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Status of the CUORE and results from the CUORE-0 neutrinoless double beta decay experiments

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CUORE is a 741 kg array of TeO₂ bolometers for the search of neutrinoless double beta decay of Te-130. The detector is being constructed at the Laboratori Nazionali del Gran Sasso, Italy, where it will start taking data in 2015. If the target background of 0.01 counts/(keV kg y) will be reached, in five years of data taking CUORE will have an half life sensitivity of about 10^{26} y. CUORE-0 is a smaller experiment constructed to test and demonstrate the performances expected for CUORE. The detector is a single tower of 52 CUORE-like bolometers that started taking data in spring 2013. The status and perspectives of CUORE will be discussed, and the first CUORE-0 data will be presented.

Summary

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