Technology & Instrumentation in Particle Physics (TIPP2023)



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Status of the liquid scintillator for JUNO

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The Jiangmen Underground Neutrino Observatory (JUNO) is a multi-purpose experiment designed to elucidate fundamental neutrino properties, study neutrinos with astrophysical or terrestrial origins, and search for rare processes beyond the Standard Model of particle physics. Its central detector is a 20 kton liquid scintillator (LS) located 650 m underground in Guangdong, China. To achieve its physics goals, the JUNO LS must have high transparency and ultra-low radiation background. To purify the LS, five plants were designed: alumina filtration, distillation, mixing, water extraction, and steam stripping. In addition, two corollary plants were designed to supply ultra-pure water and high purity nitrogen for the liquid scintillator purification system. Currently, the construction of the seven plants is almost completed, and the commissioning of the plants is underway.

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