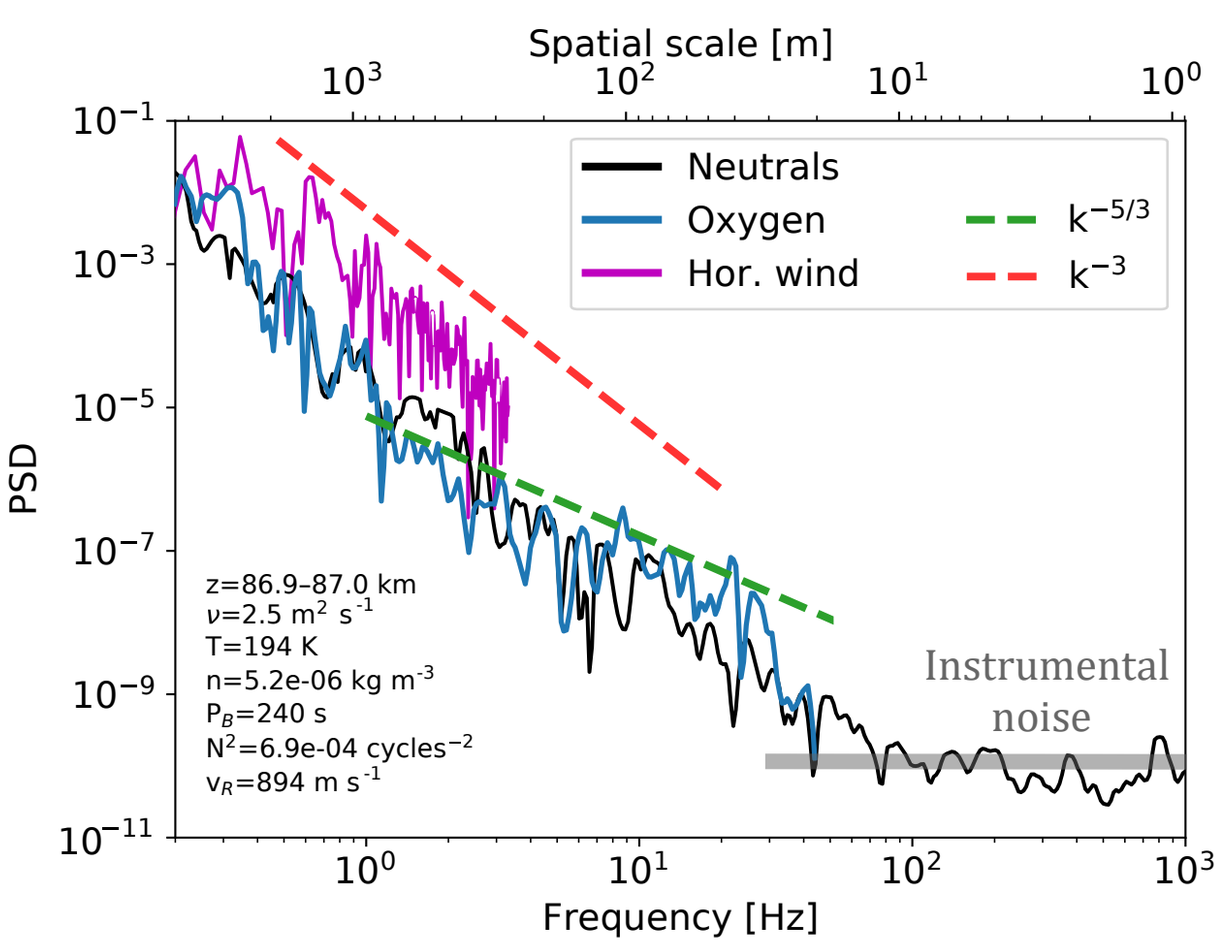
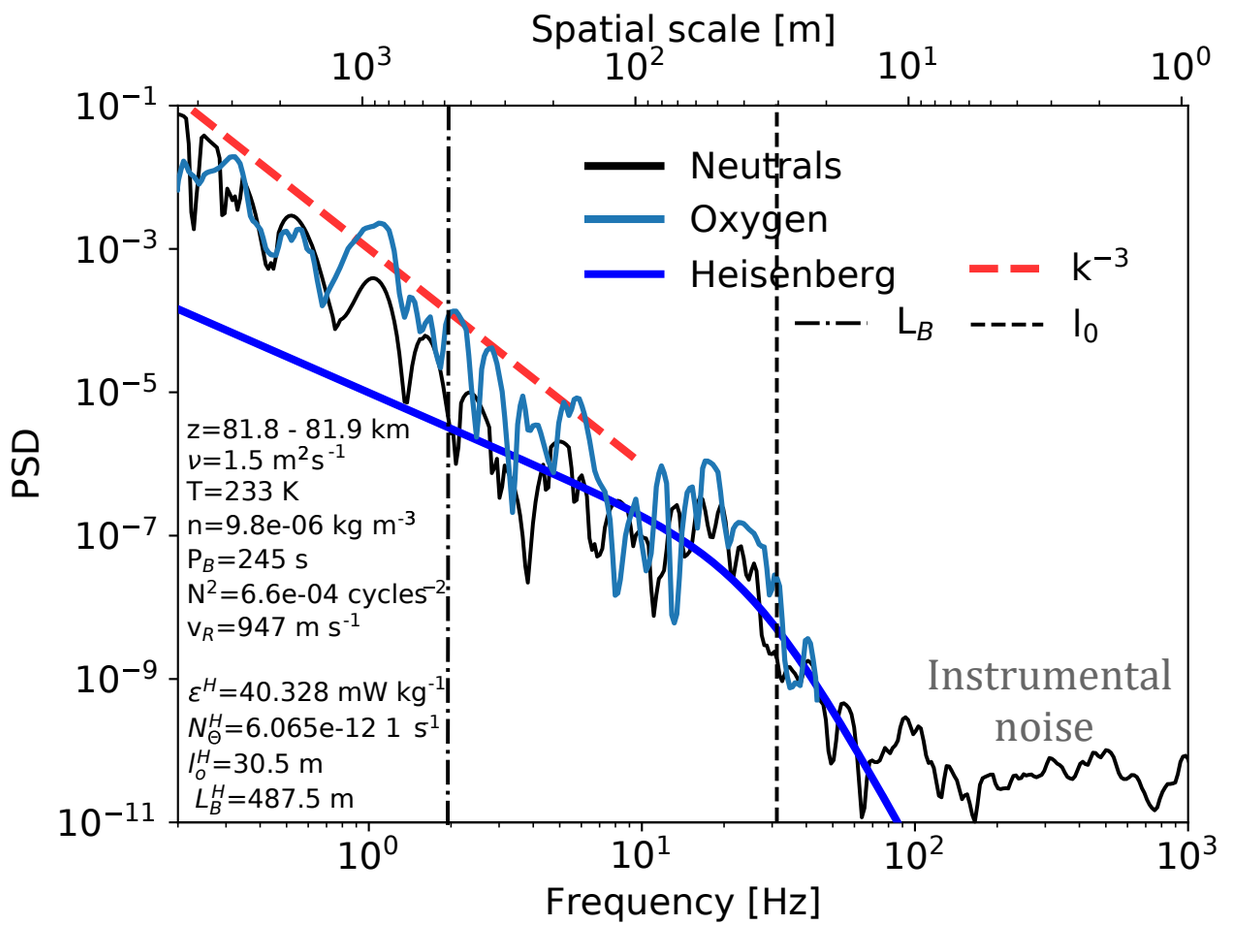
