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Undoubtedly, solar flare activity acts as a trigger for strong earthquakes

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Solar-induced geomagnetic disturbances of the Earth's Magnetic Field (EMF) are well characterized by two geomagnetic indices, Kp and Dst. The 3-hour index Kp (Bartels, 1949) has been available from 1932 onwards, the hourly Dst index since 1957 as published by ISGI, the International Service of Geomagnetic Indices, France. Both indices are closely linked to the solar flare activity and the solar wind speed, as recorded near-Earth by spacecraft data as provided by OMNIWeb (NASA). In our study, Dst is taken as an indicator for the degree of geomagnetic disturbances of the entire globe, derived from data by four low latitude magnetic observatories, selected by IAGA. Dst describes the disturbances of the horizontal component H of the EMF, symmetrical to the Earth geomagnetic dipole axis. Thus, Dst can be considered the 'zonal part' of the disturbed field (IAGA Bull. 27,1969).
Geomagnetic storms cause a decrease in the horizontal component H due to the magnetospheric ring currents generated by solar particle radiation. These ring currents generate a magnetic dipole field which counteracts the Earth's dipole and causes the depression of H. While the main phase of geomagnetic disturbances typically lasts many hours, it generally takes several days for the intensity of H to return to normal values.
Early studies (Duma,Vilardo,1998; Duma,Ruzhin,2002) demonstrated already that seismic activity in numerous earthquake zones exhibits systematic diurnal variations which can only be attributed to a solar influence via the ionospheric electric current vortices, by induction of telluric currents in the Earth's lithosphere. Seismic activity follows the trend of the magnetic solar quiet-day variation Sq, in Local Time. Similar results were obtained in the seasonal range and even in the range of about 11 years, the sunspot cycle.
The results of the present study indicate that an overwhelming majority of earthquakes M bigger 7 happen within a time window of some $\pm$ 10 days around Dst minima. Of all events M bigger 7 in the period 2010-01 to 2018-02 in the Northern hemisphere, i.e. a total of 30 events according to the USGS Earthquake Catalogue, more than 90 % occurred in that time window, in particular the Tohoku (2011, M9.1) and Kumamoto (2016, M7.0) earthquakes in Japan as well as the weaker events in Italy such as L'Aquila (2009, M6.3) and Norcia (2016-08-24, M6.2; 2016-10-30, M6.6).
The effect had already been clearly identified in a previous study by us for earthquakes such as Haicheng (1975, M7.0), Tangshan (1976, M7.5), Loma Prieta (1989, M6.9), Kobe (1995, M7.3), Taiwan (1999, M7.7).
Statistical results and their significance are presented, strongly confirming the solar trigger action for major earthquakes. A model of the geodynamic action, which would quantify the interaction of the main Earth's magnetic dipole field and the solar-induced counter dipole is not yet available.