



Poster session 1 - Monday 4 July

P1.072 Commissioning the SNO+ Detector

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SNO+ is a multipurpose liquid scintillator neutrino experiment based at SNOLAB in Sudbury, Ontario, Canada. The main physics goal is searching for neutrino-less double beta decay in Tellurium-130, but SNO+ will also study low energy solar neutrinos, geo- and reactor- antineutrinos, among other topics. We are reusing much of the hardware from the original SNO experiment, but significant work has taken place to transform the heavy water detector into a liquid scintillator detector.

We present upgrades and improvements to the read-out electronics and trigger system to handle the higher data rates expected by a scintillator experiment. We show the successful installation and testing of a hold-down rope net for the acrylic vessel to counter-act the buoyancy of organic liquid scintillator. External calibration systems have been developed and installed to measure the optical properties of the new detector. Presented are the first commissioning data from these systems. We also describe the new scintillator process plant and cover gas systems that have been constructed to achieve the purification necessary to meet our physics goals.

We are currently commissioning the experiment with ultra-pure water in preparation for filling with scintillator in early 2017 and present the current status of this work.