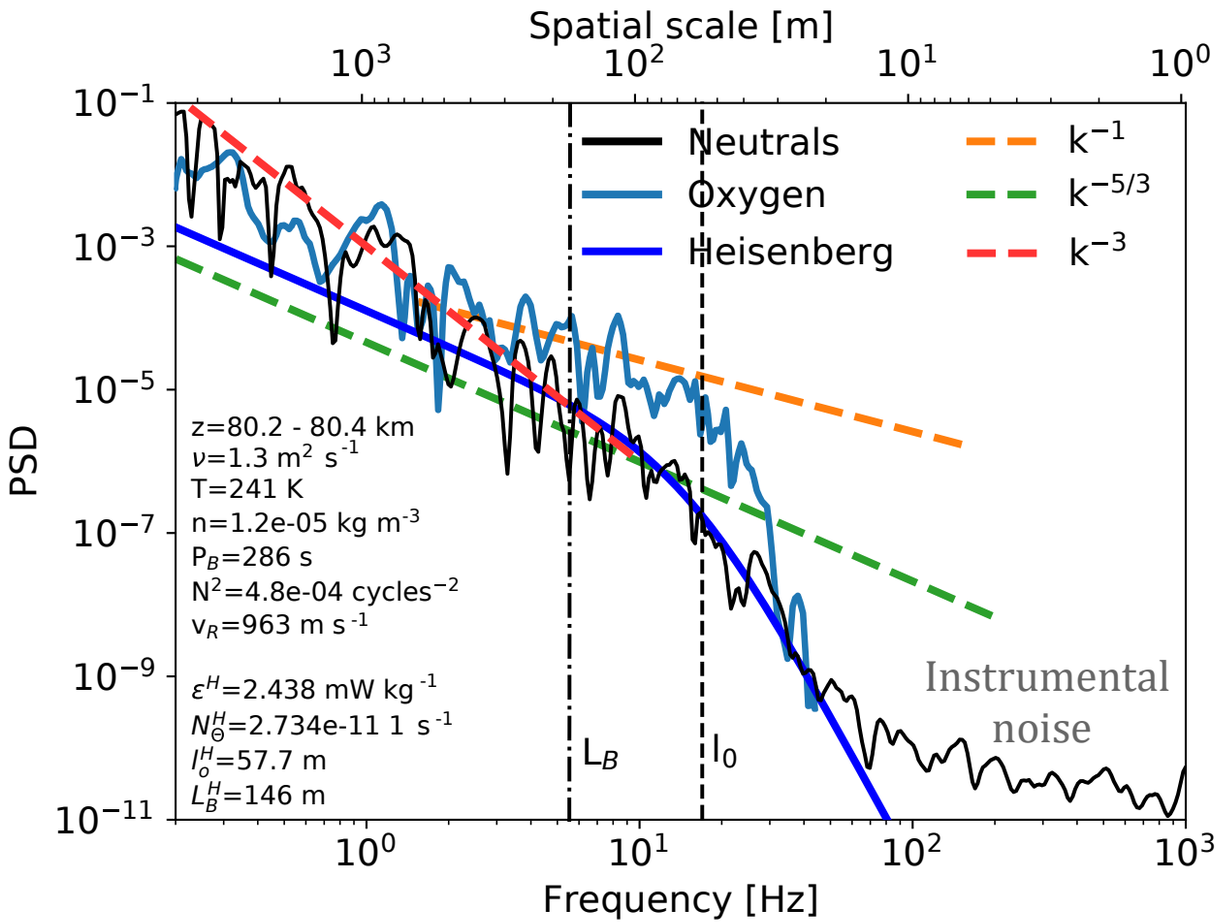

