Dear Prof. Perez,

many thanks from the authors for refereeing this manuscript and for the comments, which will help to improve this work.

Here is our response to your specific comments:

C1: Line 18-21 and Line 263-265:Authors suggest that the faster radial H-density decrease found at distance above 8 RE may be due to a higher rate of H ionization in the vicinity of the magnetopause because of increasing charge exchange interactions outside the magnetosphere.It would be interesting if they could offer a plausible explanation for this increase.

to C1:
We have added a possible explanation at the end of the manuscript (please see lines from 282).

C2: Line 145-149: A more extensive explanation of the heritage and differences of the 2 models used for the data analysis would add to the significance of the reported results.

to C2:
We have added some information about the models and a new reference with a very good overview of the chamberlain approach to the manuscript (please see lines from 162 and the new reference in the list [Beth et al., 2016]).

C3: Line 218:220: An explanation,perhaps brief,of the theory would enhance the paper.

to C3:
Please see also our response to C1, in particular the last sentence, at the end of the manuscript.

C4: Line 244-245:This statement would be more meaningful if there were some "description " of the Chamberlain model.

to C4:
"Chamberlain model" was changed to "1/R^3 model"

Technical Corrections:

line 57:increase ->increases
changed

Line 224-225:A reference to the 20%number would be appropriate.
Reference added

Line 230:The "other studies " might be referenced or at least described..
"Other studies" removed – reduced just to the 2 referenced studies

Figure 4 has a description that refers to a "black line ".There are black squares but no black line.
changed to "black squares"

Throughout the manuscript,separating introductory clauses from the main sentence by a comma would make reading the manuscript much easier,e.g.,line 115,120,etc.
Changed at the two positions