

Simulation Status of the Tau Air-Shower Mountain-Based Observatory

martedì 18 giugno 2024 17:30 (2 ore)

While IceCube's detection astrophysical neutrinos at energies up to a few PeV has opened a new window to our Universe, much remains to be discovered regarding these neutrinos' origin and nature. In particular, the difficulty differentiating ν_e and ν charged-current (CC) events in the energy limits our ability to measure precisely the flavor ratio of this flux. The Tau Air-Shower Mountain-Based Observatory (TAMBO) is a next-generation neutrino observatory capable of producing a high-purity sample of ν CC events in the energy range from 1-100 PeV, i.e. just above the IceCube measurements. An array of water Cherenkov tanks and plastic scintillators deployed on one face of the Colca Canyon will observe the air-shower produced when a τ lepton, produced in a ν CC interaction, emerges from the opposite face and decays in the air. In this contribution, I will present the current status of the TAMBO simulation, including preliminary sensitivities to various flux models and potential for point source searches.

Poster prize

Given name

Jeffrey

Surname

Lazar

First affiliation

University of Wisconsin–Madison

Second affiliation

Institutional email

jlazar@icecube.wisc.edu

Gender

Male

Collaboration (if any)

TAMBO

Autore principale: LAZAR, Jeffrey (University of Wisconsin–Madison)

Relatore: LAZAR, Jeffrey (University of Wisconsin–Madison)

Classifica Sessioni: Poster session and reception 1

Classificazione della track: Astrophysical neutrinos