

Geoeffective space weather events signatures in cosmic rays during the ascending phase of the solar cycle 24

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Solar originating events are continually evident in galactic cosmic ray (GCR) flux registered at the ground by neutron monitors and in situ by space probes. We analyze time intervals of sporadic Forbush decreases during the ascending phase of solar cycle 24. We consider cosmic rays flux, as well as, solar, heliospheric and geomagnetic activity parameters, around these periods, using different mathematical tools. Moreover, for this epoch of solar activity we compute geoelectric field for the Poland's region using a 1-D layered conductivity Earth model. Against the background of the above-mentioned parameters, we analyze the number of failures in southern Poland transmission lines. Our results reveal the increase in the superposed averaged number of failures around the appearance of solar transients visible in the GCR flux, suggesting their potential coupling.

Keywords

galactic cosmic rays; space weather; transmission lines

Collaboration

other Collaboration

Subcategory

Experimental Results

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