



Contribution ID: 1014

Type: Parallel Session Talk

CUORICINO and CUORE: present and future of ^{130}Te neutrinoless double beta decay searches

Friday, 23 July 2010 16:35 (15 minutes)

The search for neutrinoless double beta decay is a powerful tool to assess the neutrino mass scale and to establish whether the neutrino is a Majorana or a Dirac particle.

To date, CUORE is the only fully approved next generation 1-ton size experiment with the goal of approaching the inverted hierarchy region of the effective neutrino mass spectrum.

CUORE is an array of 988 TeO_2 cryogenic detectors containing 200 kg of ^{130}Te , the neutrinoless double beta decay candidate. It is presently being built in Gran Sasso Underground Laboratory and it is due to start data taking in 2013.

The feasibility of this very challenging project has been proved by CUORICINO, the pilot experiment that took data in Gran Sasso Laboratory until 2008, for about five years, with 62 TeO_2 cryogenic detectors.

In this talk I will present the final analysis of the whole CUORICINO exposure and report about the status of CUORE construction.

Primary author: NUCCIOTTI, Angelo (Univ. Milano-Bicocca and INFN Sez. Milano-Bicocca)

Presenter: NUCCIOTTI, Angelo (Univ. Milano-Bicocca and INFN Sez. Milano-Bicocca)

Session Classification: 07 - Neutrinos

Track Classification: 07 - Neutrinos