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## Relationship between Solar and Seismic Activities

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Solar activities play significant roles in electromagnetic coupling of the Sun-Earth system. By comparing the 11-year sunspot cycles and earthquake events during 1963 to 2010 period, it is possible to reveal the correlation of solar and seismic activities. In the present paper, the monthly values of sunspot cycles number 20 to 23 and earthquake events at different magnitude scales were analyzed to examine the relationship of these values and to understand the coupling mechanisms in solar and geomagnetic activities. The sunspot numbers are obtained from Marshall Space Flight Center, NASA database, and earthquake events are extracted from Advanced National Seismic System (ANSS) database. We found a significant correlation between high speed solar wind (velocity greater or equal to 500 km/s) and great earthquake events (magnitude greater or equal to 8.0 Richter scale). We will discuss the statistical results in details.

Keywords: 11-year sunspot cycle, Earthquake event, High speed solar wind