Paper ID: 10832
oral
student

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Fixed and Broadcast Communications (3)

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DAY-TO-DAY VARIABILITY OF THE THICKNESS OF E-LAYER IN LOW LATITUDE EQUATORIAL ANOMALY DURING THE LOW SOLAR ACTIVITY

Abstract

The day-to-day variability of the thickness of E-layer of the equatorial ionosphere was studied using day-time direct measurements of the virtual height of E-layer recorded at ionosonde station in Ouagadougou located near the magnetic equator (lat. 12.40N, long. 1.50W and magnetic dip 5.90N) for year 1985 (low solar activity). The nation of interest lies within the equatorial ionospheric anomaly region. The hourly scaled data were analyzed. This study determined the thickness of E-layer in equatorial ionosphere and investigated the transient variations of the thickness of E-layer and its dependence on solar activity. The E-layer was observed to be thicker at sunrise and sunset while thinnest around noon. This shows that increase in the solar activity leads to decrease in thickness of E-layer. The analysis of the thickness of E layer day-to-day variations exhibits the complex structure of ionosphere as an unstable medium. Keywords: Equatorial ionosphere; variability; E-layer Email: abeemman@yahoo.com