Contribution ID: **1123** Type: **Poster**

Seasonal Variations of the Unfolded Atmospheric Neutrino Spectrum with IceCube

Friday 16 July 2021 19:18 (12 minutes)

The IceCube Neutrino Observatory is a detector array at the South Pole with the central aim of studying astrophysical neutrinos. However, the majority of the detected neutrinos originates from cosmic ray interactions in the atmosphere. The rate of these atmospheric neutrinos shows a seasonal variation indicating that the rate changes with the temperature in the stratosphere. These seasonal changes of the atmospheric neutrino energy spectrum will be investigated using the Dortmund Spectrum Estimation Algorithm (DSEA). Based on results obtained from 10% of IceCube's atmospheric muon neutrino data, taken between 2011 and 2018, the differences of the measured fluxes during the Austral summer and winter will be discussed.

Keywords

atmospheric neutrinos, unfolding, Dortmund Spectrum Estimation Algorithm, IceCube, seasonal variations, spectrum reconstruction

Collaboration

IceCube

other Collaboration

Subcategory

Experimental Results

Primary author: HYMON, Karolin

Co-authors: RUHE, Tim (TU Dortmund); FOR THE ICECUBE COLLABORATION

Presenter: HYMON, Karolin

Session Classification: Discussion

Track Classification: Scientific Field: NU | Neutrinos & Muons