# ARTEMIS capabilities for studying reconnection generated structures at lunar distances

## *2 examples*

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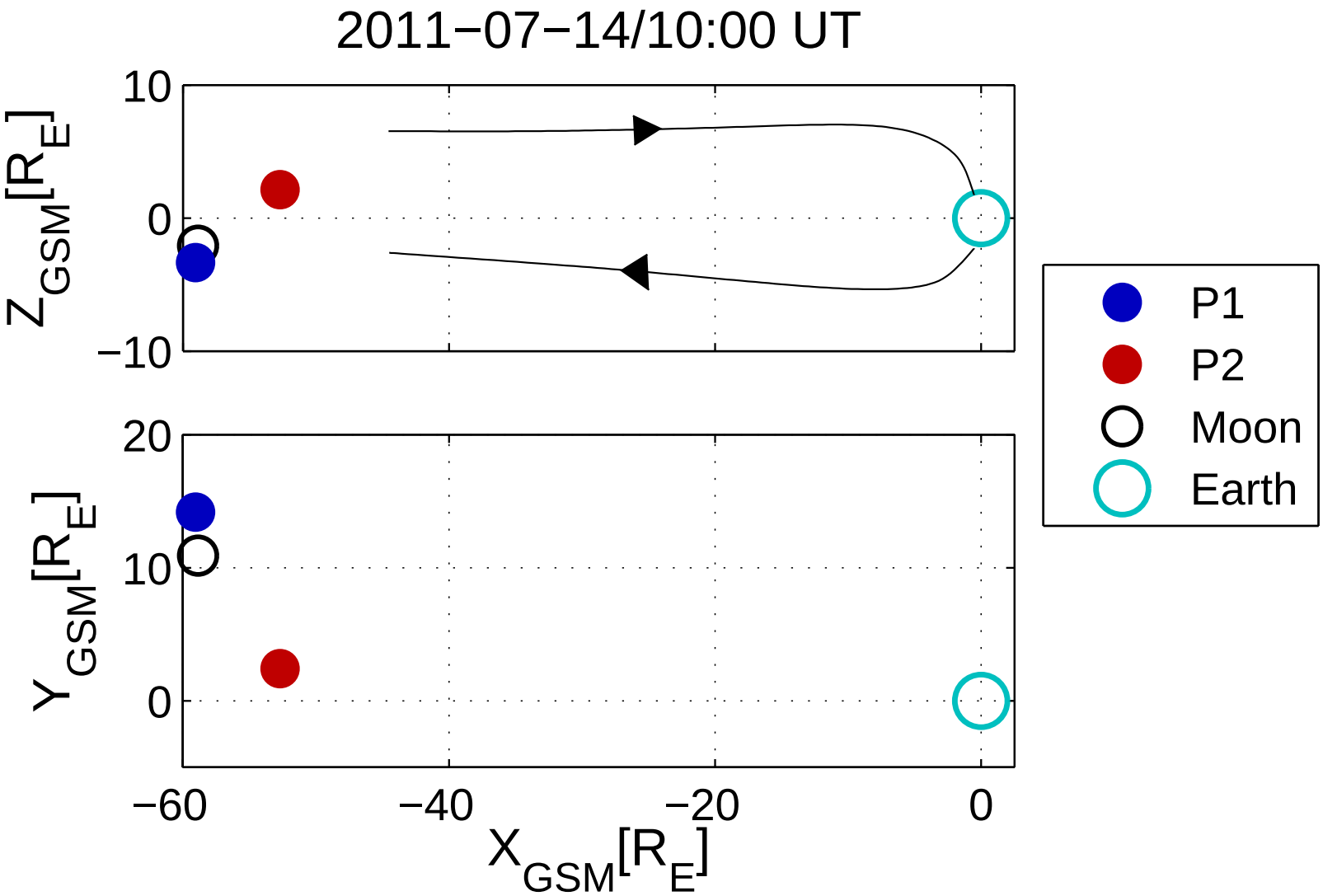
