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Water Phase Energy Calibration in SNO+

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The SNO+ experiment is a kilo-tonne scale liquid scintillator detector located at SNOLAB which is currently operating in its water phase. The water phase is used for testing the detector performance, photomultiplier tube (PMT) response and test the data acquisition system (DAQ). One of the main physics includes the search for invisible nucleon decay in 16O, where a decaying neutron will result in a 6.18 MeV gamma 44% of the time from the de-excitation of 15O and for proton decay a 6.32 MeV gamma 41% of the time from the de-excitation of 15N. SNO+ will be using a 16N source to calibrate the energy response detector during the water phase because it primarily produces 6.13 MeV gamma (67% of the time) following the beta decay which will be used to tag the events. This talk will discuss the efforts involved in recommission the 16N source and the status of the energy reconstruction in Monte Carlo.

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