

Relationship between Epicenter Depths of Global Earthquakes and Solar Parameters

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The sun is the main source of energy to the solar system, and it plays a major role in affecting the ionosphere, atmosphere and also the earth surface. A comprehensive analysis of earthquake parameters which mainly characterized by its magnitude and epicenter depth, will be possible to explain its relationship with solar parameters, i.e. high speed solar wind, sunspot numbers, and interplanetary magnetic field. In the present analysis, values of the sunspot number and the high speed of solar wind were examined with respect to global earthquake events at different epicenter depths and magnitudes in order to understand their dependency. The sunspot numbers and high speed solar wind events are obtained from Marshall Space Flight Center and OMNIWeb Data Explorer (NASA database), and earthquake events are extracted from Advanced National Seismic System (ANSS) database. The analysis, which covers four (4) most recent solar cycles (SC 20 to 23), reveals a significant relationship between the solar parameters and epicenter depths of earthquake. The details of the analysis will be discussed in the presentation.