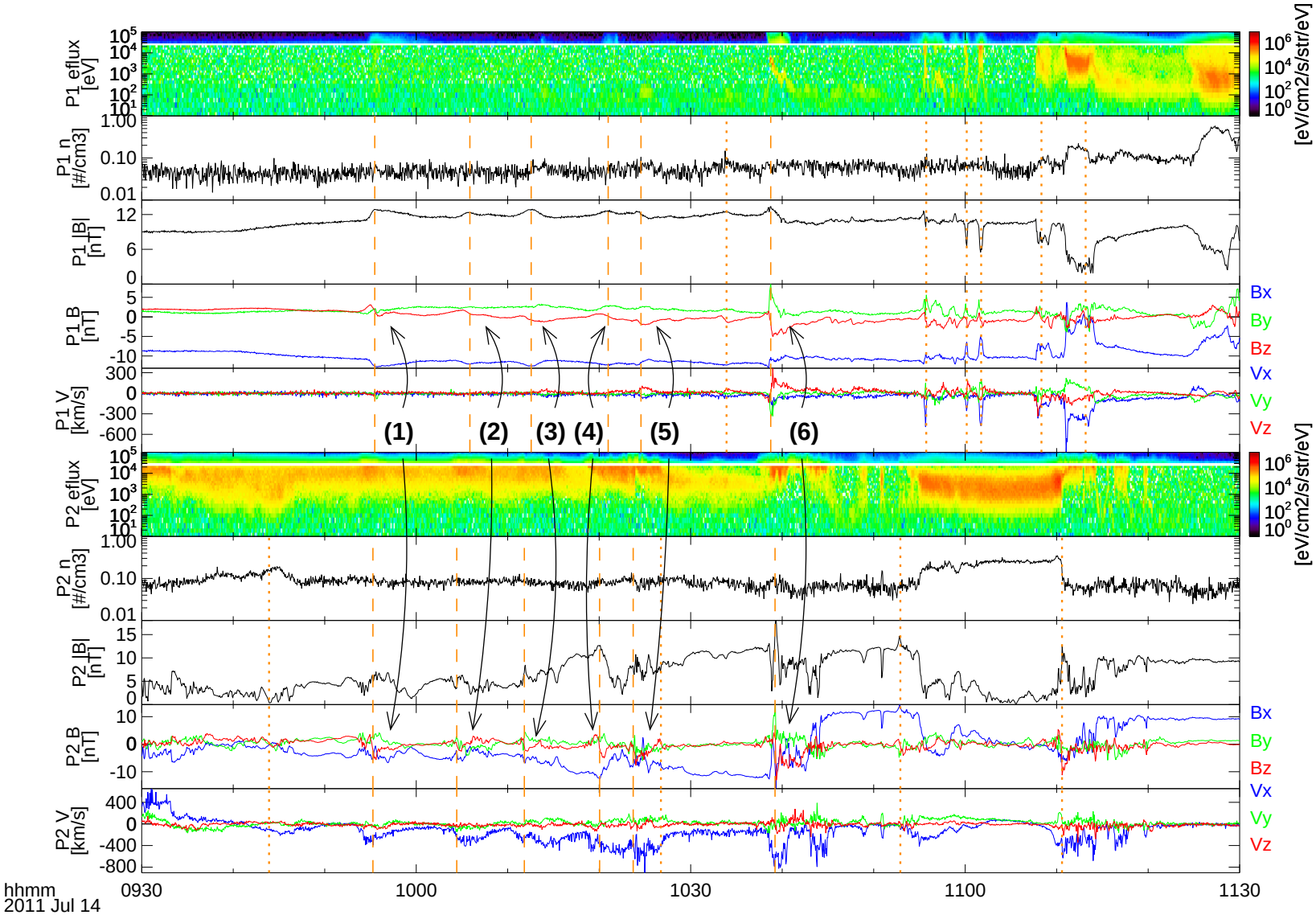
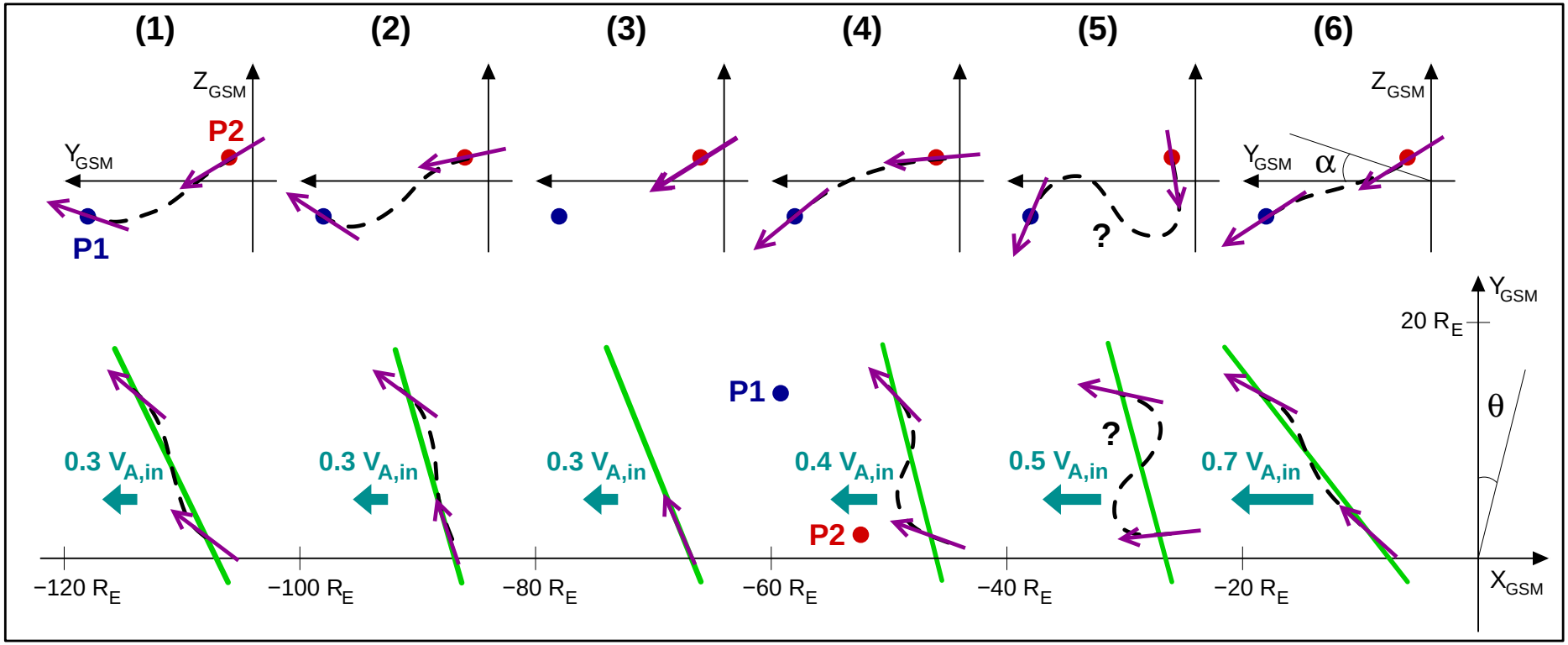
mini-GEM, 13 December 2015

