Contribution ID: **54** Type: **Talk: in-person**

Prospects for Neutrinos from Natural Sources in JUNO

Friday, 20 September 2024 13:45 (20 minutes)

The Jiangmen Underground Neutrino Observatory (JUNO) is a 20-kiloton liquid scintillator detector, currently under construction in southern China. JUNO aims to reach an unprecedented energy resolution of 3% at 1 MeV to achieve its primary physics goal of determining the neutrino mass ordering, by resolving fine structure due to flavor oscillations in the antineutrino energy spectrum from nearby nuclear reactors. JUNO's world-leading size, PMT coverage and low backgrounds also allows for a very broad physics programme, measuring neutrino energies from tens of keV to tens of GeV. This talk involves the discussion of JUNO's physics potential regarding neutrinos from a variety of natural sources. This includes prospects of neutrino oscillation measurements using atmospheric neutrinos, sensitivity to solar neutrinos, geoneutrinos and supernovae, along with searches for rare BSM decays.

Working Group

WG 1: Neutrino Oscillation Physics

Primary author: MORTON-BLAKE, Iwan (Tsung-Dao Lee Institute / Shanghai Jiao Tong University)

Presenter: MORTON-BLAKE, Iwan (Tsung-Dao Lee Institute / Shanghai Jiao Tong University)

Session Classification: Parallel: WG1

Track Classification: WG1: Neutrino Oscillation Physics