Contribution ID: **64** Type: **Parallel talk**

# Neutron Backgrounds in the SuperNEMO Experiment

*Tuesday 8 April 2025 14:45 (15 minutes)*

SuperNEMO is an R&D experiment designed to search for neutrinless double beta decay, a hypothetical, lepton-number-violating decay. The detector has a separated tracker-calorimeter structure allowing both the topology and energy of the electron pair from the decay to be studied.
If seen, 0νββ would tell us about the nature of the neutrino and would be the rarest process to ever be observed. An ultra-low background is therefore required to be able to search for this decay. A potential background that could, in rare circumstances, mimic the signal of a 0νββ event in the detector is caused by neutrons originating from radioactive processes in the rock of the lab where SuperNEMO is housed.
To understand this effect simulations have been performed to model how the neutron background will affect SuperNEMO's sensitivity, and the effect of neutron shielding in mitigating this background.

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**Session Classification:** Neutrino Physics

**Track Classification:** Neutrino Physics