

## A Liquid Scintillator Transparency monitoring Laser System for JUNO

One of the future neutrino detectors is the Jiangmen Underground Neutrino Observatory (JUNO) with its primary goal to determine the neutrino mass hierarchy from the oscillations of reactor antineutrinos. For this purpose, an energy resolution of 3% @ 1 MeV is required. Therefore, the transparency of the LS has to be sufficiently high and stable during the whole operation time (attenuation length  $\geq 20$  m @ 430 nm).

One device for monitoring of the optical LS quality is a laser system inside the central detector of JUNO, detecting degradation effects in the liquid and a possible gradient in its refractive index. The latter can be caused by a temperature gradient leading to curved light propagation, which would need to be taken into account during the event reconstruction. This poster presents the conceptual design, the working principle and the current status of the laser system.

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### Authorship annotation

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### Session and Location

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yes

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**Track Classification:** Poster (not participating in poster prize competition)