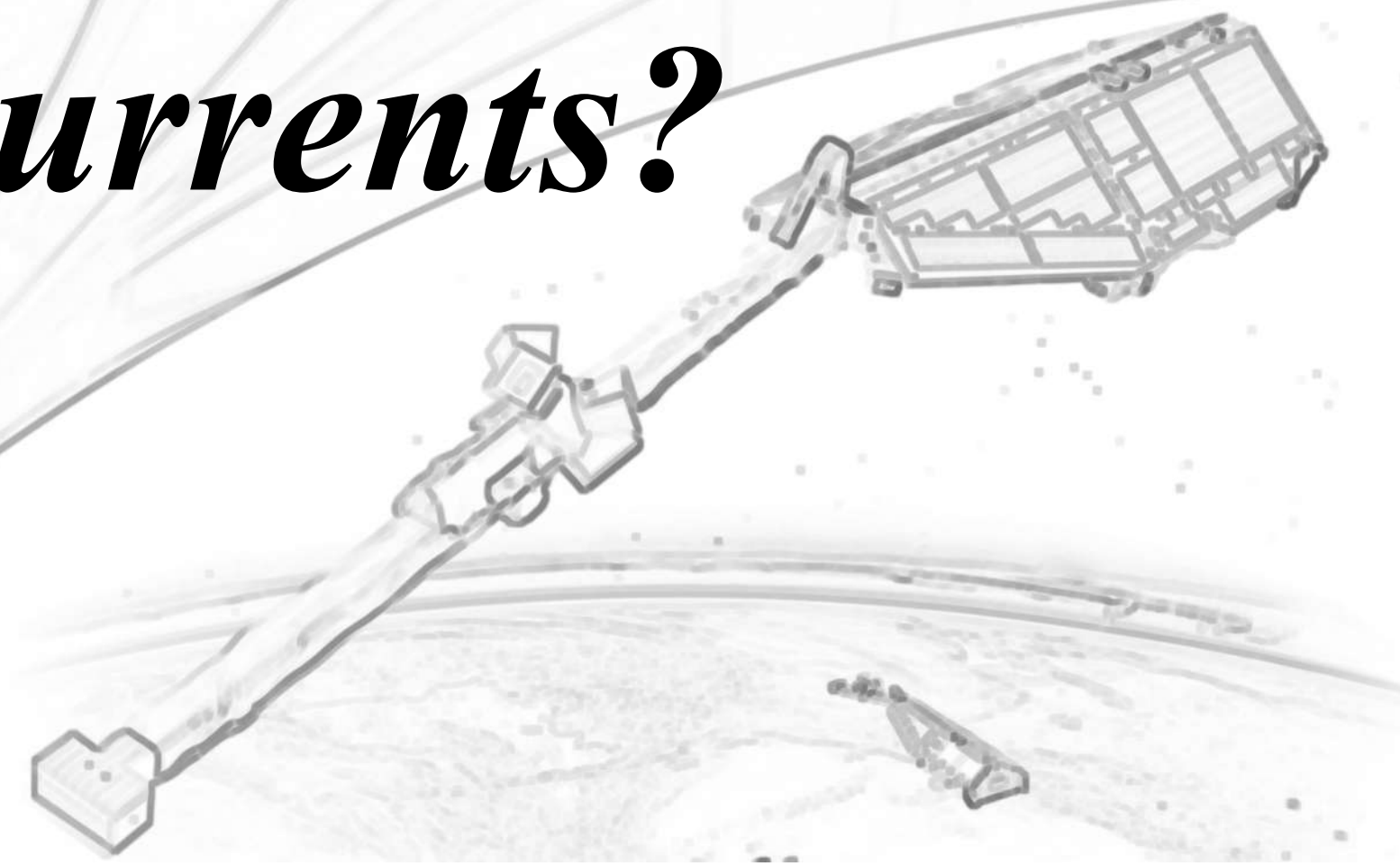


How variable are Birkeland currents?

