

AmBe source calibration in the SNO+ water phase

Authorship annotation

for the SNO+ collaboration

Session and Location

Monday Session, Poster Wall #71 (Auditorium Gallery Right)

Abstract content

SNO+ is a multipurpose neutrino experiment located approximately 2 km underground in SNOLAB, Sudbury, Canada. It started taking physics data in May 2017 and is currently completing its first phase, as a pure water Cherenkov detector. One physics goal of this water phase is to detect reactor antineutrinos for the first time using a pure water target. A key component of this search is the identification of the 2.2 MeV γ from the inverse beta decay neutron capturing on hydrogen. The low trigger threshold of the SNO+ detector allows for a substantial detection efficiency of these neutrons, as observed with a deployed $^{241}\text{Am}^9\text{Be}$ source. This poster presents the recent effort on the AmBe calibration and an analysis of the obtained coincident pairs of 4.4 MeV and 2.2 MeV γ s in the SNO+ detector.

Poster included in proceedings:

yes

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