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Search for Low-Energy Events with CUORE-0 and CUORE KYUNGEUN LIM, Yale University, CUORE COLLABORATION — CUORE-0 is a cryogenic detector that uses an array of tellurium dioxide bolometers with the primary physics goal of searching for neutrinoless double-beta decay of ^{130}Te. The detector consists of 52 $^{\mathrm{nat}}TeO_2$ crystal bolometers, which amounts to a total ^{130}Te mass of 11kg, held in a ultra-pure copper frame. It was assembled using new low-background techniques developed for CUORE. The first results on the search for neutrinoless double-beta decay with CUORE-0 combined with Cuoricinio, a predecessor to CUORE-0, set the most stringent limit on the half-life of ^{130}Te. Successful background mitigation, along with continuous data acquisition make CUORE-0 also suitable for other low-energy, rare event searches such as dark matter. I will discuss the status of the low-energy event search with CUORE-0 and prospects for CUORE. CUORE is in the final stages of construction and scheduled to begin data-taking in late 2015.

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