

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)  
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VARIABILITY OF THE VERTICAL EXTENT OF IONOSPHERIC E-LAYER OVER A STATION  
WITHIN EQUATORIAL ANOMALY REGION**Abstract**

We examined the variability of the vertical extent of the E -layer of the ionosphere (VE) within the equatorial ionospheric anomaly region, taken as the difference between 90 km which is the assumed lower boundary of the layer and the virtual height values measured with an ionosonde at Ouagadougou (geog. lat. 12.4 N, long. 1.5 W and magnetic dip 5.9 N) for years 1985 (high solar activity) and 1990 (low solar activity). The vertical extent is a measure of the vertical altitude of E-region of the ionosphere. The vertical extent of the E-layer was observed to be greater (36-40) km at sunrise and sunset while lesser (18-22) km at noon for both years. Seasonal variation shows that vertical extent of E-layer during the solar minimum (maximum) is higher in September (March) equinox and lower at March (September) equinox. The Vertical extent of E-layer was found to be an unstable membrane as it varied from hour to hour, day to day, month to month and season to season in response to the solar activity. The VE is thicker in the low solar activity (26.30 3.47 km) than the high solar activity (23.01 2.62 km), this implies that increase/decrease in the solar activity results to decrease/increase in vertical extent of E-layer. Precisely 5.4