

## **CORRESPONDING RELATIONSHIP BETWEEN GEOMAGNETIC LOW POINT DISPLACEMENT AND SPACE IONOSPHERIC VARIATIONS**

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The geomagnetic Z component has diurnal variation due to the solar activity. The time of every day's lowest point is related to the local time of every time, around 12 O'clock. When the low point times at some stations deviate their normal ones, it is called the phenomenon of low point displacement in geomagnetic field observation. According the statistical study, this phenomenon always occurred 27 or 40 days before strong earthquakes in China. And the earthquakes took place at the boundary of division line of low point displacement with the time differences of 3 hours at two parts. In order to understand the formation mechanism of this event, the satellite data observed on DEMETER were selected. Based on the low point displacement phenomena before three strong earthquakes, and combing the electron density images during those time period, it is found that when the geomagnetic low point displacement occurred, the electron density in ionosphere increased, especially before the Wenchuan earthquake on May 12<sup>th</sup>, when the electron density peak area at north sphere were divided into two parts and the dividing line just coincided with that of low point displacement. All these illustrate that the geomagnetic anomaly may be resulted from the ionospheric perturbations.

Low point displacement, DEMETER, electron density

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