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**CUPID: CUORE Upgrade with Particle IDentification** RAUL HENNINGS-YEOMANS[1], YURY KOLOMENSKY, UC Berkeley, CUPID INTEREST GROUP TEAM — CUPID is a proposed future tonne-scale bolometric neutrinoless double beta decay experiment to probe the Majorana nature of neutrinos and discover Lepton Number Violation in the so-called inverted hierarchy region of the neutrino mass. CUPID builds on experience, expertise and lessons learned in CUORE (Cryogenic Underground Observatory for Rare Events), which is about to start operations at Gran Sasso National Laboratories (LNGS) in Italy. CUPID will exploit the current CUORE infrastructure as much as possible. In order to achieve its ambitious science goals, CUPID aims to increase the source mass and dramatically reduce the backgrounds in the region of interest. This requires isotopic enrichment, upgraded purification and crystallization procedures, new detector technologies, a stricter material selection, and possibly new shielding concepts with respect to the state of the art deployed in CUORE. We will discuss the science goals of CUPID and will focus on the near-term R&D goals, aiming to demonstrate its ultimate sensitivity.

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