

Response to Anonymous Referee #1 and Anonymous Referee #2

We would like to thank the referees for their kind feedback and helpful comments. We have corrected the typo errors pointed out. In addition, at line 185 we will add a paragraph to clarify how we obtained the electric field amplitudes.

L185: We will remove the following text:

“The radio wave has an effective radiated power (ERP) of 200 MW and a frequency of 4.6 MHz, which results in an electric field amplitude of 1.40 V/m at 80 km, 1.12 V/m at 100 km and 0.93 V/m at 120 km.”

Instead, we add the following paragraph:

“The radio wave has a frequency of 4.6 MHz and an effective radiated power (ERP) of 200 MW. To compute the electric field amplitudes at height z , we use a simplified version of equation 16 from Shoucri and Morales 1984, given by: $|E(z)| = 0.25 * (\beta * W * G)^{1/2} / D$, where β is the reduction due to absorption at low altitude, assuming no loss in the D region so that $\beta = 1$, W is the average radiated power, G is the gain of the antenna, and D is the altitude from the ground. Here $(W * G)$ is the ERP. In principle, the actual electric field will depend on the electron density at lower altitudes, which determines how much of the Poynting flux has been absorbed. Here, we choose a representative electric field amplitude to be able to compare the shape of the phase space density for the Monte Carlo simulation and the solution based on Boltzmann equation, and to be able to compare the response at different altitudes. Using Eq.22 results in an electric field amplitude of 1.40 V/m at 80 km, 1.12 V/m at 100 km and 0.93 V/m at 120 km. “

In addition, the citation for Shoucri and Morales 1984 will be added to the references.

L197: We have changed the text from “is lower” to “being lower”.

L202: We have changed the text from “due ti the” to “due to the”.

L221: We have changed the text from “collision” to “collisions”.

L228: We have changed the text from “becomes” to “become”.