



## Poster session 1 - Monday 4 July

### P1.075 Radon mitigation strategy and results for the SuperNEMO experiment

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*on behalf of SuperNEMO collaboration*

Dedicated radon facilities have been established for the screening and selection of detector construction materials for the SuperNEMO experiment. Such facilities are required in order to meet the stringent radio-purity demands of such next generation neutrinoless double beta decay experiment.

A "Radon Concentration Line" (RnCL) was developed to be used in conjunction with a state-of-the-art radon detector to achieve sensitivities to  $^{222}\text{Rn}$  content in large gas volumes to a few  $\mu\text{Bq}/\text{m}^3$ . A gas purification system was developed and installed which has demonstrated radon suppression by several orders of magnitude (depending on the carrier gas). This apparatus has now been commissioned and measurements of cylindered gas has been made to confirm radon suppression. The results from measurements of radon content in gases used in SuperNEMO and the first fully instrumented half tracker using the RnCL will be presented.

Radon emanation facilities have also been established for direct measurements of construction material samples when coupled to a dedicated emanation chamber. Results from both radon emanation and radon diffusion studies will also be presented.