STUDY OF GPS IONOSPHERIC SCINTILLATIONS
OVER EQUATORIAL ANOMALY STATION BHOPAL
DURING LOW SOLAR ACTIVITY PERIOD

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The paper deals with the statistical analysis of GPS L-band
scintillations at the equatorial anomaly station Bhopal
(geographic coordinates: 23.2ºN, 77.6ºE; geomagnetic
coordinates 14.29° N, 151.12°E) for the low solar activity
period. During the period of observation (January 2005 to
December 2006), the variation of scintillations with local time,
season and magnetic activity are reported. The occurrence of
scintillation is found to be maximum in equinox months and
minimum in summer months. We got different levels of
scintillation in some months, but found that the weak
scintillation (0.2<S4≤0.4) is dominating throughout the period.
The suppression or enhancement of pre-midnight scintillations
during magnetic disturbed and quiet periods is found to be a
seasonal and local time dependent factor. Pre-midnight and
post midnight occurrence of scintillation is also reported in the
paper. Pre-midnight scintillation was found to be maximum in
equinox whereas it is minimum in winter months. Importance
of the work lies in the evaluation of ionospheric irregularities
at equatorial latitudes during the low solar activity period.