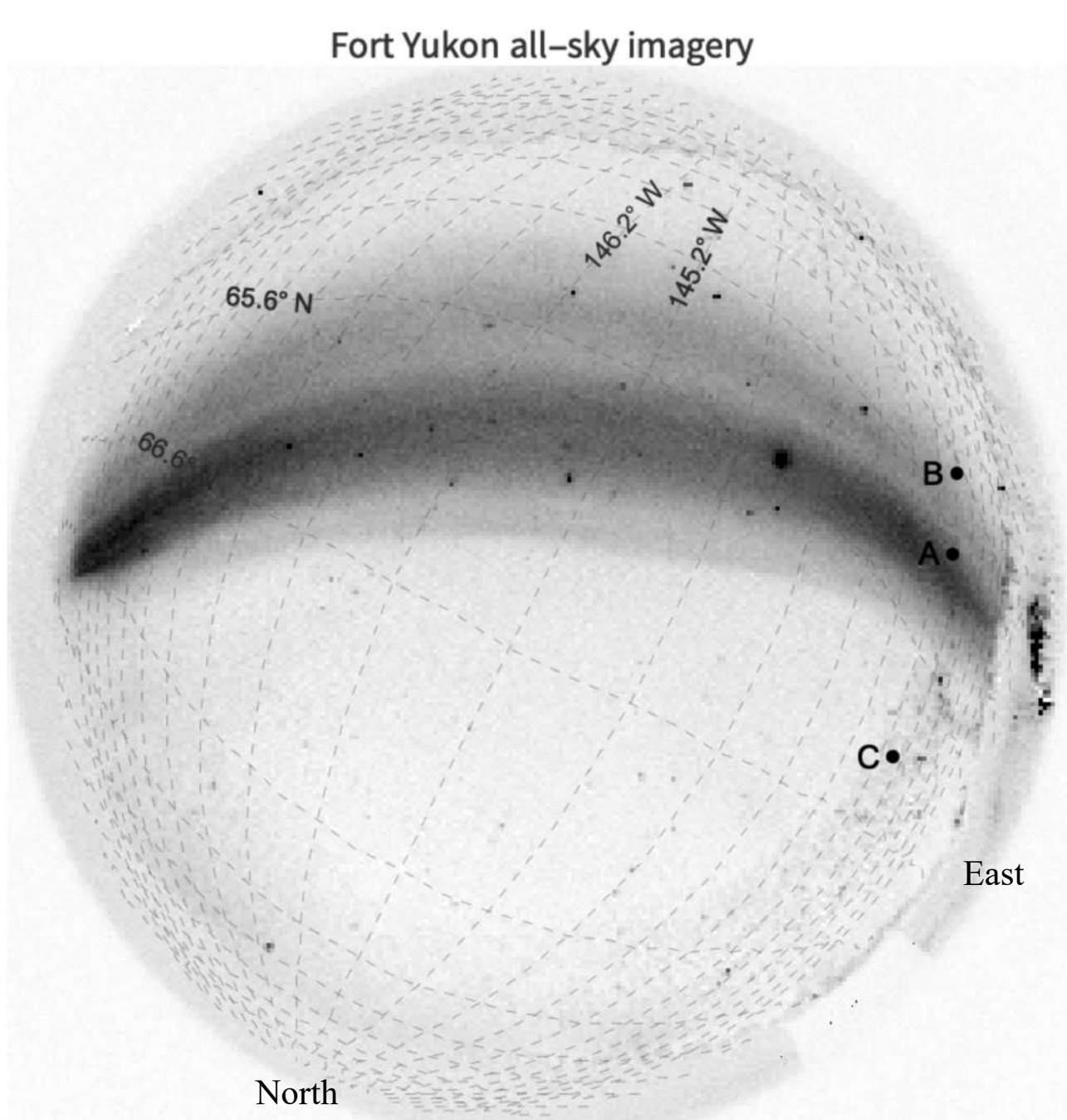
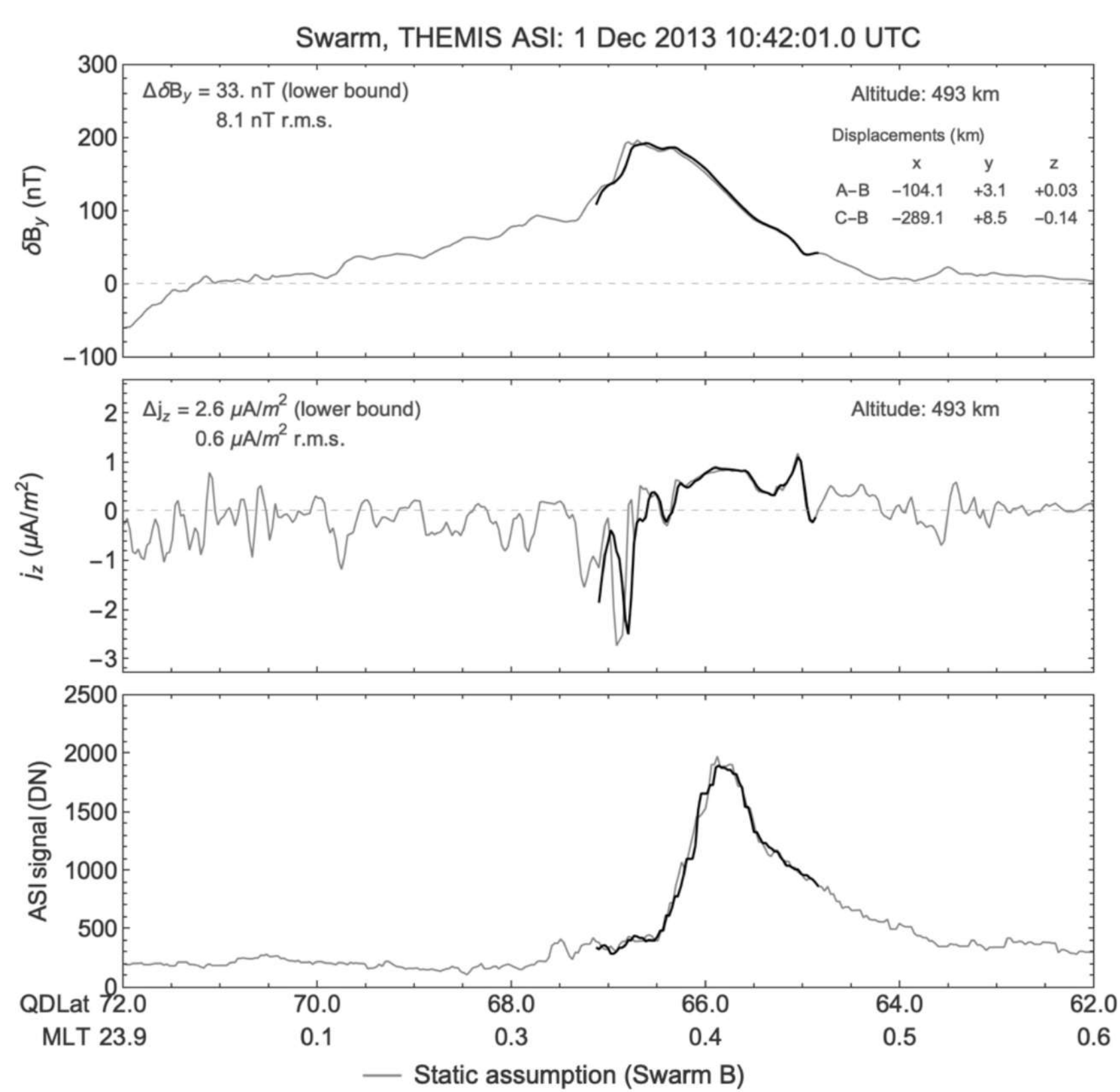
Johnathan K Burchill
j.burchill@ucalgary.ca



