

**XVIII Workshop on Neutrino Telescopes
Palazzo Franchetti – Istituto Veneto**

Venice, 18-22 March 2019

**Poster Session
Submission of Abstract**

Submitter: Settanta Giulio^{1,2}, giulio.settanta@uniroma3.it

¹Dipartimento di Matematica e Fisica, Università degli Studi Roma Tre

²INFN Sezione di Roma Tre

Author: Giulio Settanta

Co-Authors: Stefano M. Mari, Cristina Martellini, Paolo Montini

Title of the Poster: Atmospheric neutrino spectrum reconstruction with JUNO

Abstract text:

The atmospheric neutrino flux represents a continuous source that can be exploited to infer properties about Cosmic Rays and neutrino oscillation physics. The JUNO observatory, a 20 kt liquid scintillator currently under construction in China, will be able to detect the atmospheric flux, given the large fiducial volume and the excellent energy resolution. In this study, a sample of Monte Carlo events has been used to evaluate the JUNO performances. The different time evolution of light inside the detector allows to discriminate the flavor of the primary neutrinos. A probabilistic unfolding method has been built, in order to infer the primary neutrino energy spectrum by looking at the detector output.

Summary:

Atmospheric neutrinos, neutrino physics, neutrino telescope.