



Jets downstream of quasi-parallel and quasi-perpendicular bow shock

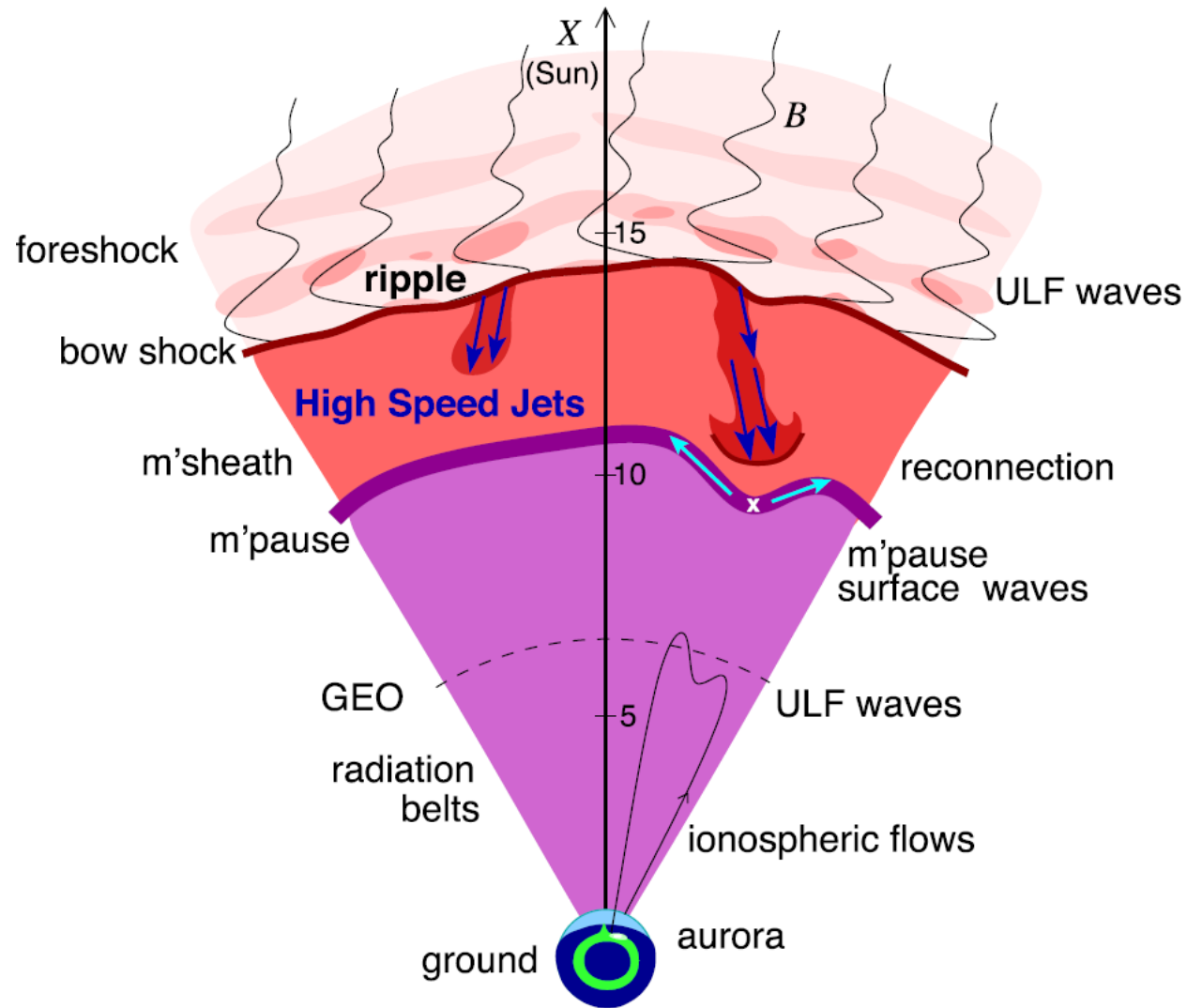
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MMS FALL SWT 2020