# Case 1: large cross-tail separation



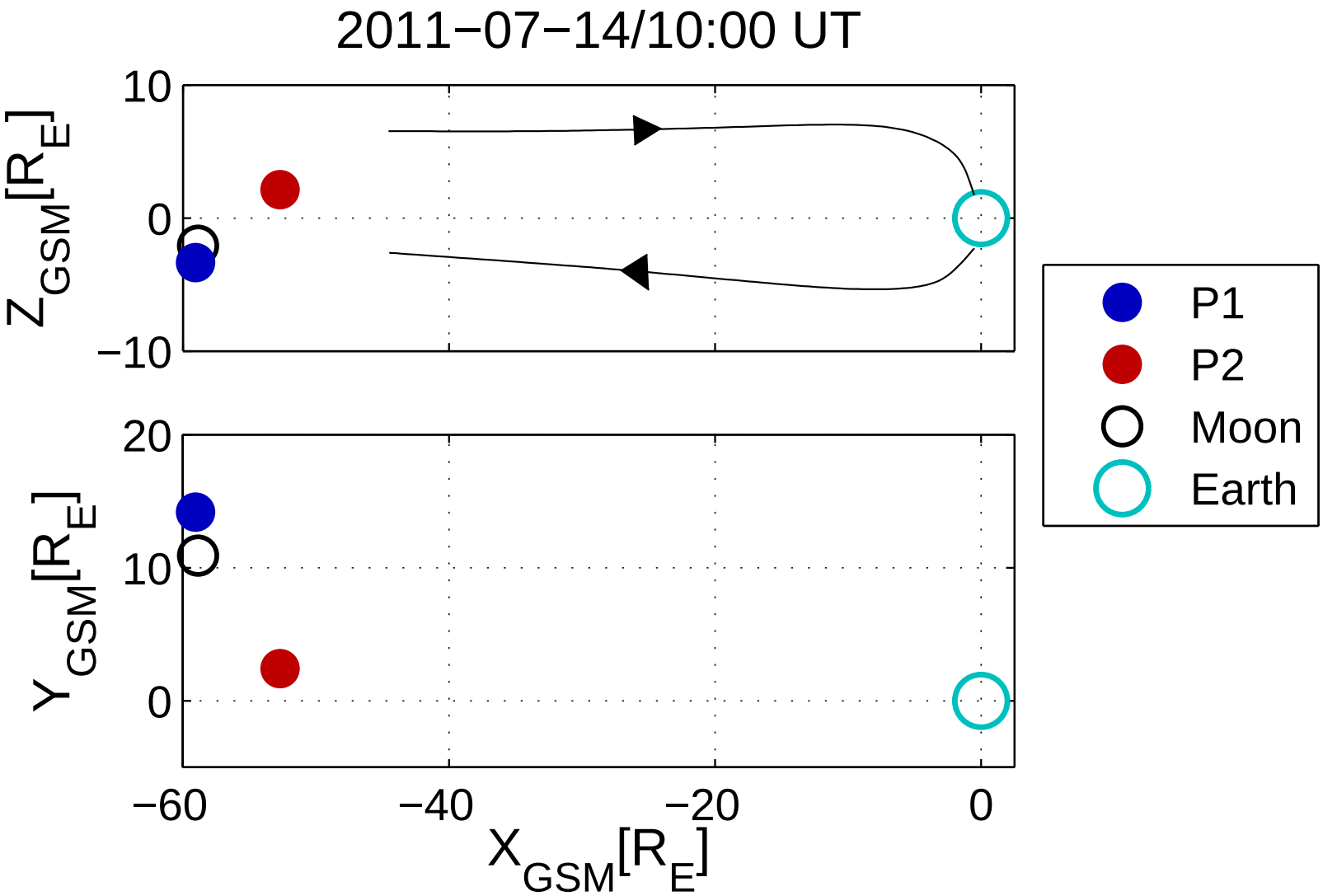
# A series of flux ropes → analyzed 6 in detail



