

Perturbations in Extra-Terrestrial Magnetic Fields Prior to Major Earthquakes

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In the present paper, we show variations of magnetic field component (Hp component) for five days prior to major earthquakes, Sumatra, Japan, Chile, Haiti, New Zealand observed by GOES-10, GOES-13 and GOES-15. GOES magnetometer are onboard GOES satellites measuring three components (Hp, He and Hn) and total fields. Analysis of three components of GOES magnetometer shows strong perturbations in the extraterrestrial magnetic fields prior to the occurrence of major earthquakes. The Hp component is highly sensitive to the geomagnetic activities and to the solar flare. The anomalous perturbations in three components of magnetic fields onboard GOES satellite at an altitude at an altitude 35800 km prior to major earthquakes show some linkage between Earth's magnetic field and intra-planetary magnetic fields. The magnetic field characteristics from GOES magnetometer associated with geomagnetic disturbances and solar flare are found to show contrast difference with the characteristics associated with the major earthquakes. In the absence of major earthquakes, magnetic fields observed by GOES show a normal behavior. The anomalous characteristics of magnetic fields observed by GOES satellites in the absence of geomagnetic disturbances show possibility of strong linkage with the occurrence of major earthquakes.