

Calibration of the SNO+ Detector with a Light Diffusing Source in the Water Phase

SNO+ is a neutrino physics experiment located in Sudbury, Canada, that will search for the neutrinoless double beta decay process. This and other physics goals require a detailed knowledge of the detector energy resolution and systematics, which is achieved by a comprehensive calibration program. It includes the Optical Calibration, that uses a light diffusing sphere called “laserball” to characterize the effects changing the propagation and collection of light inside the detector, such as media attenuations and the response to light of the 9400 PMTs. Laserball data was obtained in 2017, in particular during an extensive data taking campaign in December that resulted in 204 runs collected in 35 positions, using 6 available wavelengths. This poster will describe the laserball hardware used during the Water Phase of SNO+ and will present the results of the Optical Calibration analysis and related studies.

Authorship annotation

SNO+ Collaboration

Session and Location

Monday Session, Poster Wall #73 (Auditorium Gallery Right)

Poster included in proceedings:

yes

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Track Classification: Poster (participating in poster prize competition)