVANNI BENATO, University of California, Berkeley, CUPID COLLABORATION — Neutrinoless double beta ($0\nu\beta\beta$) decay is a matter-creating process that violates lepton number conservation. Its discovery would prove the existence of physics beyond the Standard Model. The CUORE Upgrade with Particle IDentification (CUPID) is a proposed next-phase $0\nu\beta\beta$ decay bolometric experiment aiming at a sensitivity that covers the allowed parameter space for the inverted ordering of neutrino masses. CUPID will deploy ~ 250 kg of ^{100}Mo embedded in scintillating Li_2MoO_4 crystals simultaneously acting as source and detector for $0\nu\beta\beta$ decay, and will actively distinguish between α and β particles thanks to the readout of both the heat and scintillation light channels. In this talk, the design of CUPID, its active background rejection techniques, and expected background budget are presented.

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Date submitted: 27 Jun 2019

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