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Type: **Poster Presentation**

Climatology of the nighttime thermospheric winds over Sutherland, South Africa.

We present first observation of climatology of nighttime thermospheric neutral winds between February 2018 and January 2019 measured by a Fabry-Perot interferometer (FPI) located in Sutherland, South Africa (32.2°S, 20.48°E; geomagnetic latitude: 40.7°S). This FPI measures the nighttime oxygen airglow emission at 630.0 nm, which has a peak emission at an altitude of roughly 250 km. The annual meridional and zonal winds at this location vary between -100 and 150 m/s and show typical midlatitude nocturnal and seasonal variations. During local summer months (December-February), the meridional wind is predominantly equatorward from dusk to predawn. During the winter months, the meridional wind is poleward from dusk, turns equatorward around midnight, and either remains in this direction for the rest of the night (June) or turns poleward again after just before dawn (July and August). The zonal wind velocity is generally eastward during the evening until just before midnight, changing westward post-midnight. The zonal wind peaks at higher velocities during the winter months compared to the summer months. The eastward-to-westward transition occurs later during the winter months compared to the summer months. We compared HWM14 with the FPI measurements and found a better agreement between FPI measured winds and HWM14 predicted winds for the meridional component compared to the zonal component.

Apply to be considered for a student ; award (Yes / No)?

Yes

Level for award;(Hons, MSc, PhD, N/A)?

PhD

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