

Characteristics of ionospheric storm in Hainan during 2002-2004

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We use the DPS-4 digisonde measurements in Hainan with geomagnetic coordinate $8.1^{0}N$ / 178.95^{0} E from March 2002 to April 2004 to study the low latitude ionospheric effects of geomagnetic storm. According to the Dst index, 30 geomagnetic storms are selected. The results show that: (1) Storm-time disturbances of foF2 have obvious diurnal and seasonal characteristics. (2) There are strong disturbances from midnight to morning and they are mostly negative phase, daytime disturbances are relatively weak. (3) In the equinox, in the main phase the disturbances were weak, in the beginning of the recovery phase the disturbances are negative and strong, in the later of the recovery phase positive disturbances were observed. (4) In the summer, most disturbances are the same phase (positive or negative) during the whole storm and have diurnal variation: disturbances are strong at night and weak in the daytime, the disturbances in the beginning of recovery are the strongest in the storm with negative phase, the strongest disturbances are about 1-2 days later in the storm with positive phase. In the winter, it is similar to that in the summer: most disturbances are the same phase. All in all, the ionospheric storms in Hainan are mostly negative phase. This is not consistent with that the ionospheric storms in low latitude are mostly positive phase in other stations.