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Sensitivity and Physics Reach of CUORE-0 and CUORE

CUORE-0 is a cryogenic detector that uses an array of tellurium dioxide bolometers to search for neutrinoless double-beta decay of ^{130}Te . CUORE-0 is located at the Laboratori Nazionali del Gran Sasso in Italy and has been taking data since March 2013. I will present the sensitivity of CUORE-0 based on the measured background rate and energy resolution in the region of interest. The CUORE-0 half-life sensitivity is expected to surpass the observed lower bound of Cuoricino, a predecessor experiment, with one year of live time. I will also discuss the prospects of CUORE, which has a ^{130}Te mass 19 times greater than that of CUORE-0. CUORE is currently under construction and scheduled to begin data-taking in 2015. I will discuss the physics potential of CUORE-0 and CUORE, including the measurement of two-neutrino double-beta decay and a dark matter search.

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