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## The SuperNEMO tracking detector

The SuperNEMO detector, which builds on the highly successful NEMO project, will search for neutrinoless double beta decay at the Modane Underground Laboratory on the French-Italian border. If observed, neutrinoless double beta decay would show that the neutrino is its own antiparticle, would be the first evidence for total lepton number violation, and would allow a measurement of the absolute neutrino mass. With an eventual goal of  $\sim 100$  kg of source material, a sensitivity to a half life of  $\sim 10^{26}$  years can be achieved. The unique characteristic of the SuperNEMO detector design is that it allows complete topological reconstruction of the double beta decay event. In the event of a discovery, such topological measurements will be vital in determining the nature of the lepton number violating process. This topological reconstruction is also key in allowing excellent levels of background rejection. The topological reconstruction will be performed by a gaseous tracking detector, consisting of 2,034 drift cells working in Geiger mode. This tracking detector is currently under construction in the UK. With the elimination of all radioactive impurities being vital, the drift cells must be produced in a high-class cleanroom with minimal human intervention. To enable this, a robot has been developed to produce the cells. This poster will present the design of of the tracker and the construction procedure; it will also present the status of the construction and testing of the tracker cells.

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**Track Classification:** Neutrinoless Double Beta Decay