

LONG TERM CHANGES IN THE TOTAL RADIO WAVES ABSORPTION IN THE IONOSPHERE & D- REGION OVER LOW LATITUDE

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Study of long term trends in several ionospheric, atmospheric as well as solar geomagnetic parameters has attracted great attention in the recent years due to its great concerns with current scientific environmental global climate changes. Extensive theoretical modeling and experimental finding show that increasing amount of green house gases due to man made activities cause a cooling of the lower and upper ionosphere and same time it the cause of increasing the temperature of troposphere. Serafimov and Serafimova argued that measurement of radio waves absorption would be most sensitive indicators of possible climate changes in the ionosphere or possible anthropogenic influences on the mesosphere and lower thermosphere or ionospheric D-region. As radio waves absorption basically depends upon electron density and electron neutral collision frequency, which, in turn, is a function of neutral temperature and neutral density. Therefore, in the present study an attempt has been made in studying the long term changes in the lower ionosphere using the ionospheric D- region as well as Total radio waves absorption data of a low latitude i.e. Udaipur (Geo. Lat. 24.6'N , Geo. Long. 73.7'E) for the period of 12 years i.e. year 1972 to 1984. Furthermore, the measurement of Atmospheric Carbon Dioxide data of another low latitude close to Udaipur for the similar time period would also be used to correlate with long term changes in ionospheric absorption. The details of analysis and results would be discussed.

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