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North-south asymmetry in the thermosphere and ionosphere

P. Bencze (1), I. Almár (2) and E. Illés-Almár (2)

(1) Geodetic and Geophysical Research Institute, Hungarian Academy of Sciences (bencze@ggki.hu), (2) Konkoly Observator, Hungarian Academy of Sciences (illes@konkoly.hu)

North-south asymmetry has been found in the neutral upper atmosphere, which indicates greater total neutral density in the Northern Hemisphere, than in the Southern Hemisphere. This would mean higher average temperature at a given height in the Northern Hemisphere. Higher temperature can be due to greater heat input by corpuscular radiation into the Northern Hemisphere. This might be produced by the position of rotation axis of the Earth differing from the location of the geomagnetic dipole axis. Thus, the auroral oval would extend to lower latitudes on the night side of the Northern Hemisphere, than in the Southern Hemisphere. North-south asymmetry occurs also in the ionosphere known as December anomaly. Selecting foF2 data of ionospheric stations located at the same geographic latitude and longitude in the Northern and Southern-Hemisphere, it has been found that the north-south asymmetry - larger foF2 in the Northern, than in the Southern-Hemisphere - is not limited to December, but can be observed during almost the whole year, as in case of the neutral density. The similar behaviour might be explained by the higher temperature in the Northern Hemisphere causing decrease of the linear recombination.