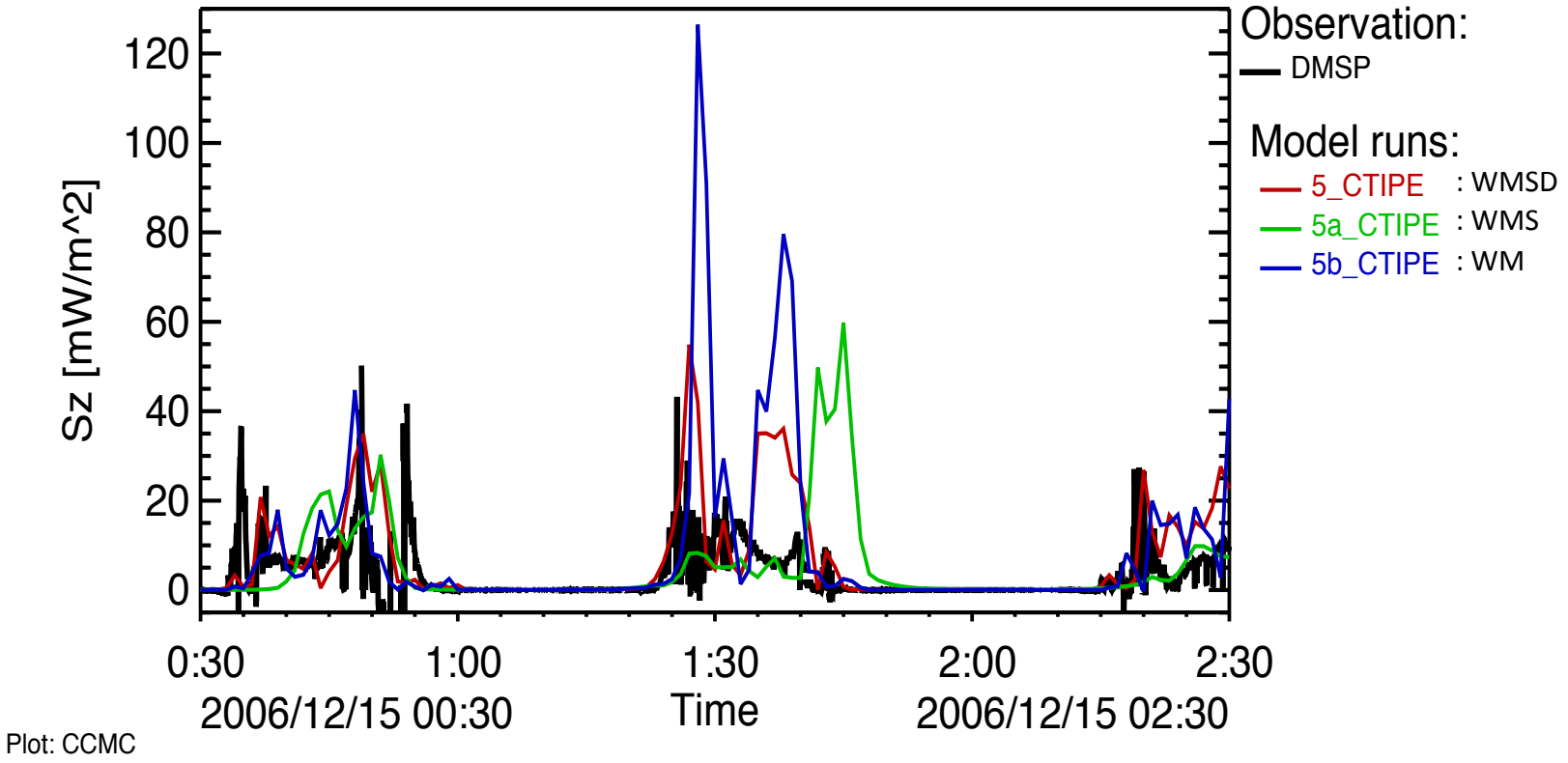
Sensitivity of model outputs to quality of input data

