

宇宙線 27 日周期変動と熱帯域雲活動

Possible influence of 27 day cosmic-ray variations on tropical cloud activity

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Galactic cosmic rays (GCRs) are one of the possible mediators of Sun-climate connection; however, the detailed mechanism of their influence has not been solved. In order to trace the influence of cosmic rays on climate system, we analyzed the daily data of outgoing long-wave radiation (OLR) for AD1979-2004 and the data obtained from International Satellite Cloud Climatology Project (ISCCP), and compared them with neutron monitor data obtained at Oulu University. We find that high altitude cloud around the tropical regions shows a similar time profile with the variations of cosmic rays at around the time scale of solar rotations. At this time scale, the depletions of cosmic rays occur associated with solar flares and current sheet passages.

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