Contribution ID: 18

Maximum Likelihood Estimation of Errors for Measuring the Flux of Neutrons in the SNO Lab Underground Laboratory

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SNOLAB's Background Survey Improvement Project aims to update and improve the measurement of the background neutron flux in the underground lab from the results presented in the SNOLAB Technical Reference Manual (Duncan et al., 2016). The project uses Bubble Detector Spectrometers (BDS) manufactured by Bubble Technology Industries (BTI) which uses an unfolding algorithm to calculate the spectra of the neutron flux. The BDS are designed for higher neutron fluxes and gives unreasonably large errors for the data collected in the underground laboratory. A Maximum Likelihood Estimate (MLE) method is being developed to improve the analysis at these low neutron rates.

Topics - Please choose one:

Experiment / Theory

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