: CTIPe driven by AMIE_ASTRA

Model Setting

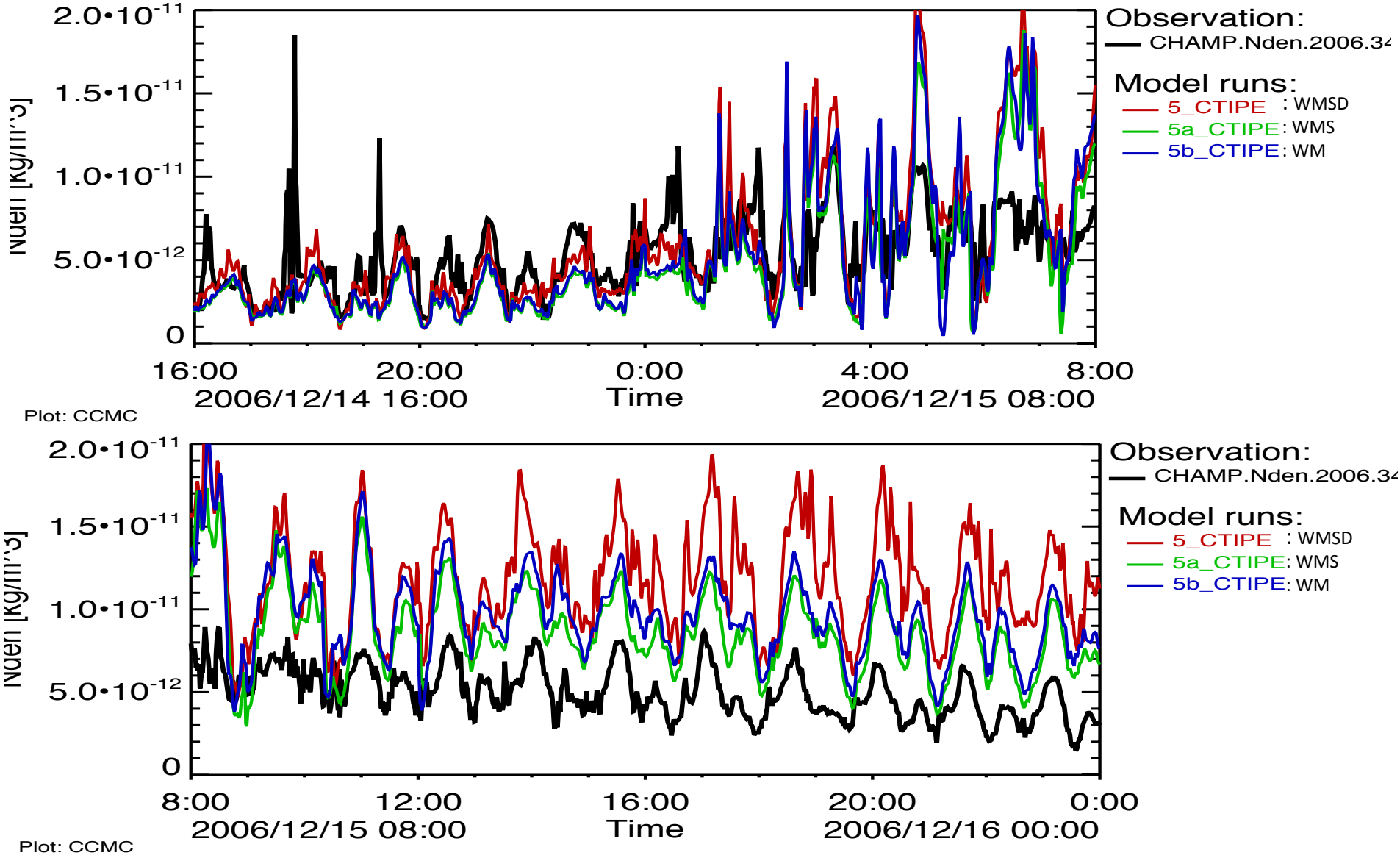
	Model Setting ID	Input data sources
1	5_CTIPE*	Magnetometers, SuperDARN, and DMSP
2	5a_CTIPE*	Magnetometers and SuperDARN
3	5b_CTIPE*	Magnetometers

