

Response to minor corrections:

1. On line 165 you have the definition of the polarization degree. The square root and exponent cancel out and the correct definition emerges. Please correct.

The square root of the square here leads to a positive P by definition. I would like to leave it as it is. I also could use the absolute value sign  $||$  if this is more common.

2. Line 528: The description of the quite complicated ion dynamics would be easier to readers if you could find a reference to a modern textbook. In my bookshelf I have only Akasofu and Chapman from 1972!

Unfortunately I'm lacking a modern textbook myself. I tried a google search but did not find anything adequate quickly.

For the description of the ExB drift in general I would recommend the Book "Introduction to plasma physics" of Francis F. Chen, which includes a very extensive step by step calculations of various drifts.

For the short description we try to be very close to what is stated in the introductory section of Hanson et. al. 1972. And we also added a reference to a review paper on the equatorial electrojet which plays a role in Hanson et. al. 1972. When looking at this part of the text I also found a small error in the description, but now it should be right.

3. Fig. 2 and similar: The red texts on the blue background are difficult to read.

Changed

4. Fig. 2 and similar: From Matlab I understand NaN, but you should perhaps say that white areas mean no data or similar.

Changed to No data

5. Fig. 2 and similar: The horizontal label includes deg (as sign) N. This is not very common notation. Perhaps Latitude (deg.) or merely Latitude is more often used

Changed to deg N beside figure 21