Changes to the PMAF Morphology manuscript

September 28, 2022

Title:

Our suggested new title is: "Morphological evolution and spatial profile changes of poleward moving auroral forms"

Abstract:

Reworded the last part of the abstract to more clearly state the motivation of this study

Introduction:

Stated that we do not investigate the driver of PMAFs and assume they are caused by reconnection Reworked motivation paragraph to improve clarity Moved station coordinates to instrumentation section

Methodology:

Revised explanation of the compiling of the event lists clearly Reformulated explanation of SEA

Results and Discussion:

Rearranged section so that summary is at the end after going through examples in fig. 2 and fig. 3 Replaced solar wind temperature values with solar wind number density (table 1) Included raw data on PMAF class and occurrence time (table 2) Revised explanation of our reasoning behind re-branding the term EBI to OCBI Included our reasoning behind a possible explanations for the appearance of green auroral patches preceding the formation of a PMAF Added timestamps and figure header to fig. 2 and 3 Amended fig. 4 legend to explain colors Changed text referring to fig. 5: histogram is black not red. Amended fig. 6 legend to explain labels in figure Reworked the fig. 7 explanation to include fig. 6 Expanded on automated auroral detection techniques/shortcoming in regards to PMAF detection

Conclusion

Replaced "morphological evolution" with "temporal and spatial profile changes" pp.13, L5 and L11 Replaced "which" with "that" pp.13, L12

Supplementary Information

Added .gif file showing fig. 2 and fig. 3 animated

Comments

Regarding the comment about investigating the drivers of our events: We have checked SuperDARN and EISCAT data for our events and have not found any usable data. Furthermore, we also focus on the spatial profile evolution of PMAFs, rather than their driving forces.