Contribution ID: **231** Type: **Poster**

Search for Neutrinoless Double-Beta Decay of 100Mo with the NEMO-3 Detector

We report the results of a search for the neutrinoless double-beta decay
(0 nu beta beta) of 100Mo, using the NEMO-3 detector to
reconstruct the full topology of the final state events. With an exposure of
34.7 kg.y, no
evidence for the 0 nu beta beta signal has been found, yielding a
limit for the light Majorana neutrino mass mechanism of
T{1/2} 0 nu beta beta >1.1 x 10^24 years (90% C.L.)
once both statistical and systematic uncertainties are taken into
account. Depending on the Nuclear Matrix Elements this corresponds to an upper
limit on the Majorana effective neutrino mass of m{nu} < 0.3-0.9$~eV~(90%~C.L.). Constraints on other lepton
number violating mechanisms of
0 nu beta beta decays are also given. Searching for high-energy
double electron events in all suitable sources of the detector, no event in the
energy region [3.2-10] MeV is observed for an exposure of 47 kg.y.

Primary author: Dr SIMARD, Laurent (LAL, Orsay)

Co-author: Dr PIQUEMAL, Fabrice (CENBG, Bordeaux-Gradignan)

Presenter: Dr PIQUEMAL, Fabrice (CENBG, Bordeaux-Gradignan)

Track Classification: Neutrinoless Double Beta Decay