IONOSPHERIC PARAMETERS[23]

The following tables give average nighttime values. Where two numbers are entered, the first refers to the lower and the second to the upper portion of the layer.

Quantity	E Region	F Region
Altitude (km)	90–160	160–500
Number density (m^{-3})	1.5×10^{10}–3.0×10^{10}	5×10^{10}–2×10^{11}
Height-integrated number density (m^{-2})	9×10^{14}	4.5×10^{15}
Ion-neutral collision frequency (sec^{-1})	2×10^{3}–10^{2}	0.5–0.05
Ion gyro-/collision frequency ratio κ_i	0.09–2.0	4.6×10^{2}–5.0×10^{3}
Ion Pederson factor $\kappa_i/(1+{\kappa_i}^2)$	0.09–0.5	2.2×10^{-3}–2×10^{-4}
Ion Hall factor ${\kappa_i}^2/(1+{\kappa_i}^2)$	8×10^{-4}–0.8	1.0
Electron-neutral collision frequency	1.5×10^{4}–9.0×10^{2}	80–10
Electron gyro-/collision frequency ratio κ_e	4.1×10^{2}–6.9×10^{3}	7.8×10^{4}–6.2×10^{5}
Electron Pedersen factor $\kappa_e/(1+{\kappa_e}^2)$	2.7×10^{-3}–1.5×10^{-4}	10^{-5}–1.5×10^{-6}
Electron Hall factor ${\kappa_e}^2/(1+{\kappa_e}^2)$	1.0	1.0
Mean molecular weight	28–26	22–16
Ion gyrofrequency (sec^{-1})	180–190	230–300
Neutral diffusion coefficient ($m^2\,sec^{-1}$)	30–5×10^{3}	10^{5}

The terrestrial magnetic field in the lower ionosphere at equatorial lattitudes is approximately $B_0 = 0.35 \times 10^{-4}$ tesla. The earth's radius is $R_E = 6371$ km.