

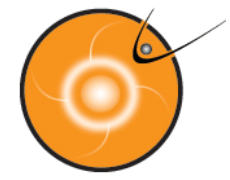
High-Latitude Energy Dissipation compared with DMSP Observations

Lutz Rastätter

Ja Soon Shim, E. Ceren Eyigüler,
Maria M. Kuznetsova

Community Coordinated Modeling Center

Also: Joule Dissipation and Orbit-Averaged Density

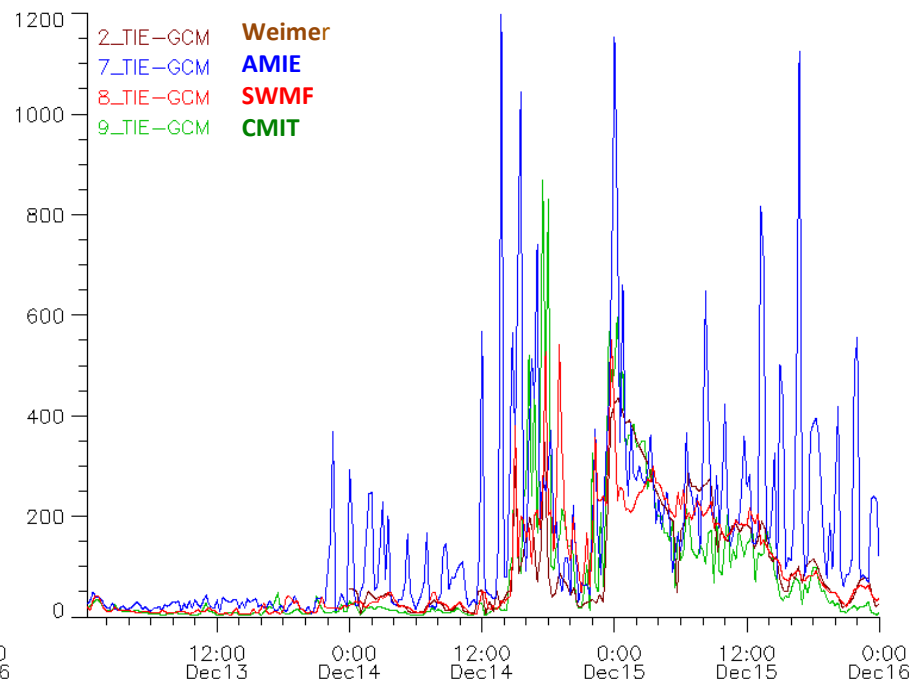
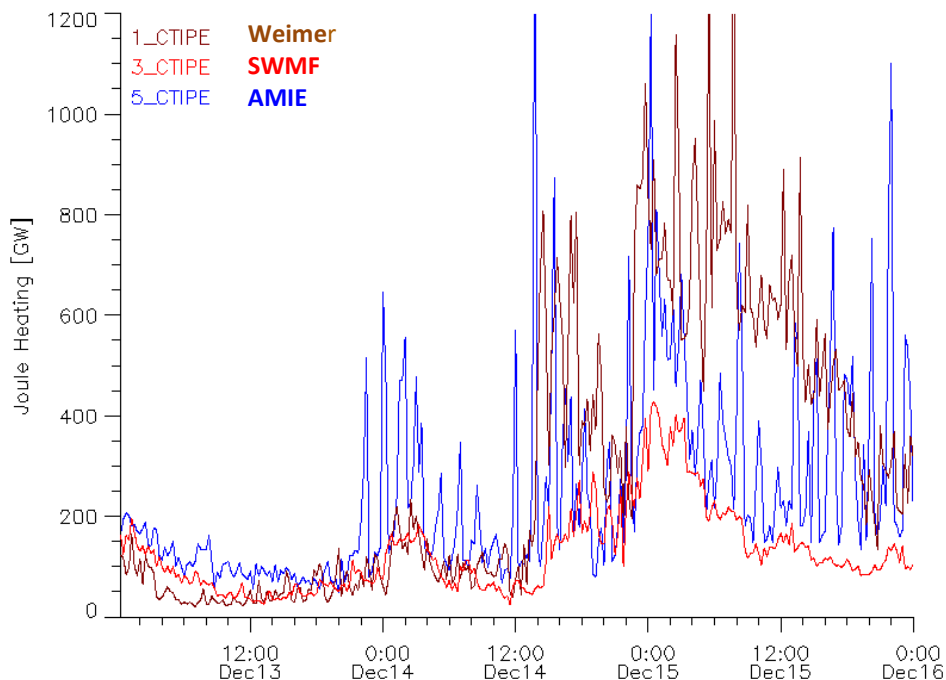