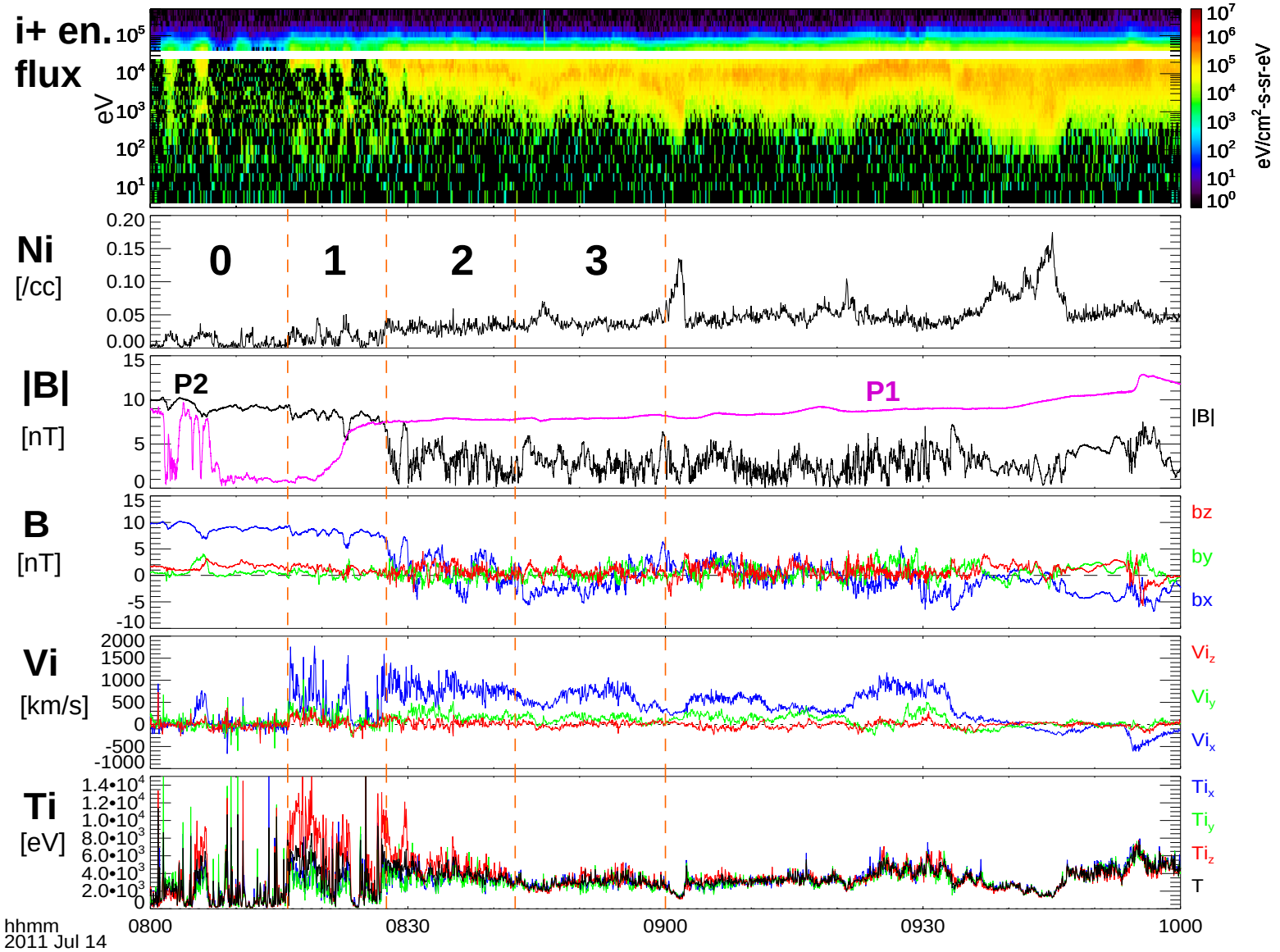



- 2-sc-timing → global orientation in the *XY* plane
- Grad-Shafranov reconstruction → local orientation

