

Supporting Information for ”Plasma Mixing during active Kelvin-Helmholtz Instability under different IMF orientations”

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Introduction

In this supporting information we provide more details about the analysis of the ion and electron velocity distribution functions for the Kelvin-Helmholtz event under northward IMF conditions. Figure S1 shows the ion and electron non-Maxwellianity, $\tilde{\epsilon}_{i(e)}$, as defined by Graham et al. (2021) and reported in Equation (6) in the manuscript. In Figure S2 we show an example of the procedure we used to evaluate the ion temperature tensor associated only to the core of the velocity distribution function.

References

- Graham, D. B., Khotyaintsev, Y. V., André, M., Vaivads, A., Chasapis, A., Matthaeus, W. H., . . . Gershman, D. J. (2021, October). Non-Maxwellianity of Electron Distributions Near Earth's Magnetopause. *Journal of Geophysical Research (Space Physics)*, *126*(10), e29260. doi: 10.1029/2021JA029260

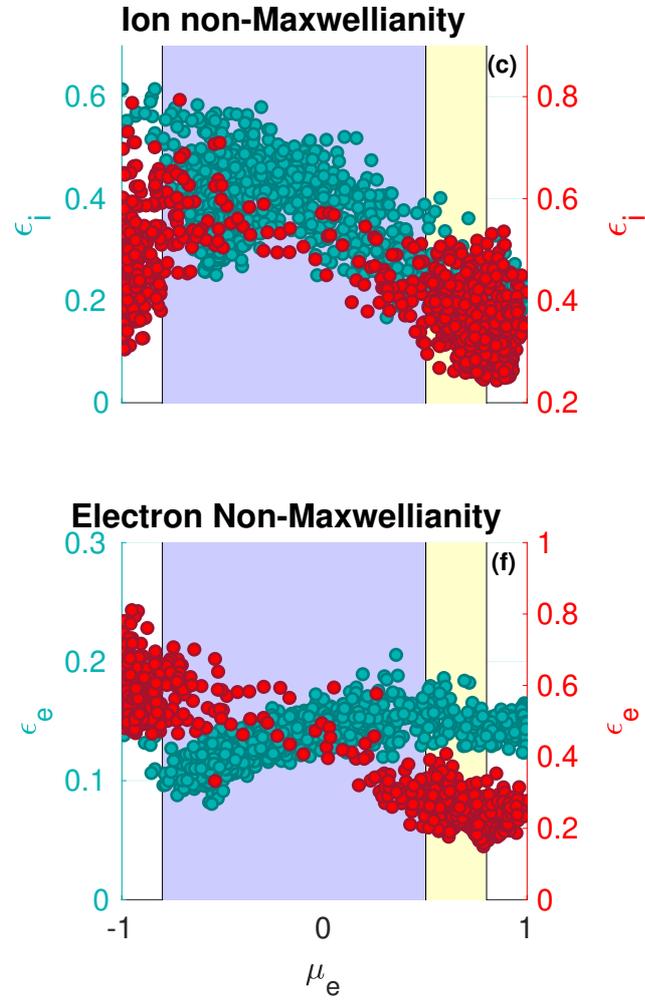


Figure S1. Ion and electron non-Maxwellianity evaluated by using Equation (6) in the manuscript for both the northward (green) and southward (red) KH events.

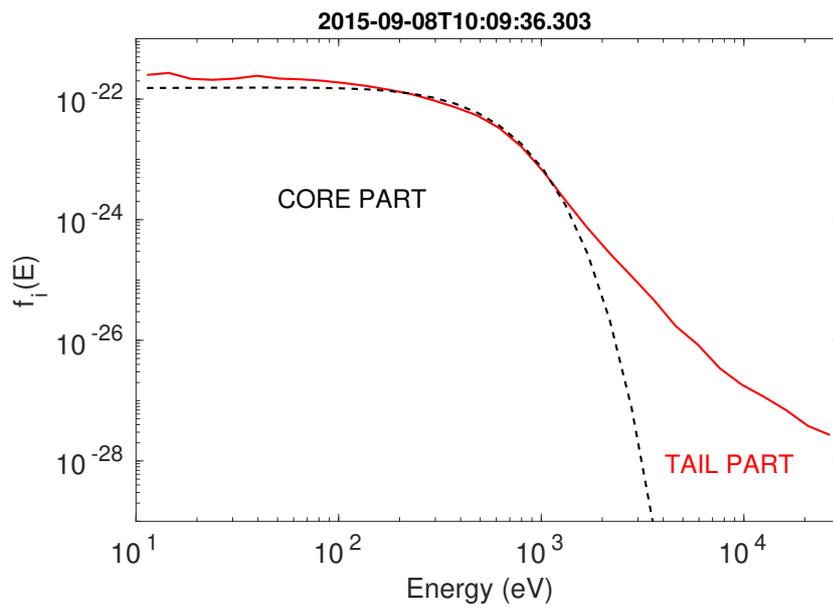


Figure S2. Determination of the core part of the ion velocity distribution function (red curve) by means of a Maxwellian fit (black dashed line). A single time is plotted for illustration but the procedure is applied to the whole time interval.