

Organic Liquid Scintillator Purification

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Richard Ford (SNOLAB)

We review the methods for purification of organic liquid scintillators for large low background scintillator detectors, based mainly on the experience with the Borexino and SNO+ detectors with Pseudocumene (PC) and Linear Alkylbenzene (LAB) based scintillators. We review the purity requirements and the design basis and performance of the of the purification plants. The main processes in the plants are multi-stage distillation, counter-current liquid-liquid extraction, adsorption columns, gas-stripping and filtration. We discuss purification R&D and the engineering challenges in designing and commissioning the full scale plants.

Author: FORD, Richard (SNOLAB)

Presenter: FORD, Richard (SNOLAB)