

Executive Summary

The purpose of this report the temporal variation of atmosphere depth at LHAASO site is studied with the MSIS-90 atmosphere model and MSIS-90 is used to obtain monthly atmosphere depth at the LHAASO site.

Section A is a brief introduction for High Altitude Cosmic Ray Observers. The American standard atmospheric model and msis-90 model are introduced.

In section B, firstly, the difference between MSIS model and saber satellite data is compared, and then the MSIS model data is compared with weather station data, and the comparison results are given.

Section C introduce the daily and monthly variations of MSIS model are analyzed quantitatively. Through the analysis, the data of wfcta observation time are selected for fitting, and some results are obtained

The report concludes with the opinion that the atmosphere depth values of the MSISE model from 4.4 km to 100 km are slightly larger than the measured values of the experimental data in LHAASO, but compared with the US standard atmosphere model, the agreement with the experimental data is higher.