

Description of Data Files

Data files used to make figures in the manuscript are described here. All files are in .txt format, with values separated by tabs. The header line contains the respective data names.

Fig 1. File name: Observational_nights_FIG_1: Number of observational nights for each month and the number of nights with more than 4 hours of continuous observation for the year 2023.

Fig 2. File name: PAIRS_SABER_INT_TEMP_comparison_FIG_2: Data on temperature and intensity derived from PAIRS and SABER for all 365 nights of the year 2023. SABER data has been downloaded from: http://saber.gats-inc.com/browse_data.php

Fig 3. OH Volume Emission Rate (VER): Following two txt files are used in Figure 3:

3.1 File Name: saber_2023_oh_alt0.5km_FIG_3.1: OH volume emission rate binned over 0.5 km altitude, covering an altitude range from 70 to 100 km (61 data points for 30 km) for all days (file size: 365×61).

3.2 File name: saber_OH_VER_MEAN and STD_FIG_3.2: The mean and standard deviation of OH VER for the altitude range binned over 0.5 km (file size: 1×61).

Fig 4. Data for October 2, 2023: Following two txt files are used in Figure 4:

4.1 File name: Int_Temp_value_2nd_oct_2023_FIG_4.1: Nocturnal temperature and Brightness values for the night.

4.2 File name: 0.5hr_avg_intensity_and_temp_2nd_oct_2023_FIG_4.2: 0.5-hour averaged values of temperature and brightness which are used to get periodicity, amplitude and phase.

Fig 5. File name: Residual_Int_Temp_value_2nd_oct_2023_FIG_5: Deviation in temperature and brightness, as well as in residuals

Fig 6. File name: Percentage_occurrence_nights_FIG_6: Percentage occurrence of observable nights and nights confirming the presence of upward propagating waves

Fig 7. File name: All_Wavelengths_FIG_7: All Wavelengths calculated for upward propagating waves and their residuals.

Monthly mean values of wavelengths and their residuals for annual oscillations (AO) and semi-annual oscillations (SAO) are provided in a separate file (corresponding to Figure 9).

Fig 8. File name: HWM_wind_components_2023_FIG_8: Zonal, meridional, and resultant horizontal winds for all 365 days of the year 2023 taken from HWM model.

Fig 9. File name: Monthly_mean_wavelength_and_wind_FIG_7_and_9: Monthly mean values of vertical wavelengths and horizontal winds as well as the residuals of wavelengths and winds for each month are included in this file.