Joule Heating along DMSP tracks

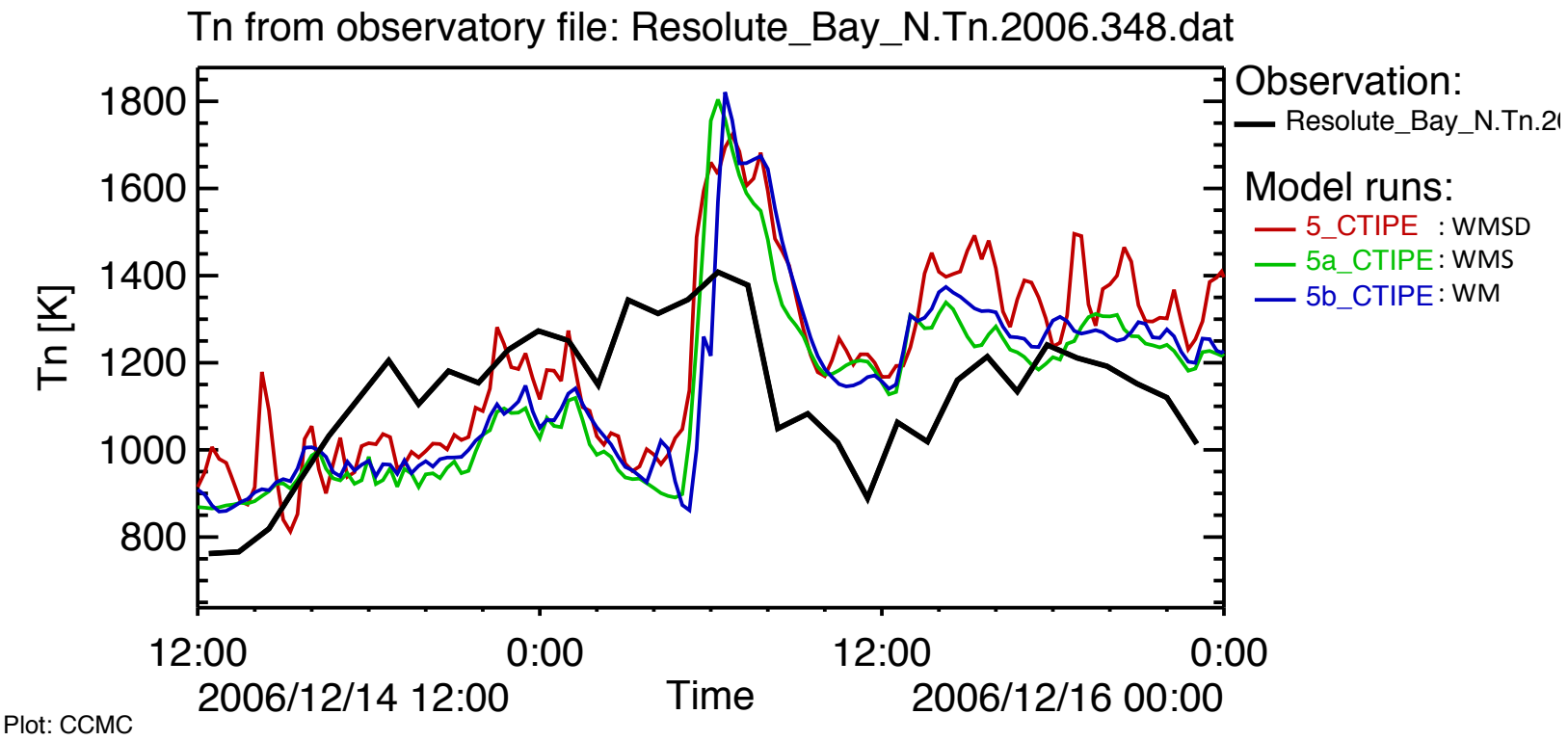


Plot: CCMC

