

SAIP 2011



Contribution ID : 6

Testing the Cosmic Ray-Lightning Connection Hypothesis

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Content :

The proposed dependence of atmospheric electrical properties on the ionizing influence of cosmic rays has resulted in numerous attempts to obtain convincing correlations. While most of the studies remain largely theoretical, a few results (e.g. Stozhkov, 2003) indicate that there is a plausible link between lightning activity and the cosmic ray ionization rate measured at specific locations on Earth. The present work uses data from the World Wide Lightning Location Network (WWLLN) to investigate the impact of cosmic rays on lightning on a global scale. The availability of global lightning data from WWLLN, and assimilated cosmic ray data from a global network of neutron monitors provides a good opportunity to study the relationship between cosmic ray variations and lightning occurrence on a larger spatial scale than was previously possible.

Level (Hons, MSc, PhD, other)? :

PhD

Consider for a student award (Yes / No)? :

Yes

Short Paper :

Yes

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