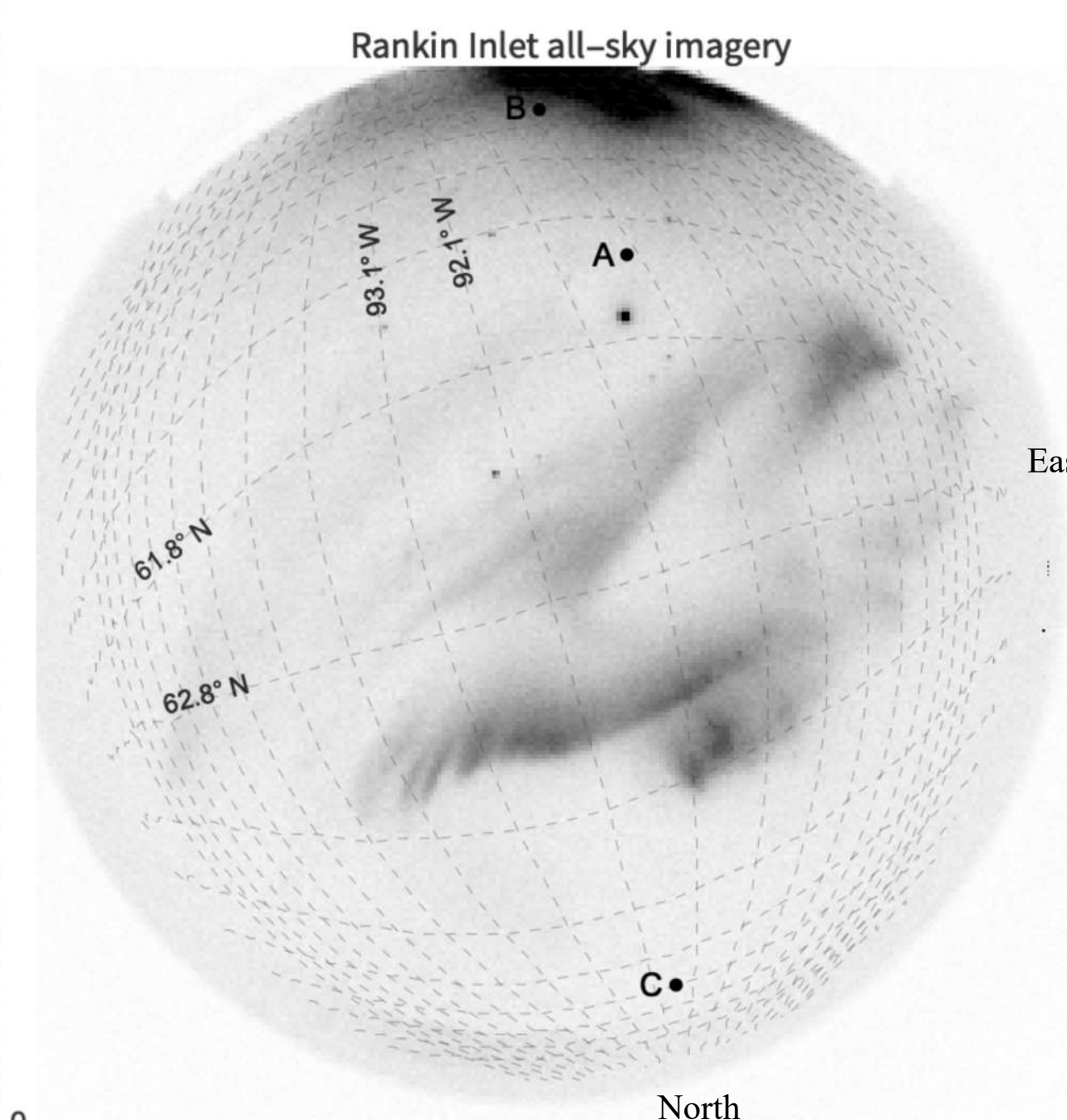
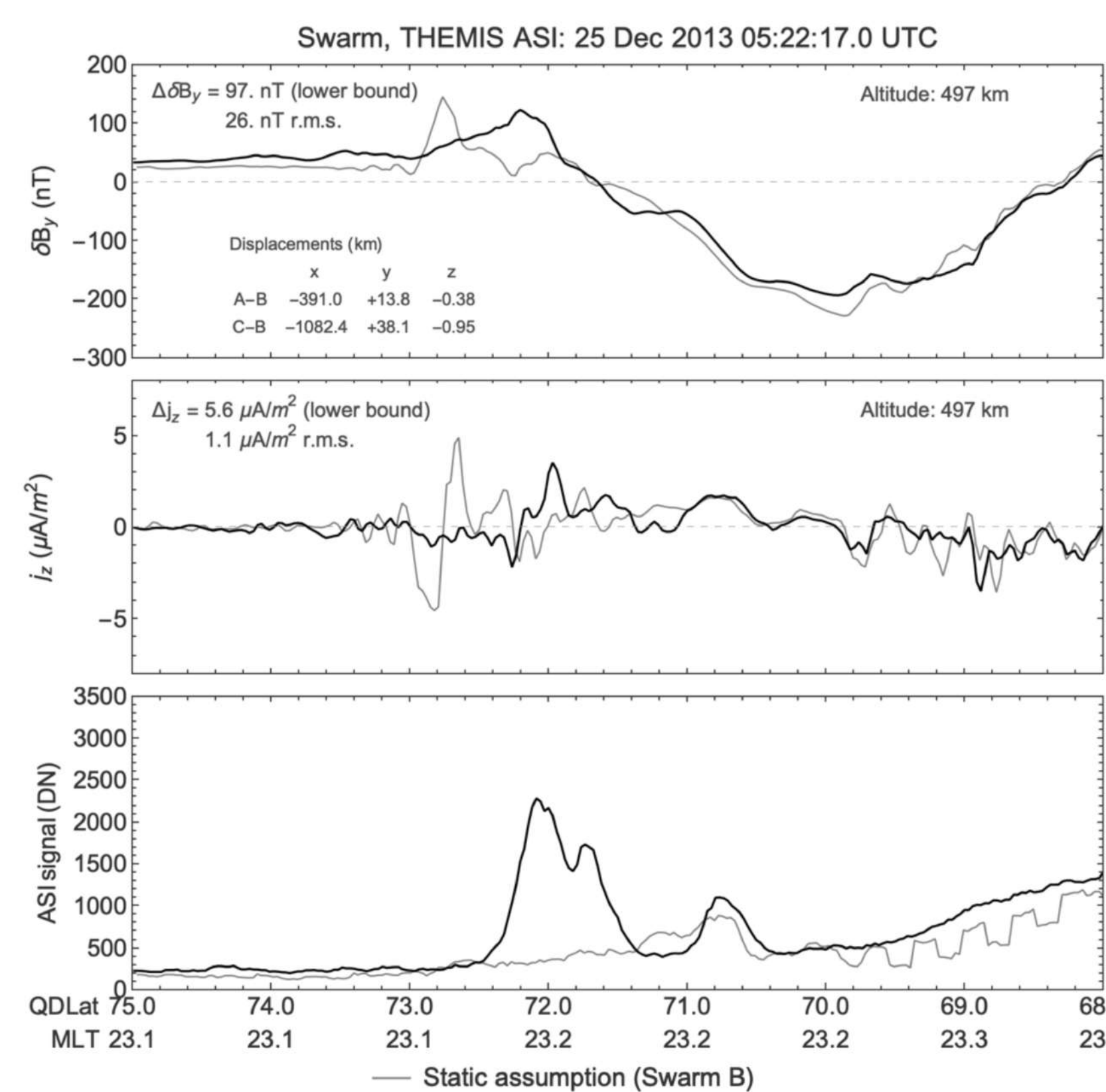
This work was supported by the Canadian Space Agency