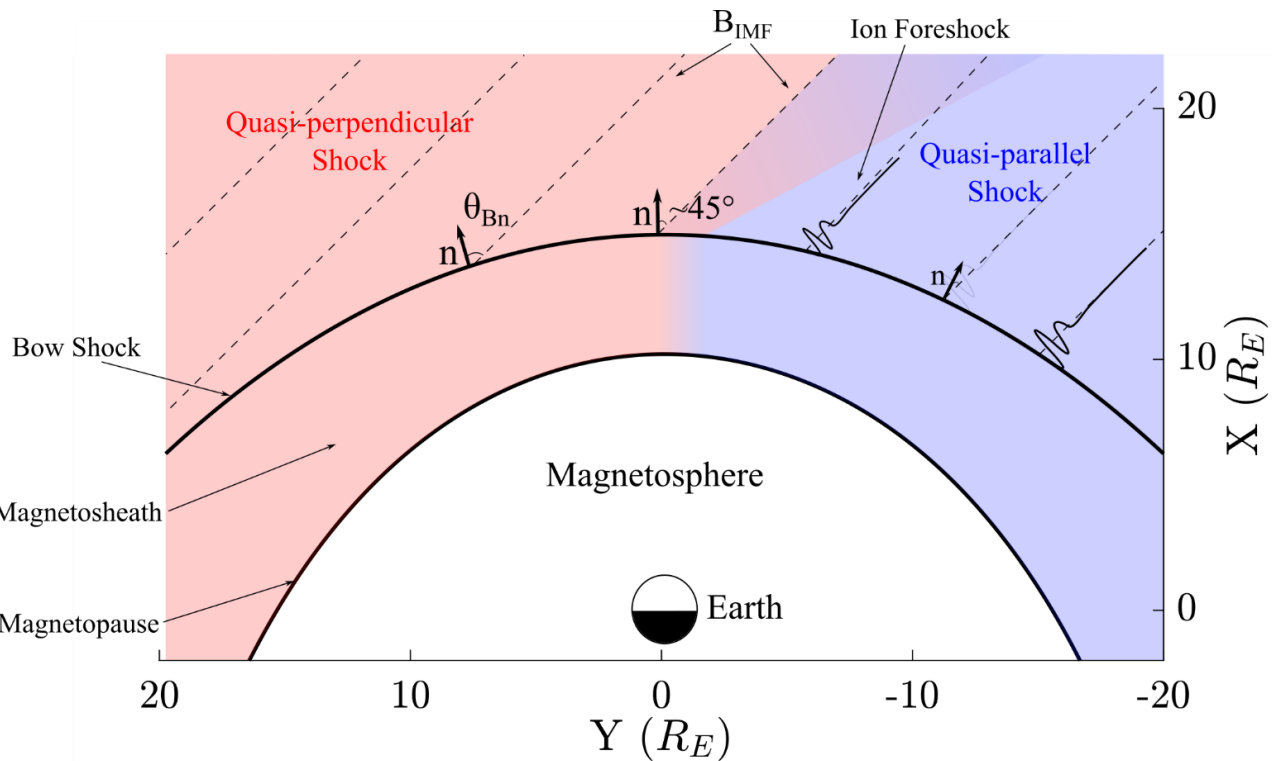
08/10/2020

Introduction – Magnetosheath Jets



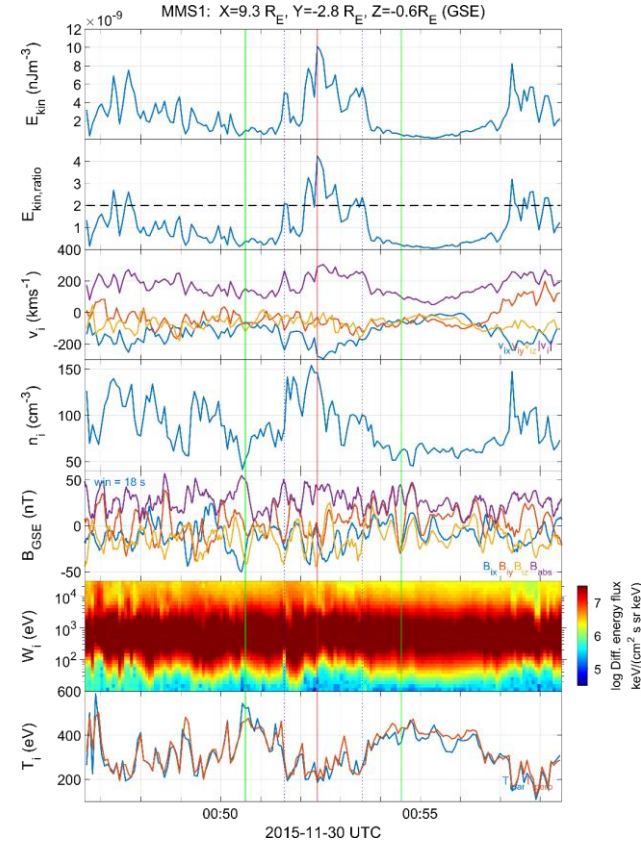
