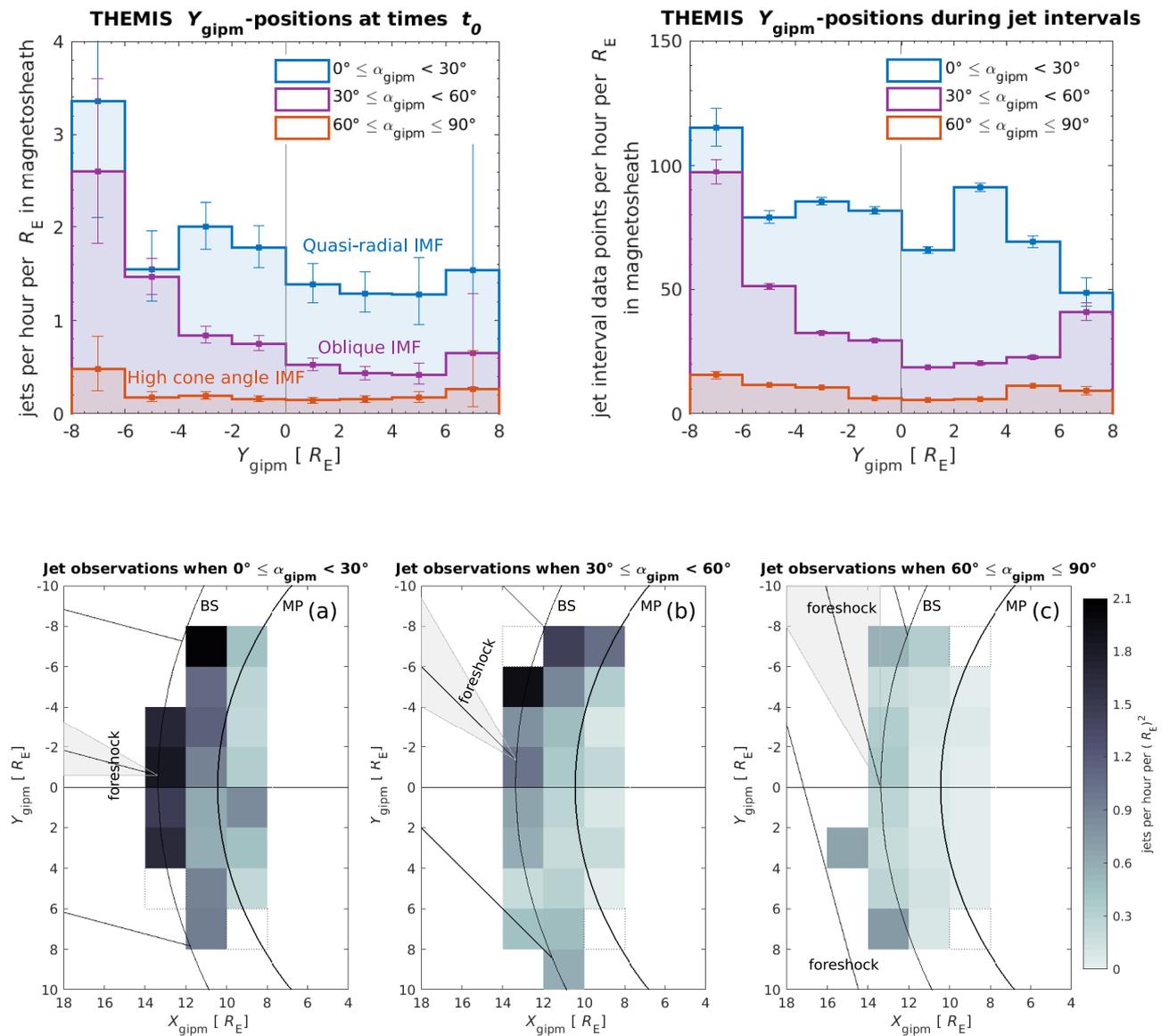


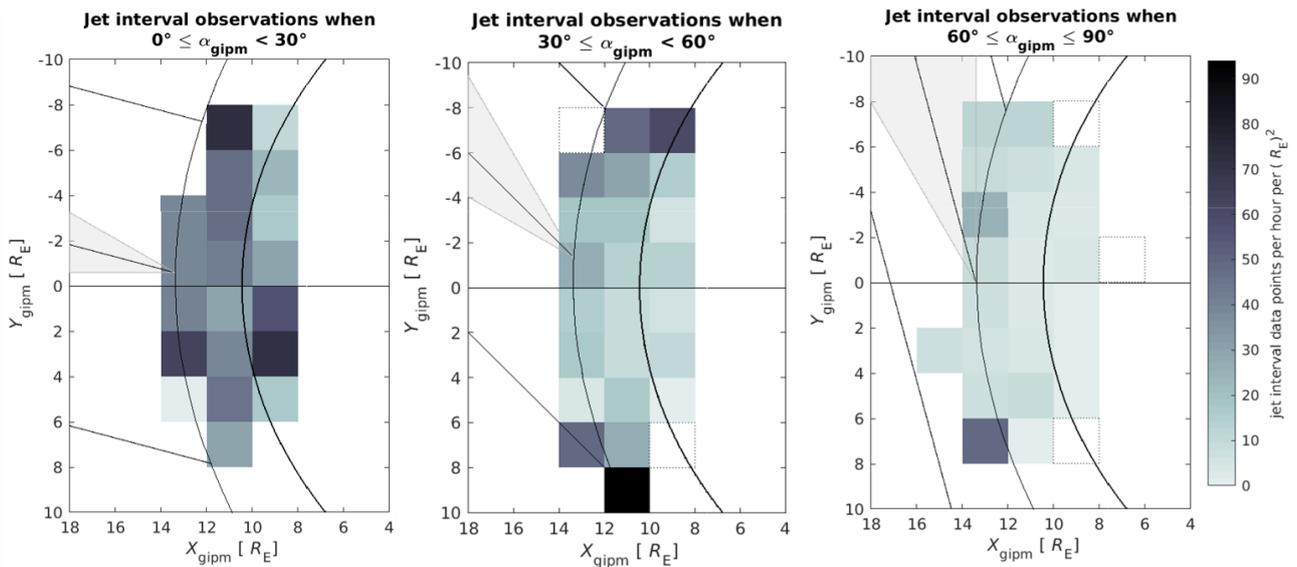
Dear Referee #1,

We thank you for the discussion. Please see our response to your comment (in italics) below:

*The authors have adressed all of my issues except part of point 2. With the definition used by the authors, it seems to me that very weak jets will be overrepresented when the statistics is presented based on number of jets, rather than the number of data points that fulfill the jet criterion. I would like to see a brief discussion on this. Do you have any argument that the results would not change significantly if you used 'number of data points', instead of number of jets?*

We apologize that our previous answers were not conclusive and thank you for the interesting question. We plotted Figure 3 and Figure 4 again using all jet interval data points as you suggested. Here are the plots in comparison with the original plots shown first (left or above):





The results and trends are very similar within error bars. The ratio between the means of the six middle histogram bins ( $Y_{gipm} [-6 R_E, 6 R_E]$ ) of quasi-radial IMF (cone angles  $[0^\circ, 30^\circ]$ ) and high cone angle IMF ( $[60^\circ, 90^\circ]$ ) observations is again 9. Therefore, the conclusions of our study remain the same.

Although this was an excellent test, we prefer to keep using number of jets as the units of measurement instead of number of jet interval data points. Long duration jets may dominate the distribution when using all jet interval points for statistics. This happens, for example, in the new 2D plot for  $[30^\circ, 60^\circ]$  cone angles, for the cell at the very bottom ( $X_{gipm} = [10 R_E, 12 R_E]$  and  $Y_{gipm} = [8 R_E, 10 R_E]$ ). This cell only contains one long duration jet.

Furthermore, the jet definition by Plaschke et al. (2013) includes a criterion that within one-minute intervals before and after the jet interval, the  $X_{gse}$  ion velocity in the magnetosheath has to go above half of the corresponding value at the time  $t_0$  (the time of the highest ratio between anti-sunward dynamic pressure in the magnetosheath and in the solar wind). This criterion prevents multiple consecutive peaks from being counted as individual jets.

Should the Editor allow us to submit a revision of our manuscript, we will add the following to the Discussion section of the manuscript:

“We also tested doing the statistics with all jet interval data points instead of just using the time  $t_0$  to represent individual jets. The results were very similar and the conclusions remained the same.”

Thank you again for the discussion and for your suggestions.

On behalf of all co-authors,  
 Laura Vuorinen