

# SCINTILLATION TIMING STUDIES FOR THE SNO+ NEUTRINOLESS DOUBLE BETA DECAY EXPERIMENT

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SNO+ is a scintillator-based neutrino experiment which will be housed in the SNOLAB facility located two km underground in Sudbury, Ontario. The SNO+ detector will be capable of probing many new areas of neutrino physics including neutrinoless double beta decay, geoneutrinos and low energy solar neutrinos. The first priority for the SNO+ detector will be the search for the elusive process of neutrinoless double beta decay. The observation of this process will answer many interesting questions including whether the neutrino is its own antiparticle and should give us an idea about the absolute mass scale of the neutrino. In order to execute the search for neutrinoless double beta decay, it is imperative to understand the properties of our scintillator. This talk will describe the laboratory measurements designed to investigate the timing profile of the scintillator for alpha and beta excitation. By differentiating between these two events, it may be possible to identify and reject alpha backgrounds which can be a source of pileup in our detector.

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