

Seismo- ionospheric Te anomalies observed by Hinotori satellite

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HINOTORI satellite was put into a circular orbit in February 1981 at a height of 600 km with an orbital inclination of 31 degree and provided excellent data until July 1982 in the latitude range of 30 S to 30 N, and this high resolution data is ideally suited to study electron density (Ne) and temperature (Te) variations in equatorial and low latitudes. A number of studies have been done such as anomalous electron temperature variations, morning overshoot of Te in the equatorial topside ionosphere, effects of neutral wind on the electron temperature in the low latitudes, high electron temperatures associated with the pre-reversal enhancement in the equatorial ionosphere, and Ne and Te variations in the major storm.

In this study, ionospheric electron temperature (Te) values of each HINOTORI satellite orbit are compared with Te model constructed by the whole observed Te data. Te values of each satellite orbit deviate strongly from the model values, in general, during morning and afternoon, i.e. morning and afternoon overshoot, because 1-hour average data used by the model does not reproduce the variations during those periods due to rapid change of electron density. However, the model yielding spatio-temporal standard values might be useful for the studies of the ionospheric localized variations lasting a few days such as a pre-earthquake effect when the day-time data is used. The results of comparison between ionospheric anomalies and earthquakes will be shown in the presentation.