



Contribution ID: 346

Type: **Poster**

SNO+ Tellurium Purification and Loading for Neutrinoless Double Beta Decay Search

Wednesday 30 August 2023 16:08 (1 minute)

The SNO+ collaboration is operating a kilo-tonne scale liquid scintillator detector located at the SNOLAB underground facility in Sudbury, Canada. The major physics goal of the collaboration is to search for neutrinoless double beta decay with ^{130}Te . A method has been developed to load tellurium into liquid scintillator so as to permit searches for neutrinoless double beta decay with high sensitivity. The approach involves the synthesis of an oil-soluble tellurium compound from telluric acid and an organic diol. The process utilises distillable chemicals that can be safely handled underground and affords low radioactive backgrounds, low optical absorption and high light yields at loading levels of at least several percent Te by weight.

Submitted on behalf of a Collaboration?

Yes

Authors: Prof. BILLER, Steve (Oxford); Dr MANECKI, Szymon (SNOLAB)

Presenters: Prof. BILLER, Steve (Oxford); Dr MANECKI, Szymon (SNOLAB)

Session Classification: Poster session

Track Classification: Neutrino physics and astrophysics