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attenuation length monitor for the JUNO filling system

Authorship annotation

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Abstract content

The future neutrino experiment JUNO (Jiangmen Underground Neutrino Observatory) will determine the neutrino mass hierarchy by observing reactor neutrinos in liquid scintillator. To reach the required energy resolution of 3% @ 1MeV, a very good liquid scintillator transparency (attenuation length $\geq$ 20 m @ 430 nm) is required. To reach this transparency, it is planned to have several purification processes in place. The attenuation length of the liquid scintillator will be measured afterwards to verify that this process reached the necessary levels of purity. It is of paramount importance to make this quality assurance in order to avoid any contamination of the Central Detector. An attenuation length monitor is currently in development in Mainz. This poster presents design and working principle of the this system. It gives an overview on the current status of the development as well. The development is funded by the DFG Research Unit "JUNO" and the Mainz Cluster of Excellence "PRISMA".

Poster included in proceedings:

yes

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