

Towards the integration of the NUMEN experiment

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The most promising probe to establish the Majorana or Dirac nature of the neutrino is the neutrinoless double beta decay and the effective neutrino mass would be evaluated by the knowledge of the corresponding nuclear matrix elements.

Also measurements of the DCE interactions of heavy ion beams can get information on them.

The NUMEN experiment based on the pre-existing large acceptance MAGNEX spectrometer and integrated with new components aims at measuring DCE cross sections using ion beams of unprecedented intensity (10^{13} pps) on specific isotopes at INFN-LNS in Catania.

Expected rate on the sensitive area of about 0.15 m^2 reaches up to about 5 Mpps, demanding for adequate detectors in measuring position, direction, energy, mass and charge of the ions produced by interactions. Gamma detectors surround a scattering chamber containing a target.

The presentation is focused on the technological aspects of the design and the integration of the experiment.

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