Statistically, Birkeland current density varies by at least 10's of nA/m²/s in the auroral zones.

Examples from when Swarm was a string of pearls

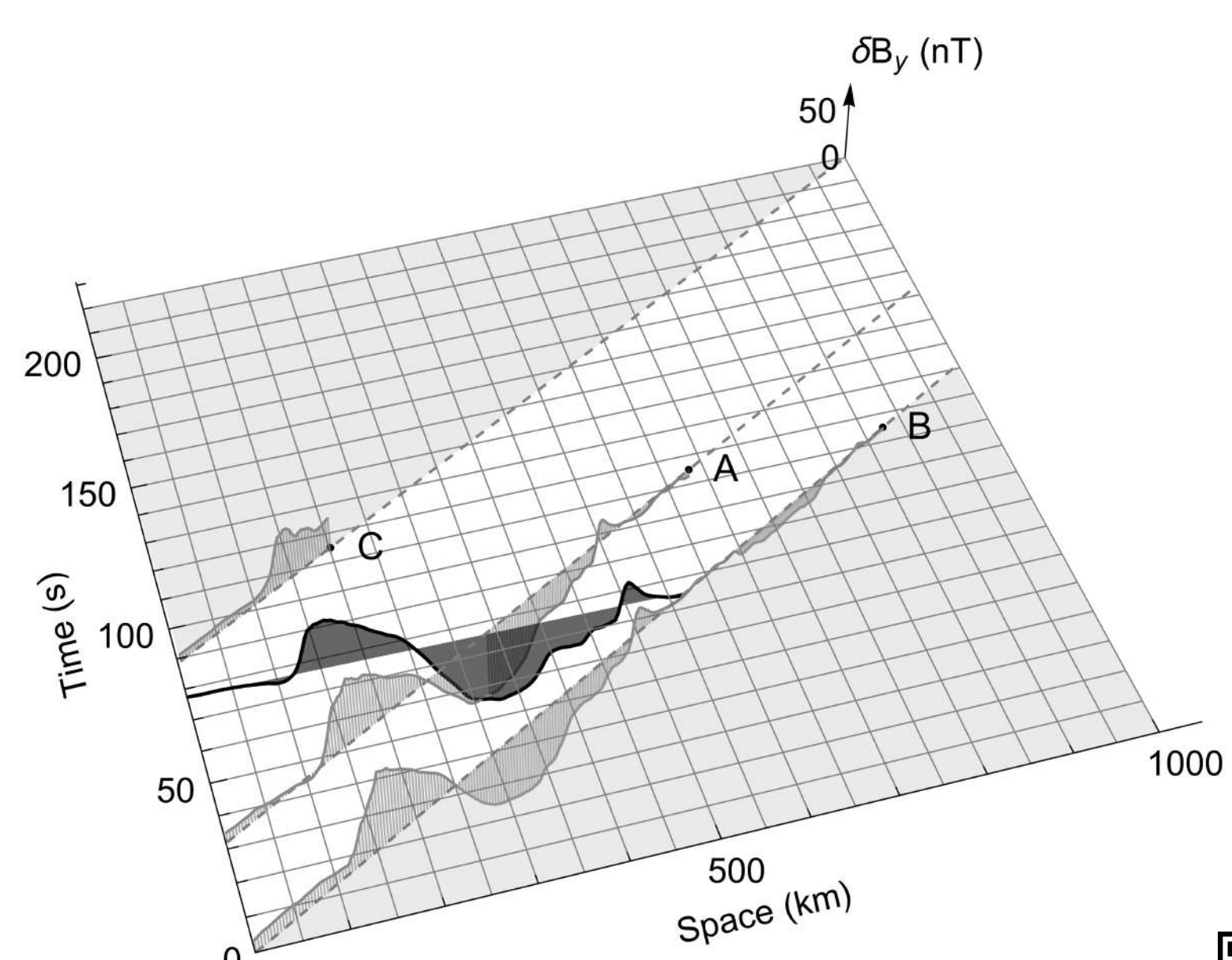


Video

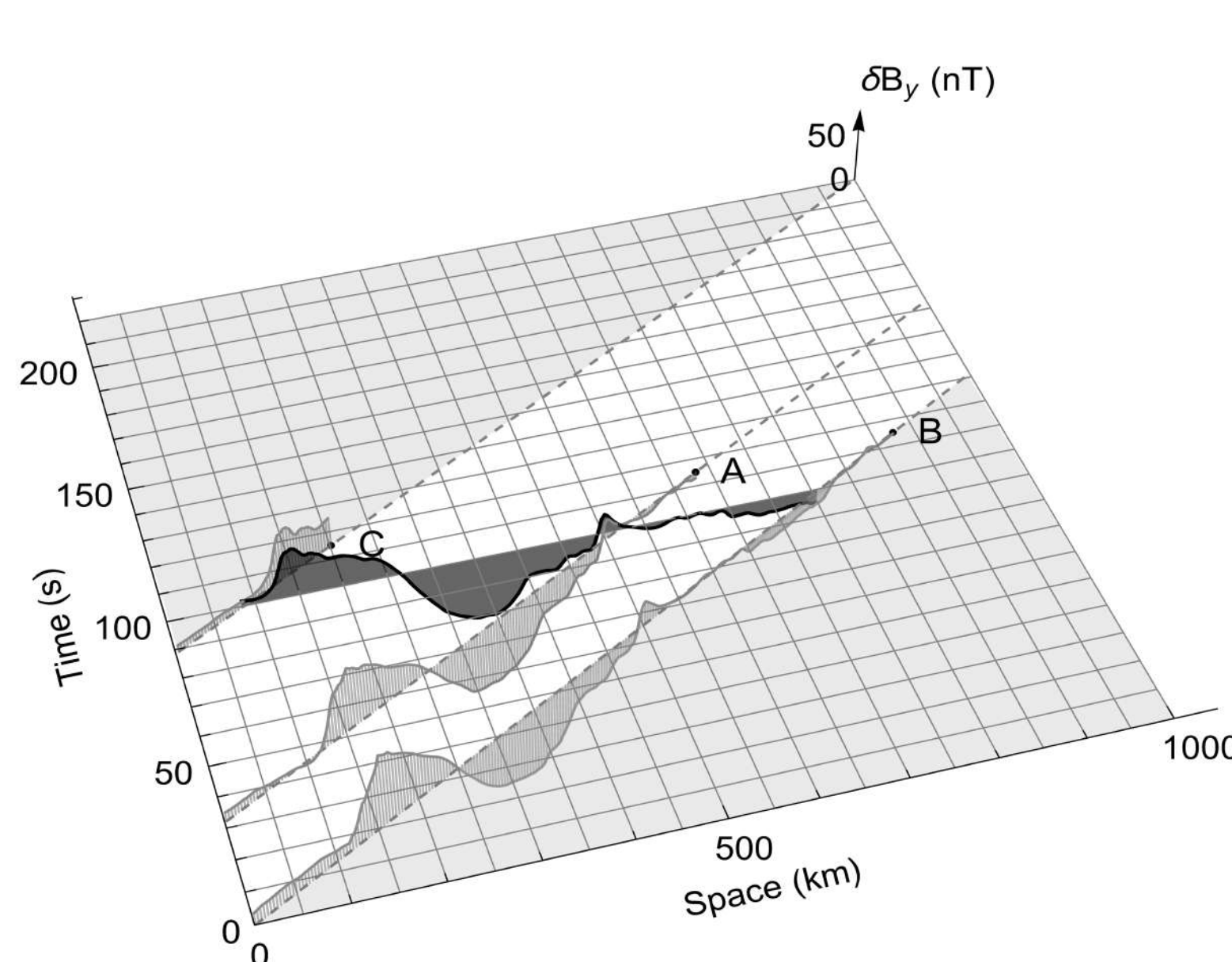


Video

Space series estimation



Video



Resources



Burchill, J.K. How variable are Birkeland currents?. *Earth Planets Space* **75**, 116 (2023), and references therein



Swarm MAG and ancillary data: <https://swarm-diss.eo.esa.int>



Swarm-Aurora: <https://swarm-aurora.com>



Source code: <https://github.com/JohnathanBurchill/spaceseries>

Vertical current density and its variability, 25 November to 31 December 2013