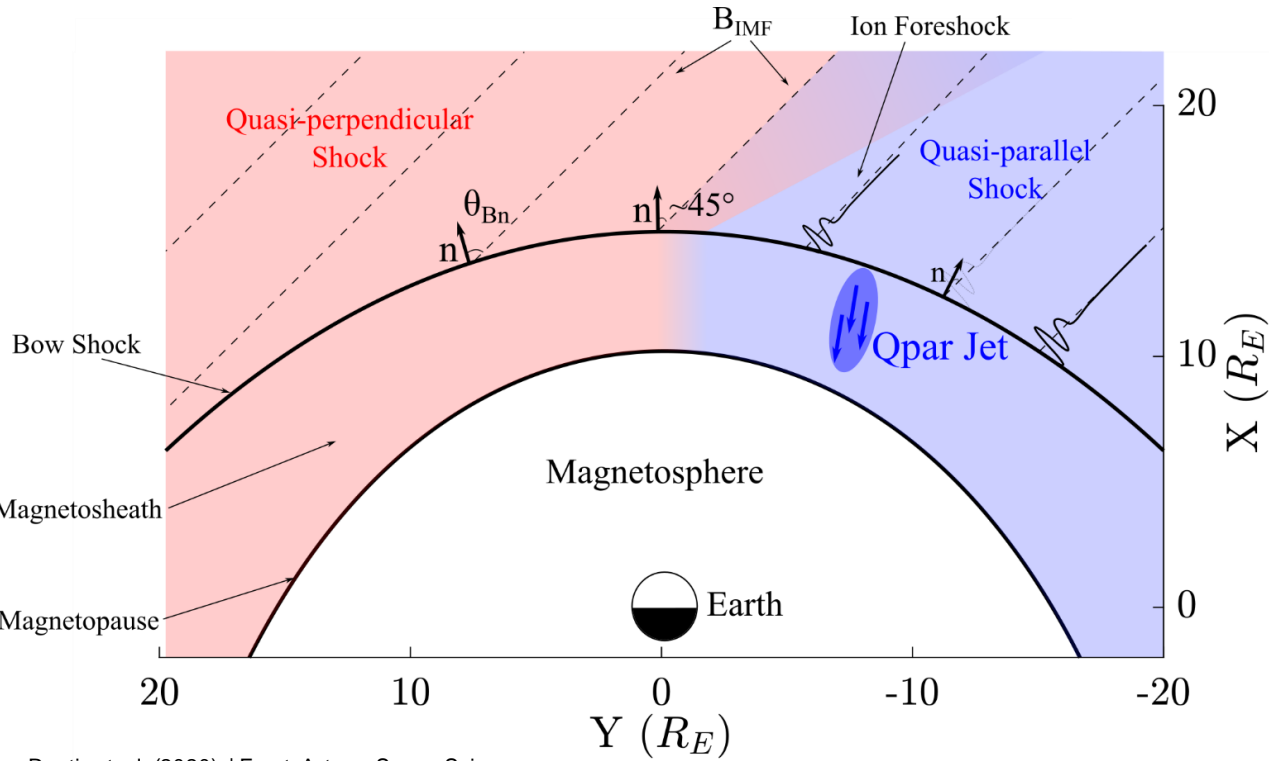
Plaschke F et al. (2018); sketch by H. Hietala | Space Sci. Rev

