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Data-Quality and Run Selection for the SNO+ experiment

The SNO+ detector main physics goal is the search for neutrinoless double-beta decay, a rare process which if detected, will prove the Majorana nature of the neutrinos and provide information on the absolute scale of the neutrino absolute mass. Additional physics goals of SNO+ include the study of solar neutrinos, anti-neutrinos from nuclear reactors and the Earth's natural radioactivity as well as Supernovae neutrinos. Located in the SNOLAB underground physics laboratory (Canada), it will re-use the SNO experiment ˜9300 PMTs looking at a 12 m diameter spherical volume filled with 780 tons of Te-loaded liquid scintillator. A short phase with the detector completely filled with water has started at the end of 2016. It will be followed by a scintillator phase expected to start at the end of this year. A careful monitoring of the detector state such as its hardware configuration, slow control information, data handling and triggers has to be performed at any time to ensure the quality of the data taken. Several automatic checks have been put in place for that purpose. This information serves as input to higher level run selection tools that will ultimately perform a final decision on the goodness of a run for a given physics analysis. In this poster, we will describe in details the tools that the collaboration has developed to ensure the quality of the data taken and select golden runs for physics analysis.

Experimental Collaboration

SNO+

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