

# The energy spectrum of the light mass group of TeV cosmic rays as measured with HAWC

*Tuesday, 24 November 2020 11:30 (0:20)*

## Content

HAWC is an extensive air shower observatory dedicated to studying TeV astrophysical gamma rays and cosmic rays. The instrument is located at 4100 m a.s.l. at the Sierra Negra Volcano in Puebla, Mexico and consists of 300 water Cherenkov detectors (7.3 m diameter x 4.5 m deep) closely packed in an area of  $22000\text{ m}^2$ . The design of the detector and its high altitude allow detailed measurements of TeV air showers at ground level with HAWC and, from here, the research of the properties of the primary cosmic ray nuclei with the observatory. In this work, an updated measurement of the energy spectrum of protons plus helium nuclei carried out with HAWC is presented. The result is shown within the energy range 10 TeV - 126 TeV and was obtained with data taken during four years of observation.

## Summary

**Primary author(s) :** Dr. ARTEAGA VELAZQUEZ, Juan Carlos (Instituto de Física y Matemáticas, Universidad Michoacana)

**Co-author(s) :** COLLABORATION, HAWC (Mexico-EEUU)

**Presenter(s) :** Dr. ARTEAGA VELAZQUEZ, Juan Carlos (Instituto de Física y Matemáticas, Universidad Michoacana)