



## Poster session 3 – Wednesday 6 July

### P3.051 The liquid scintillator system of the JUNO

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The Jiangmen Underground Neutrino Observatory (JUNO) is a multi-purpose underground experiment. The innermost part of the JUNO detector is formed by 20,000 tons of liquid scintillator (LS), contained inside an acrylic sphere of 35.4m diameter. The energy resolution of JUNO is designed to be 3% at 1MeV, corresponding to at least 1,100 photoelectrons (pe) per MeV of deposited energy. Because the LS quality is over 20000 tons in JUNO, The diameter of the acrylic ball is 35.4m, Compared with other neutrino experiments, the optical transparency of the LS in JUNO is absolutely crucial. In addition, low-level radioactive background is important for LS too in order to serve the demands in physics. This poster will present the LS purification research work for linear alkyl benzene (LAB) and LS. According to the result of laboratory studies, a prototype of liquid scintillator purification system has been developed. It includes alumina adsorption column, distillation column, water extraction column and steam stripping column. The prototype can purify 100-150 liters per hour. The poster also includes our current design for the JUNO LS primary production-purification system.