Contribution ID: **375** Type: **Talk**

Status of the Jiangmen Underground Neutrino Observatory

Sunday 5 September 2021 15:55 (20 minutes)

The Jiangmen Underground Neutrino Observatory (JUNO) is a multi-purpose neutrino experiment currently under construction in South China, expecting to start data taking in 2023. JUNO primary goal is the determination of the neutrino mass ordering and the measurement at a sub-percent level three of the neutrino oscillation parameters and thanks to the detection of reactor antineutrinos at a medium baseline (53 km). The main detector, placed in a cavern 700 m underground, will consist of 20 kton of liquid scintillator contained in a 35.4 m diameter acrylic sphere, becoming the largest detector of its kind ever built in the world. JUNO will be instrumented with 17,612 20”photomultiplier tubes (PMTs), and 25,600 3”PMTs reaching a photo-coverage above 75%, and will achieve an unprecedented energy resolution of 3%/√E(MeV) thanks to a comprehensive calibration system, among others. The acrylic sphere will be submerged in a water pool Cherenkov detector and covered on the top by layers of plastic scintillator to tag cosmic ray muons, a major source of background. During this talk the project’s design and status will be presented.

Primary author: GARFAGNINI, Alberto (Padova University and INFN Padova, Italy)

Presenter: GARFAGNINI, Alberto (Padova University and INFN Padova, Italy)

Session Classification: Neutrino physics

Track Classification: Neutrino physics