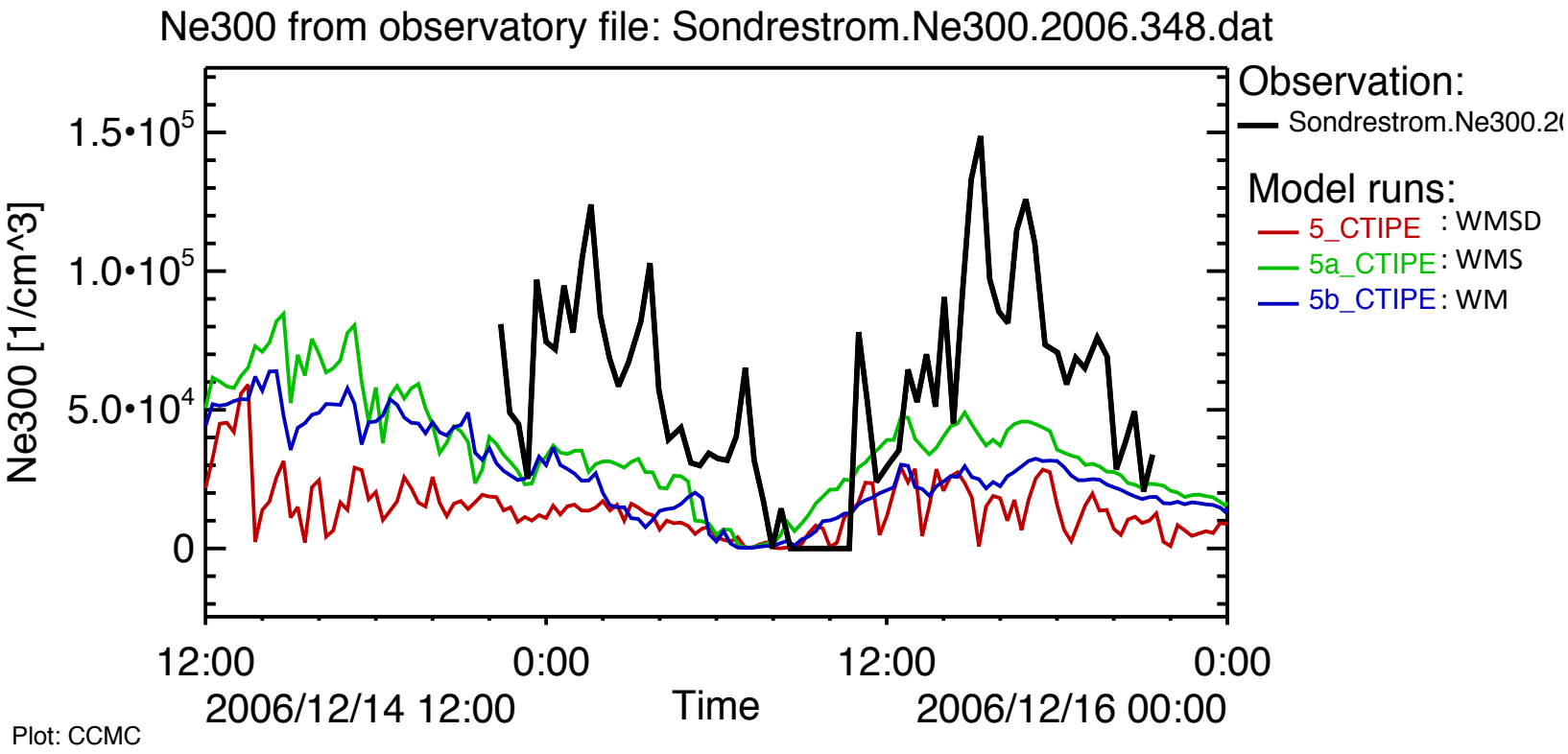
Neutral density at the CHAMP location