Jets behind Qpar and Qperp bow shock



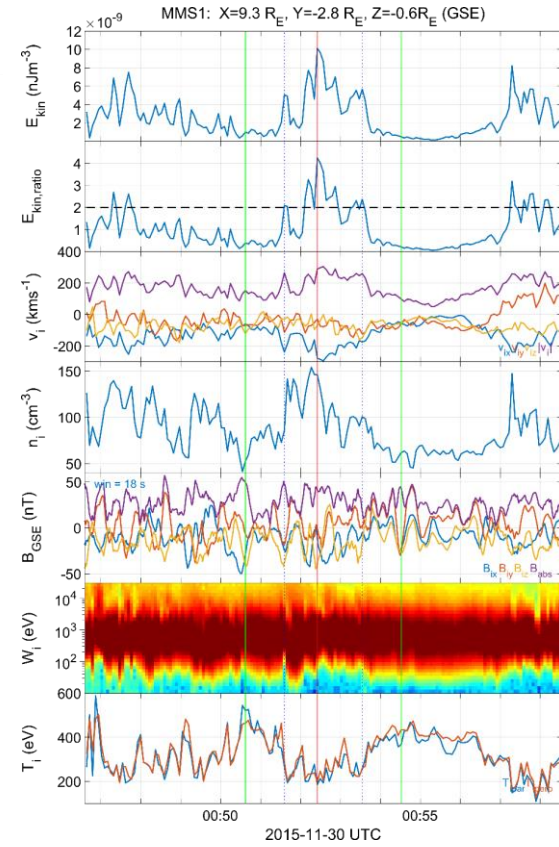
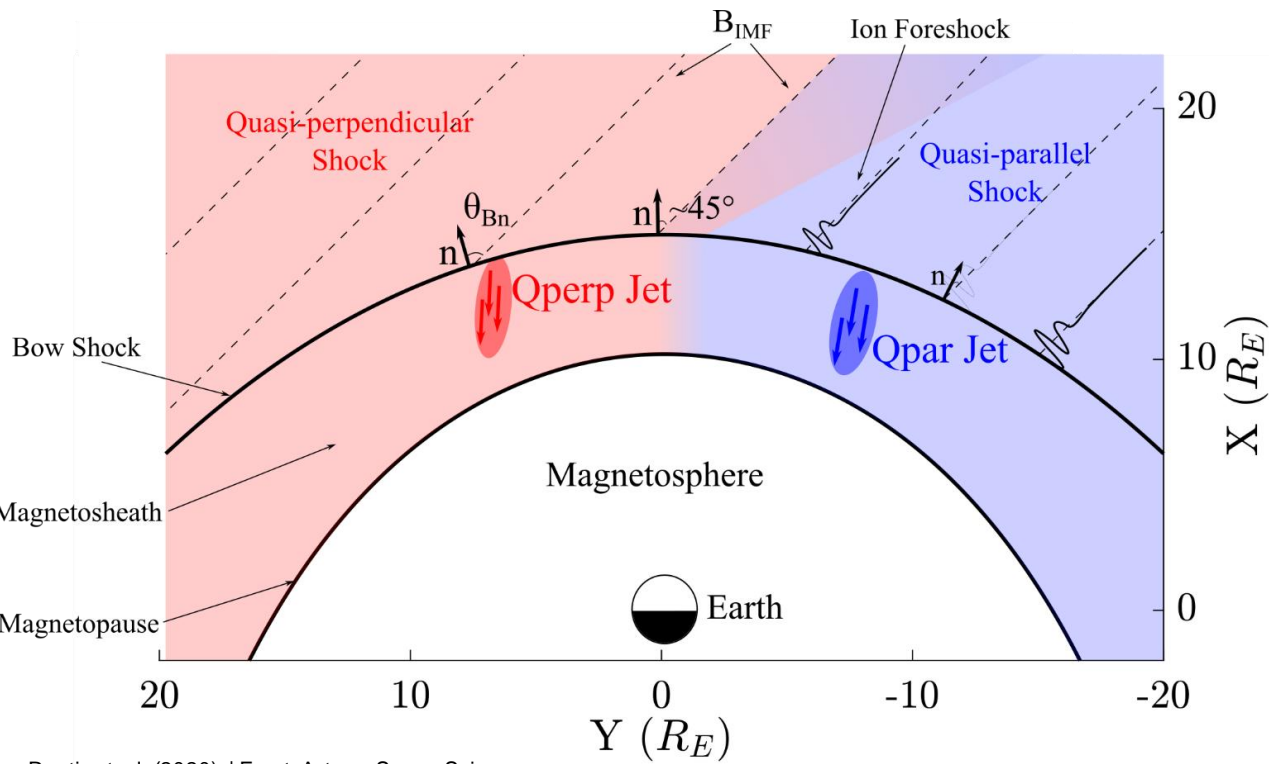
Raptiset. al. (2020) | Front. Astron. Space Sci

