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JUNO OSIRIS Calibration Systems

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The Online Scintillator Internal Radioactivity Investigation System (OSIRIS) is a 20-ton liquid scintillator detector currently under construction at the Jiangmen underground neutrino observatory (JUNO) in Kaiping, China. OSIRIS features 76 newly developed, intelligent PMTs (iPMTs) surrounding a cylindrical acrylic vessel embedded in a Cherenkov muon Veto. Its main purpose is the monitoring of the radiopurity of the liquid scintillator during the filling phase of JUNO. To achieve this goal, a rigorous calibration of OSIRIS is necessary. For this purpose, two independent calibration systems are introduced: On the one hand, a distributed Laser calibration system, as well as an automated calibration unit (ACU) based on a similar system from Daya Bay featuring three calibration capsules containing a low activity radioactive source, a high activity radioactive source and an optical calibration source.

In this talk we give a short introduction into the OSIRIS detector, its calibration systems, and the planned calibration modes.

Collaboration name

JUNO

Primary author: STERR, Tobias (Eberhard Karls Universität Tübingen, Physikalisches Institut)

Presenter: STERR, Tobias (Eberhard Karls Universität Tübingen, Physikalisches Institut)

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