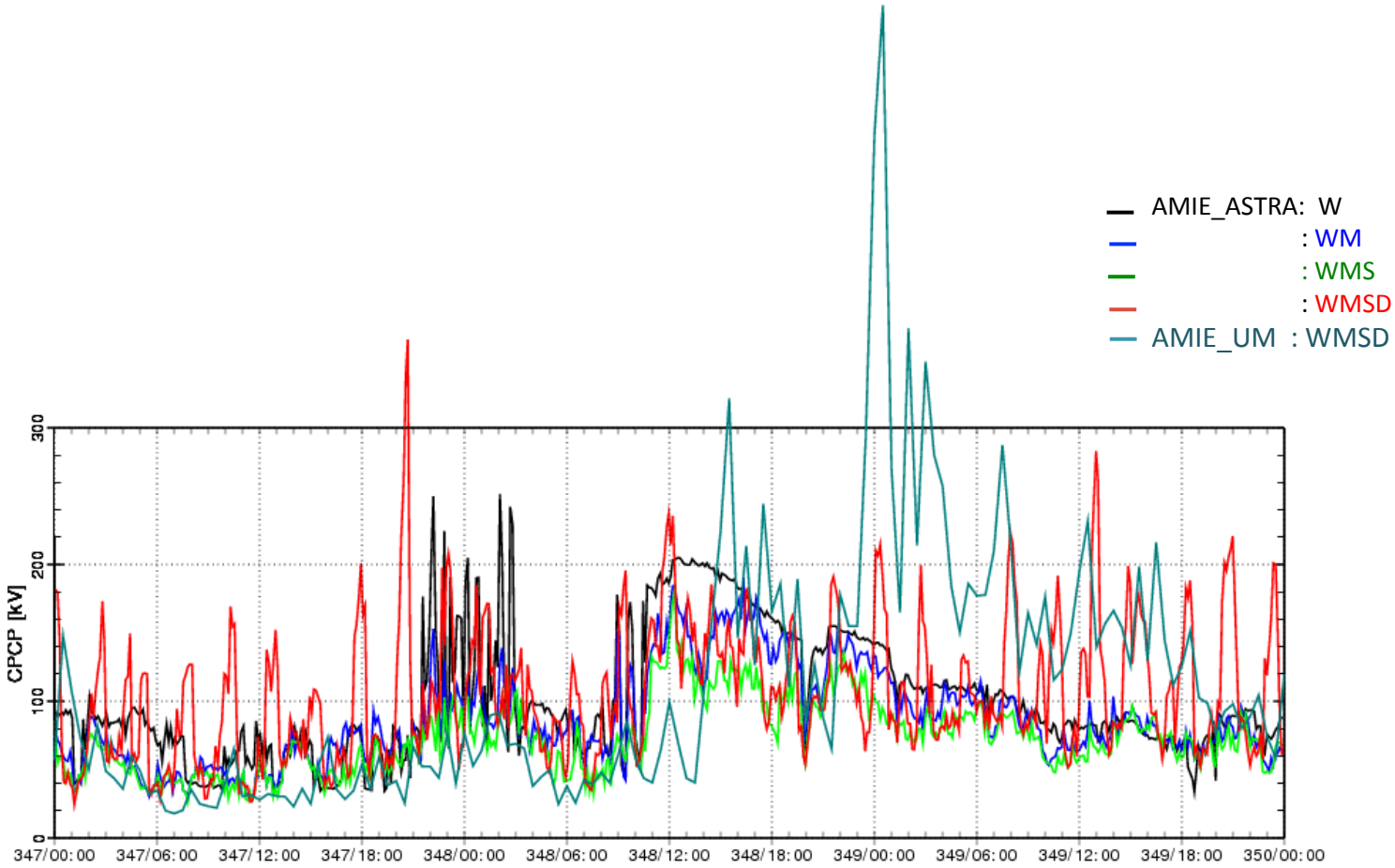
Tn at 250 km in high latitude (Resolute Bay)



