Abstract Details

Corresponding Author : Prof. Y. Muraki (muraki@stelab.nagoya-u.ac.jp)
Organization: Stelab, Nagoya University
Category: Interdisciplinary Working Groups
Paper ID: 57-IWG-A1440
Title: A possible Evidence on the Terrestrial Effect of Solar Activity

Abstract:

The electric fields associated with thunderclouds change the intensity of secondary cosmic rays observed on the ground. This effect has been investigated using several detectors located at the Mount Norikura Cosmic Ray Observatory where excesses of 1% and more of the average counting rate may be observed when the Observatory is covered by thunderclouds. A frequency analysis of the time series of days with such excesses for the period 26 October 1990 to 15 January 2002 shows the expected summer maximum in the rate of occurrence and, more surprisingly, a 27-day variation. An electric field mill has been installed to help determine the relationship between the intensity variations and the strength and direction of the field near the detector system: the excess is usually observed when a negative electric field (accelerating negative charges downwards) greater than 10 kV/m is present in the atmosphere above the observatory. The authors try to present a possible hypothesis of the 27days periodicity observed by our experiment. References [1] Y. Muraki, I. Axford et al Phys. Rev. D, (2004) in press. [2] Y. Muraki et al., See SP13 also..

Presentation Mode: Oral

Keywords: IWG7 ,

Status: Pending.

Co-Authors

No.	Title	First Name	Family Name	Organization
1	Prof.	Yasushhi	Muraki	STE laboratory,Nagoya University, Nagoya, Japan