

Cosmogenic Background Discrimination at SNO+

High energy muons produced in cosmic ray showers create radioactive elements in otherwise radiopure materials via spallation and neutron capture. Such cosmogenics are an important background in low energy searches. The SNO+ experiment is searching for Neutrinoless Double Beta Decay (0 ν) in ^{130}Te , which can be cosmogenically activated. Purification 2km underground at SNOLAB will eliminate near 100% of cosmogenics formed at the surface.

As additional contingency a new statistical technique is presented here, based on timing and calibrated on internal backgrounds, that distinguishes between a 0 ν signal and cosmogenic decays.

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