Jets behind Qpar and Qperp bow shock

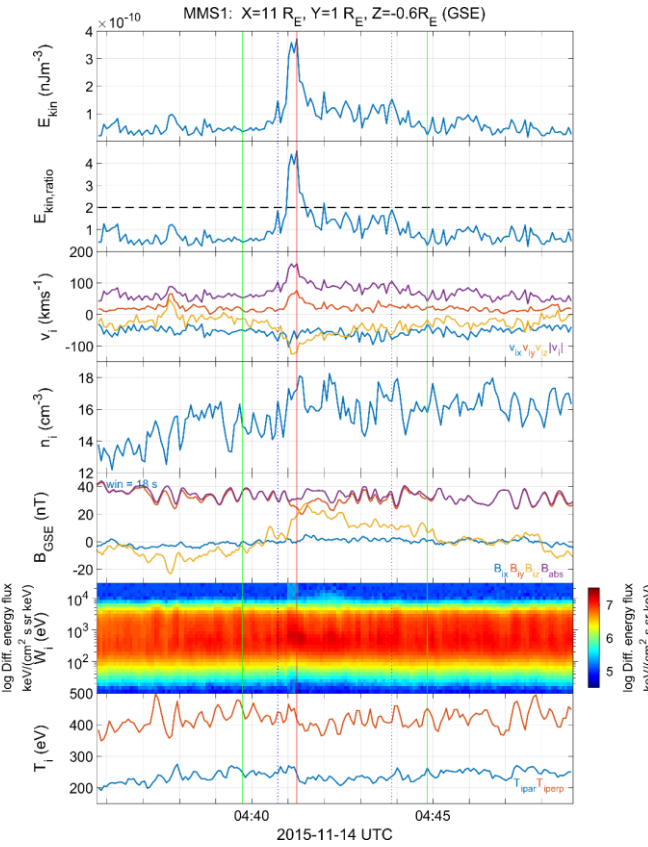


Raptis, et. al. (2020) | JGR - Under Review

Jets behind Qpar and Qperp bow shock



Qpar Jet



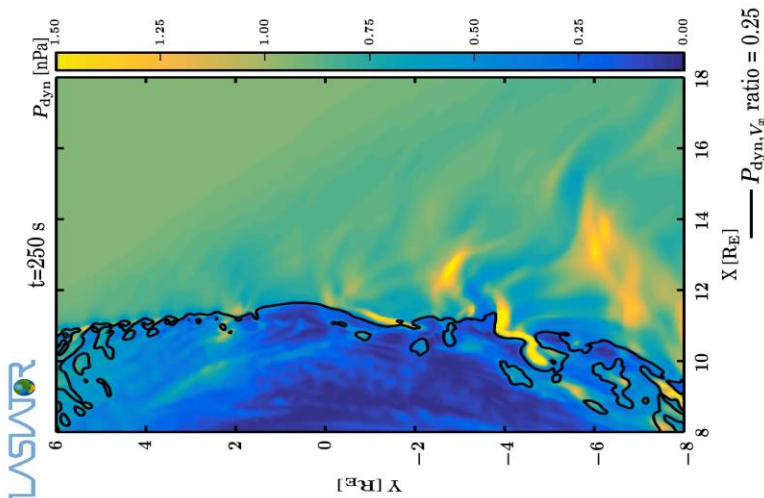
Qperp Jet

Raptis, et. al. (2020) | JGR - Under Review

