Contribution ID: **88** Type: **Talk: in-person**

A GiBUU-Based Monte Carlo Simulation for Neutrino Experiments

Tuesday, 17 September 2024 16:15 (24 minutes)

This talk presents a Monte Carlo simulation implemented with the GiBUU model tailored for neutrino experiments. Specifically, we focus on its implementation in generating events in a generic liquid argon time projection chamber and compare the results with those from other neutrino event generators, such as GENIE. The simulation produces realistic neutrino event samples, contributing to the prediction and interpretation of experimental outcomes. Our results demonstrate the robust performance of the GiBUU-based simulation framework and highlight its fidelity to the original GiBUU cross-section model. Additionally, we present the status of developing infrastructure to calculate systematic uncertainties related to the GiBUU model.

Working Group

WG 2: Neutrino Scattering Physics

Primary author: Dr ALIAGA SOPLIN, Leonidas (University of Texas at Arlington)

Presenter: Dr ALIAGA SOPLIN, Leonidas (University of Texas at Arlington)

Session Classification: Parallel: WG2

Track Classification: WG2: Neutrino Scattering Physics