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The search for neutrinoless double beta decay with Cuoricino and Cuore

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Cuoricino was a cryogenic bolometric detector operating in Gran Sasso Underground Laboratory, Italy, from March 2003 to June 2008.

With its 40.7 kg of $^{130}\text{TeO}_2$ in the form of an array of 62 crystals it has set the currently lower limit on the half-life of ^{130}Te against neutrinoless double beta decay, $T_{1/2} = 2.94 \times 10^{24}$ y at 90% CL.

It has moreover proven the feasibility of the CUORE experiment, whose aim is to be sensitive to values of the effective neutrino mass as low as few tens of meV.

We will report on the latest results from Cuoricino and on the status of the CUORE project.

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