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Status of the SuperNEMO Experiment

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The SuperNEMO Experiment is designed to search for neutrinoless double beta decays of the Se-82 isotope. The detector employs the multi-observable tracking-and-calorimetry technique pioneered by the NEMO-3 Experiment. Electrons originating from double beta decays of an isotope in thin isotopic foils are tracked in wire tracking chambers and their energy is measured by large scintillator blocks. The topology, timing, and energy provide a powerful means of identifying and measuring the final state of decays. The technique is also very effective in rejecting backgrounds due mostly to traces of natural radioactivity in foils and detector materials. The SuperNEMO Demonstrator module is currently being commissioned at the Modane Underground Laboratory in the Frejus Tunnel. We will discuss details of the detector elements, the latest status of the experiment, and the physics reach.

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