

台風が発生と積乱雲及び太陽活動に見られる相関

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Correlations between typhoon occurrence, thunderstorm activity and solar parameters

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It has been pointed out that atmospheric activity has about 27-day periodicity, which implies the connections between solar activity and the earth climate since the rotation period of the sun near its equator is 27 days. We have showed a close relationship between globally synchronized thunderstorm/cloud activities in the tropical latitudinal range and solar parameter with ~one-month periodicity for a certain half year, using lightning data, a proxy of thunderstorm activity, obtained by the global radio wave network and a proxy of cloud amount, Outgoing Longwave Radiation. It was reported that the thunderstorm activity in Asia Maritime Continent shows a seesaw correlation with the cloud in Western Pacific Warm Pool (WPWP), which show strong correlation with intensity of cosmic ray without time lag. It was newly found that this cloud increases in WPWP correspond to typhoon occurrences. This implies typhoon generation in WPWP and lightning in Asia Maritime Continent has a strong dynamical connection. Such relationship cannot be explained by simple existing theories or phenomena, such as Madden Julian Oscillation.