

Study Of Ionospheric Irregularities Over Low-Latitude

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The continuous observation of amplitude scintillations of very high frequency electromagnetic wave transmitted from geostationary satellite at 244/250 MHz have been recorded at low latitude station (geomag. latitude $14^{\circ}55' N$, geomag.longitude $153^{\circ}55' E$, $L=1.07$) during the period Jan1991 to Dec1999 with some gaps. The analysis of data shows that the ionospheric irregularities over Varanasi are mostly of small duration <30 minutes and are frequently observed during pre-midnight periods. The increase of solar activity generally increases the occurrence of scintillation. During magnetically disturbed days there is a reduction in the occurrence rate of scintillations. The role of magnetic storms on the occurrence of scintillations is reported and an attempt is made to explain the observed data in terms of onset/reversal of ring current. Auto-correlation function and power spectra of scintillations predict that the spectral index range between -2 and -8 with a mean of value -4 , and the irregularities mostly belong to medium scale range. The results of this study have been compared with the available data in the literature.