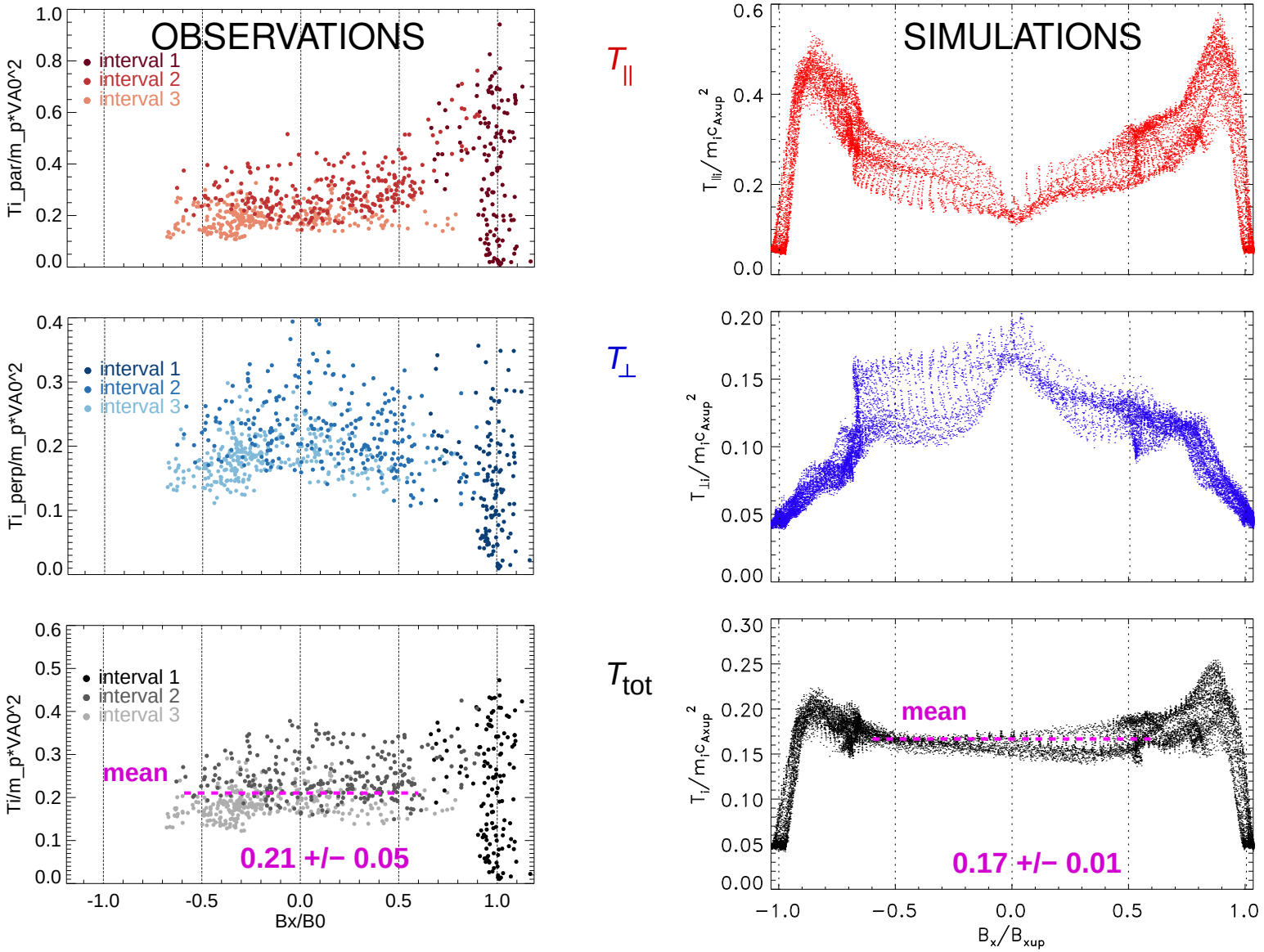
# Case 2: plasma sheet & lobe



# Anti-parallel, symmetric RX: compare with PIC



# Temperature profiles: good agreement



# References


1. Sequentially released tilted flux ropes in the Earth's magnetotail
   - H. Hietala, J. P. Eastwood and A. Isavnin, *Plasma Phys. Control. Fusion*, 56 (2014) 064011.
2. Ion temperature anisotropy across a magnetotail reconnection jet
   - H. Hietala, J. F. Drake, T. D. Phan, J. P. Eastwood and J. P. McFadden, *Geophys. Res. Lett.*, 42 (2015)
   - **Talk**: Tuesday, December 15th, 08:42am
     SM21C Bow Shock, Magnetosheath, Magnetopause, and Mid-Tail Processes and Their Role in Solar Wind-Magnetosphere Coupling
     Location: Moscone West 2018