



Multi-satellite observations of the ionospheric structures

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Data of electron density N_e and temperature T_e from the Cosmos-900 satellite, the Intercosmos-19 satellite topside sounder data are compared with N_mF_2 , N_e and helium ions from the ISS-b satellite, with the global picture of the auroral electron precipitation from the DMSP, TIROS satellites, and with distributions of large structure irregularities probability from GPS radio occultation experiments. These multi-satellite data let us investigate the position variations: of the dayside cusp, the equatorial boundary of the diffuse auroral precipitation (DPB), the main ionospheric trough (MIT), the day-time trough and ring ionospheric trough (RIT), and the light ions trough (LIT). The variations of N_mF_2 , N_e , light ions, and temperature of electrons in the high-latitude ionosphere for the different local time sectors were analyzed also. The high-latitude features and the equatorial ionosphere response to the different solar activity, geomagnetic conditions and seasons are shown.