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Results from the CUPID-Mo experiment for a next-generation $0\nu\beta\beta$ search with CUPID BENJAMIN SCHMIDT, Lawrence Berkeley National Laboratory, CUPID-MO COLLABORATION — CUPID (CUORE Upgrade with Particle ID) is a next-generation effort to probe $0\nu\beta\beta$ -decay in the so-called inverted mass hierarchy region with ^{100}Mo . It builds on the infrastructure of the currently operating first ton-scale cryogenic bolometer experiment CUORE, the Cryogenic Underground Observatory for Rare Events. The proposed technology for CUPID is employed in the CUPID-Mo experiment searching for $0\nu\beta\beta$ of ^{100}Mo at the Laboratoire Souterrain de Modane (France). This demonstrator consists of an array of 20 enriched 0.2 kg Li_2MoO_4 crystals complemented by 20 cryogenic Ge bolometers to distinguish α from β/γ events by the detection of both heat and scintillation light signals. In this talk, we will present results from the data taken in 2019, confirming an excellent bolometric performance of down to $\sim 5\text{-}6$ keV energy resolution (FWHM) at 2615 keV, full α to β/γ separation and excellent radio-purity levels of relevant isotopes of the U/Th series of typically less than $1 \mu\text{Bq/kg}$ in bulk contaminants. We will conclude with an update on the acquired statistics of the experiment and an expectation of the sensitivity of the blind $0\nu\beta\beta$ analysis with CUPID-Mo data in 2020.

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