



Contribution ID: 1142

Type: **Talk**

Probing the mass composition of TeV cosmic rays with HAWC

Friday 18 July 2025 17:35 (15 minutes)

In this contribution, we have investigated the energy spectra of the elemental mass groups of cosmic rays for the Light (H+He), medium (C+O) and heavy (Ne-Fe) components using the HAWC observatory. The study was carried out in the energy interval from 10 TeV to 1 PeV using almost 5 years of data on hadronic air showers. The energy spectra were unfolded using the bidimensional distribution of the lateral shower age versus the reconstructed primary energy. We have employed the QGSJET-II-04 high-energy hadronic interaction model for the current analysis. The results show the presence of fine structure in the spectra of the light, medium and heavy mass groups of cosmic rays.

Collaboration(s)

HAWC

Author: Dr ARTEAGA-VELAZQUEZ, Juan Carlos

Co-author: HIGH ALTITUDE WATER CHERENKOV (HAWC) COLLABORATION

Presenter: Dr ARTEAGA-VELAZQUEZ, Juan Carlos

Session Classification: CRI

Track Classification: Cosmic-Ray Indirect