

# **Observations of GPS ionospheric scintillations over Wuhan during geomagnetic storms**

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During the two geomagnetic storms occurred on October 1, 2002 and January 22, 2004, the strong ionospheric scintillations of GPS L1 band were observed at Wuhan station(30.6; °N, 114.4; °E, 45.8; °Dip), which is situated near the northern crest of the equatorial ionosphere anomaly. We found that the intense scintillations were associated with the main phases of storms and to be co-located with enhancement of equatorial ionization anomaly (EIA), the co-existence of large and small-scale irregularities at post-midnight was also found and partly extending up to sunrise hours. The results may be relevant to the influence of the equatorial ionospheric eastward electric field during geomagnetic storms. On the other hand, GPS L1 band scintillations were not observed during the other two similar storms on July 16, 2003 and November 20, 2003. The reason is probably that the sporadic E layer observed at storms inhibited the generation of spread F by changing the Pedersen conductivity and suppressing the upward plasma drift.