

Liquid scintillator study for JUNO

\chapter{Abstract}

The Jiangmen Underground Neutrino Observatory (JUNO) is a multi-purpose underground neutrino experiment. The energy resolution of JUNO is designed to be 3% at 1 MeV, corresponding to a light output of at least 1,200 photoelectrons per MeV. Contamination in LS is also required. In order to study the optical performance and radioactivity removal for LS, a purification system has been developed and installed at the Daya Bay experiment (Hall 5), which includes four sub-systems: the alumina column, the distillation, the water extraction, and the gas stripping. The designed flow rate is about 100 liters per hour. A replacing system is also constructed to replace the GdLS in Daya Bay AD1 with the purified LS. The LS production and replacement was done in 2017, and the natural radioactive background of LAB with 0.5 g/L PPO was measured. The light outputs of different PPO and bis-MSB concentrations were precisely measured, and the LS formula of JUNO was studied.

Authorship annotation

for the JUNO Collaboration

Session and Location

Monday Session, Poster Wall #100 (Auditorium Gallery Left)

Poster included in proceedings:

no

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