Ne at 300km in high latitude

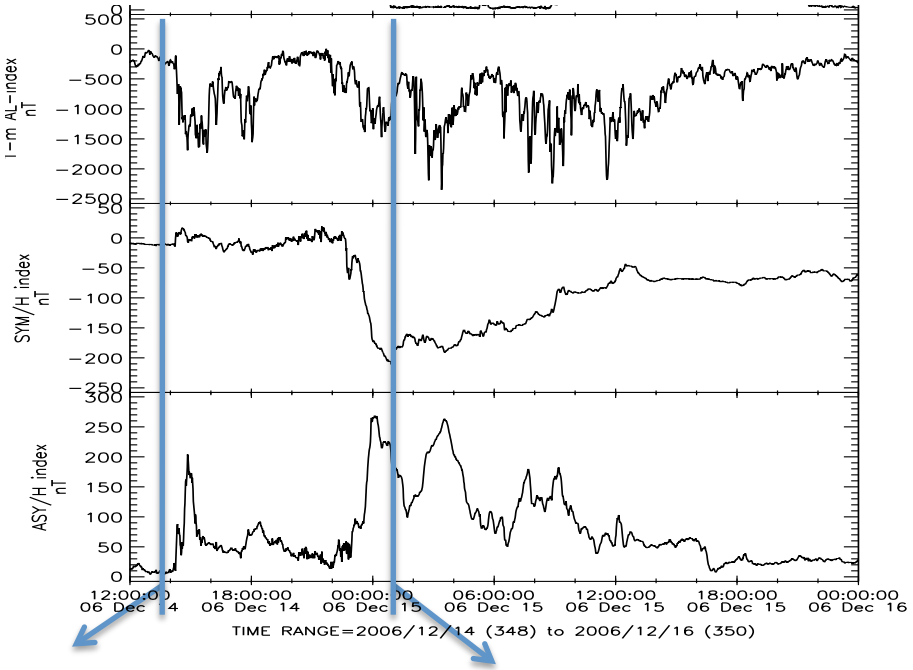


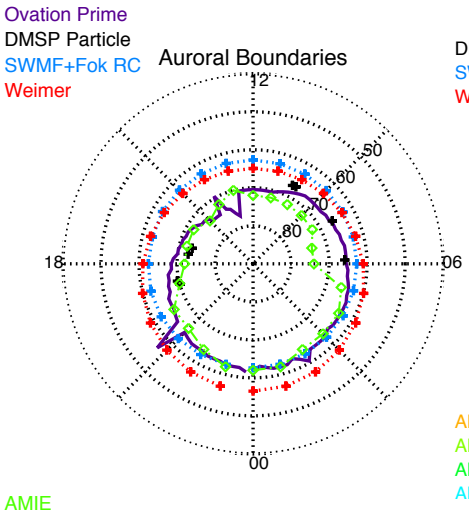
CPCP

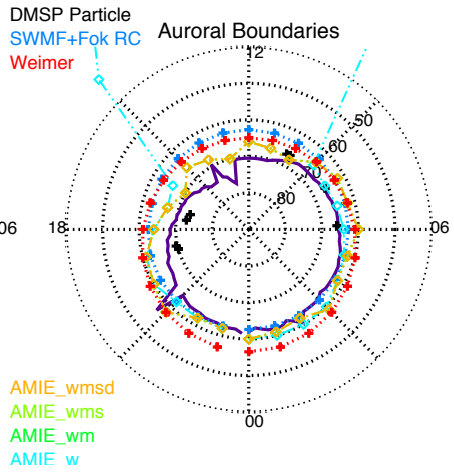

AMIE_ASTRA: W
: WM
: WMS
: WMSD
AMIE_UM : WMSD
CPCP [kV]
0
100
200
300
347/00:00
347/06:00
347/12:00
347/18:00
348/00:00
348/06:00
348/12:00
348/18:00
349/00:00
349/06:00
349/12:00
349/18:00
350/00:00

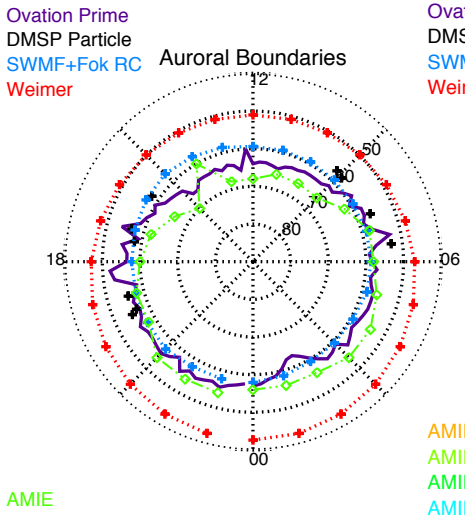
MLT distribution at different activity levels

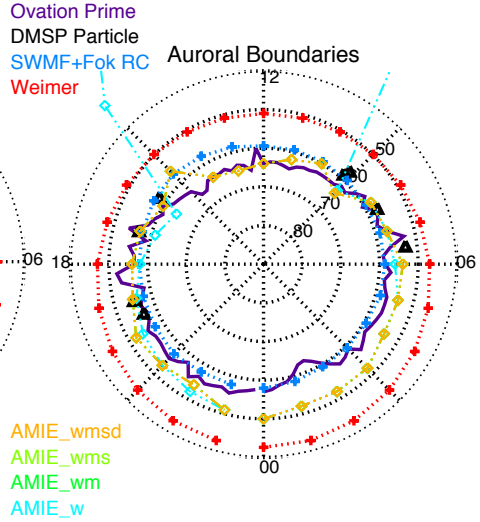
Event:
14-16 December 2006











➔ **Ovation Prime, AMIE perform better in capture MLT features**

model performance at fixed MLT

- Equatorward expansion during geomagnetically active times (high Kp)
- Most-equatorward expansion at Dusk leads that at Dawn