Poster session 4 – Friday 8 July

P4.070 **Status of the SuperNEMO integration in the modane underground laboratory**

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The former NEMO-3 experiment has demonstrated the benefit to search for neutrinoless double beta decay with a combination of a 3D tracker and a segmented calorimeter. The double beta decay events can be fully reconstructed and the backgrounds strongly reduced by the 2 electrons topology events selection. These backgrounds can also be accurately measured through other dedicated analysis channels. The SuperNEMO experiment is the new generation tracko-calo neutrinoless double beta decay experiment. Its first module is under construction and integration in the Modane underground laboratory (LSM). The subdetectors are being prepared worldwide in the collaboration laboratories and their integration at the LSM has started in 2015. One of the 2 calorimeter walls and one quarter tracker are already installed. By this summer this calorimeter wall will be assembled with half tracker and some preliminary tests will be performed (pressure, gas tightness, electronics vertical slice and possibly radioactive sources tests). The data taking of this detector is expected by the end of 2016. Using 7 kg of 82Se it will investigate the effective neutrino mass down to 0.2-0.4 eV in 2.5 years. The full SuperNEMO experiment could study up to 100 kg of 82Se and reach a sensitivity of 0.04-0.1 eV.

This poster will present the characteristics of this first SuperNEMO module and describe the different steps of the integration at the LSM by the conference time.