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Status of the SNO+ Experiment

The SNO+ experiment, at SNOLAB, in Sudbury, Ontario, is a multipurpose neutrino detector. It will use 780 tons of liquid scintillator loaded with 1.3 tons of ^{130}Te (0.5% by mass) for a low-background and high-isotope-mass search for neutrino-less double beta decay. Currently the detector is filled with ultrapure water and conducting a search for nucleon decay and reactor antineutrinos. SNO+ uses the acrylic vessel and PMT array of the SNO detector with several experimental upgrades and necessary adaptations to fill with liquid scintillator. The SNO+ technique can be scaled up with a future high loading Phase II, able to probe to the bottom of the inverted hierarchy parameter space for effective Majorana mass. Low backgrounds and a low energy threshold allow SNO+ to also have other physics topics in its program, including geo- and reactor neutrinos, supernova and solar neutrinos. This talk will describe the SNO+ approach for the double-beta decay program, the current status of the experiment and its sensitivity prospects.

Summary

This talk will describe the SNO+ approach for the double-beta decay program, the current status of the experiment and its sensitivity prospects.

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