

Abstract Submitted  
for the SES17 Meeting of  
The American Physical Society

**Study of Atmospheric Temperature Variations with Cosmic Ray Flux Measurements** BEENA MEENA, XIAOCHUN HE, Georgia State Univ —  
There is a growing need to develop reliable physical models for determining the variations of the effective atmospheric temperature on a global scale in order to systematically study the trend of dynamical changes of the Earth's atmosphere in real-time. At Georgia State University, we are developing portable, low-cost cosmic ray telescopes and working on establishing an international collaboration that builds a network of cosmic ray detectors around the world for studying the effective atmospheric temperature. One of the key components of this project is to build a statistical model based on a multivariable regression technique using measured cosmic ray muon and neutron flux data to determine the effective temperature. In this talk, we will show the preliminary results of an analysis using cosmic ray data from Yakutsk, Russia and Nagoya, Japan and will compare the predicted effective temperature with the data from the nearby radiosonde measurements.

Beena Meena  
Georgia State Univ

Date submitted: 06 Oct 2017

Electronic form version 1.4