Spatial scale [m]
10^3
10^2
10^1
10^0
10^{-1}
10^{-3}
10^{-5}
10^{-7}
10^{-9}
10^{-11}
PSD
Neutrals
Oxygen
Hor. wind
$k^{-5/3}$
k^{-3}
z=86.9–87.0 km
ν=2.5 m^2 s^{-1}
T=194 K
n=5.2e-06 kg m^{-3}
P_B=240 s
N^2=6.9e-04 cycles^{-2}
v_R=894 m s^{-1}
Instrumental noise
10^0
10^1
10^2
10^3
Frequency [Hz]

(a)


Spatial scale [m]
10^3
10^2
10^1
10^0
10^{-1}
10^{-3}
10^{-5}
10^{-7}
10^{-9}
10^{-11}
PSD
Neutrals
Oxygen
Heisenberg
k^{-3}
L_B
l_0
z=81.8 - 81.9 km
ν=1.5 m^{2}s^{-1}
T=233 K
n=9.8e-06 kg m^{-3}
P_B=245 s
N^2=6.6e-04 cycles^{-2}
v_R=947 m s^{-1}
ε^H=40.328 mW kg^{-1}
N^H_Θ=6.065e-12 1 s^{-1}
l^H_o=30.5 m
L^H_B=487.5 m
Instrumental noise
10^0
10^1
10^2
10^3
Frequency [Hz]

(b)


Spatial scale [m]
10^3
10^2
10^1
10^0
10^{-1}
10^{-3}
10^{-5}
10^{-7}
10^{-9}
10^{-11}
PSD
Neutrals
Oxygen
Heisenberg
k^{-1}
$k^{-5/3}$
k^{-3}
z=80.2 - 80.4 km
ν=1.3 m^2 s^{-1}
T=241 K
n=1.2e-05 kg m^{-3}
P_B=286 s
N^2=4.8e-04 cycles^{-2}
v_R=963 m s^{-1}
ε^H=2.438 mW kg^{-1}
N^H_Θ=2.734e-11 1 s^{-1}
l^H_o=57.7 m
L^H_B=146 m
L_B
l_0
Instrumental noise
10^0
10^1
10^2
10^3
Frequency [Hz]

(c)