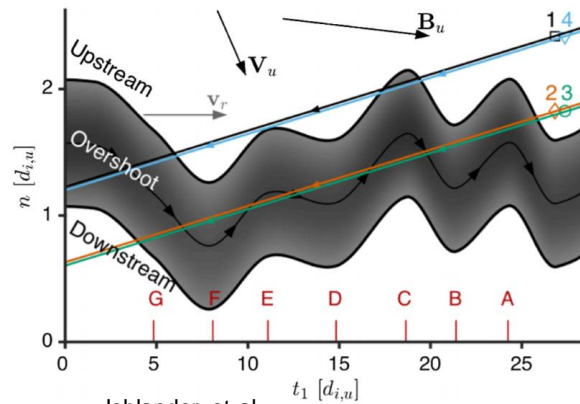
Future – Approaching the bow shock

How are Jets created?

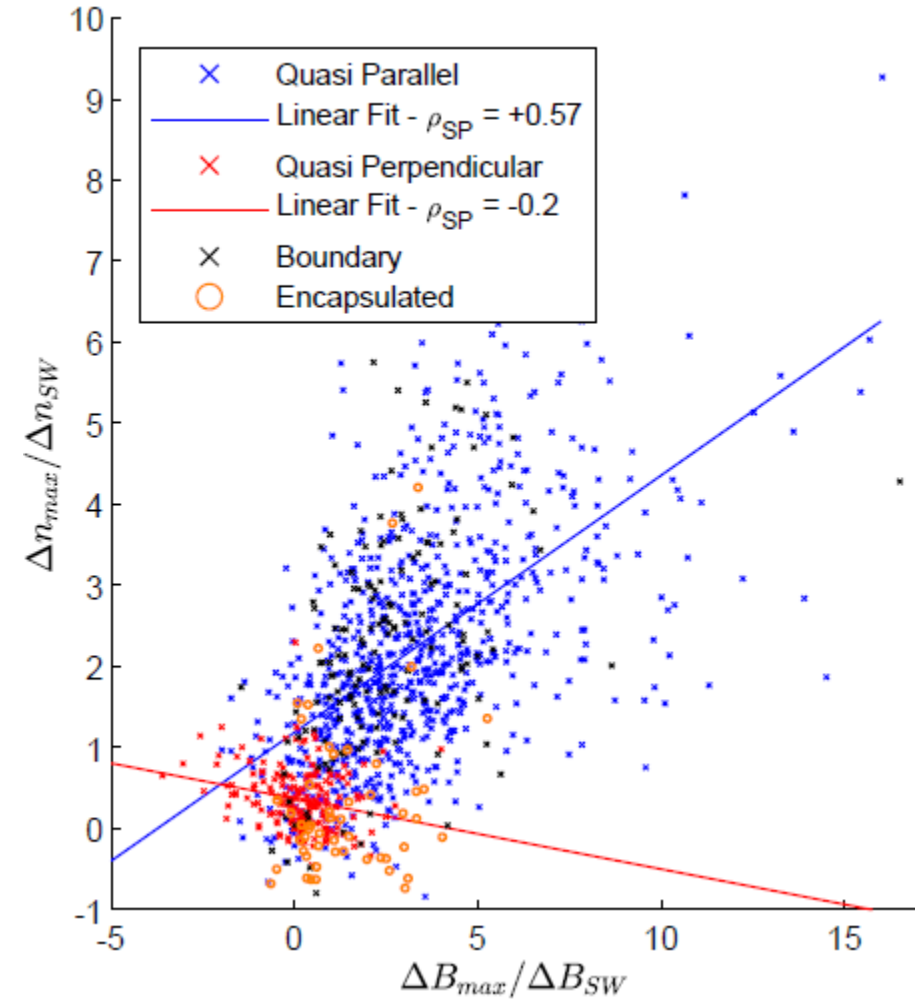
- Reconnection/FTEs (Qpar/Qperp) Preisser et al. (2020) | ApJL
- SLAMS penetrating bow shock (Qpar)? Karlsson et al. (2015) | JGR
- Ripples (Qpar/Qperp)
- ...



Palmroth M. et al. (2018) | Annales
Palmroth, Raptis, et. al. (2020) | Annales - Under Review



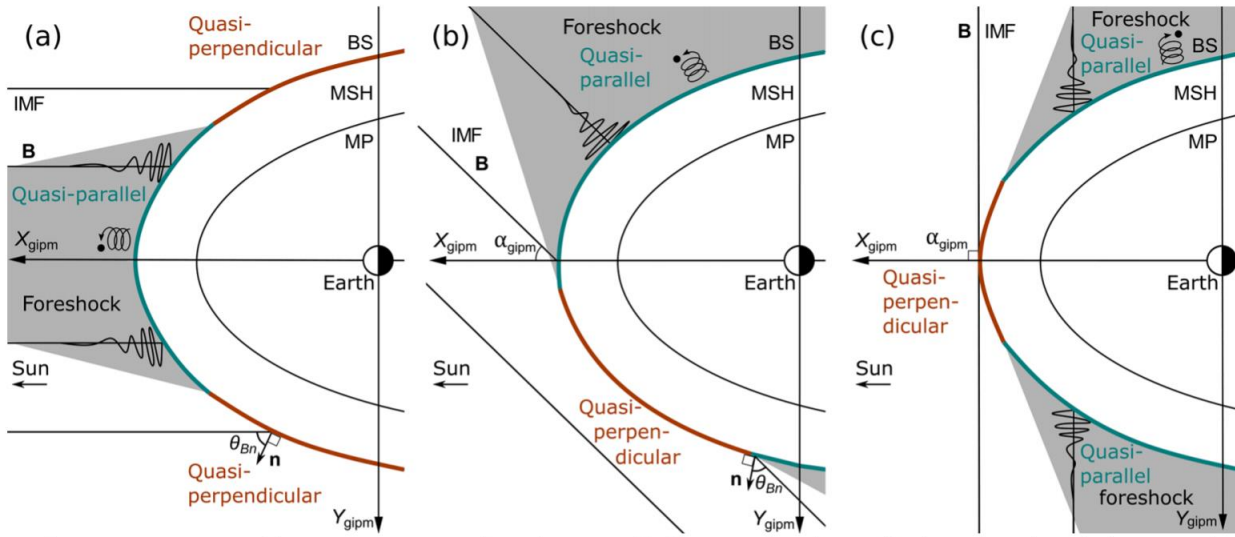
Johlander et al. (2016) | PRL



Raptis, et. al. (2020) | JGR - Under Review

Extras

Occurrence of Qpar and Qperp



~9 times more frequently Qpar than Qperp

Subset	Number	Percentage (%)
Quasi-parallel	2284	26.9
Final cases	860	10.1
Quasi-perpendicular	504	5.9
Final cases	211	2.5
Boundary	744	8.8
Final cases	154	1.8
Encapsulated	77	0.9
Final cases	57	0.7
Other	4890	57.5
Unclassified/Uncertain	3499	41.2
Border	1346	15.8
Data Gap	45	0.5

Different criteria/ regions but still in agreement! ~5 times

Classification Procedure in progress