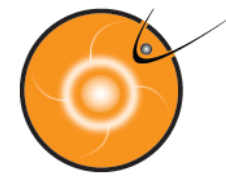
Driver Effect on Joule Heating

Multiple high-latitude electric potential drivers possible:

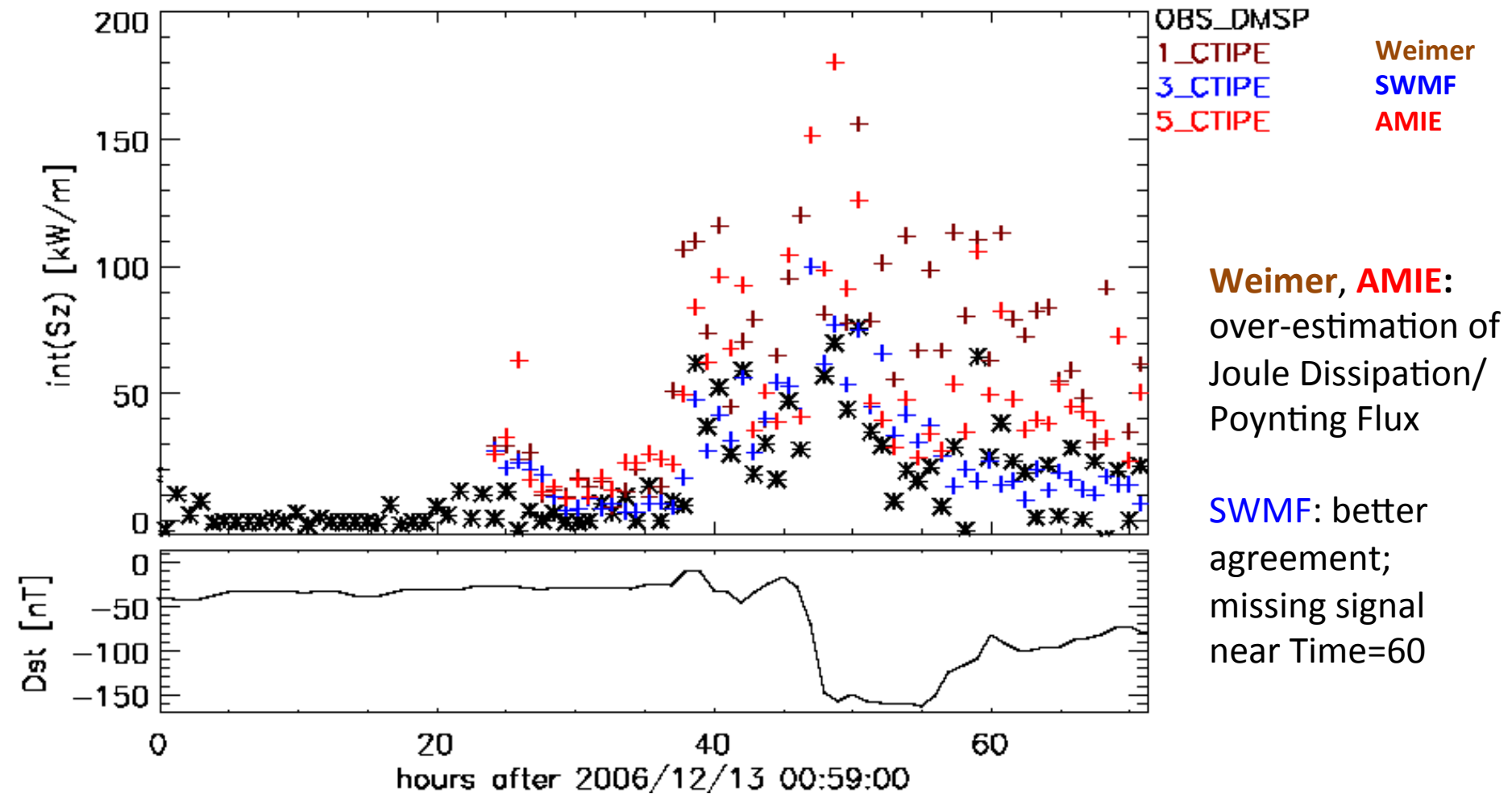
- Built-in (in both, CTIPE, TIE-GCM):
 - Weimer
- External:
 - CMIT (TIE-GCM is part of fully coupled model)
 - SWMF (via Kameleon)

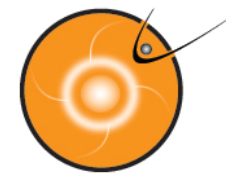
Joule Dissipation – total northern hemisphere



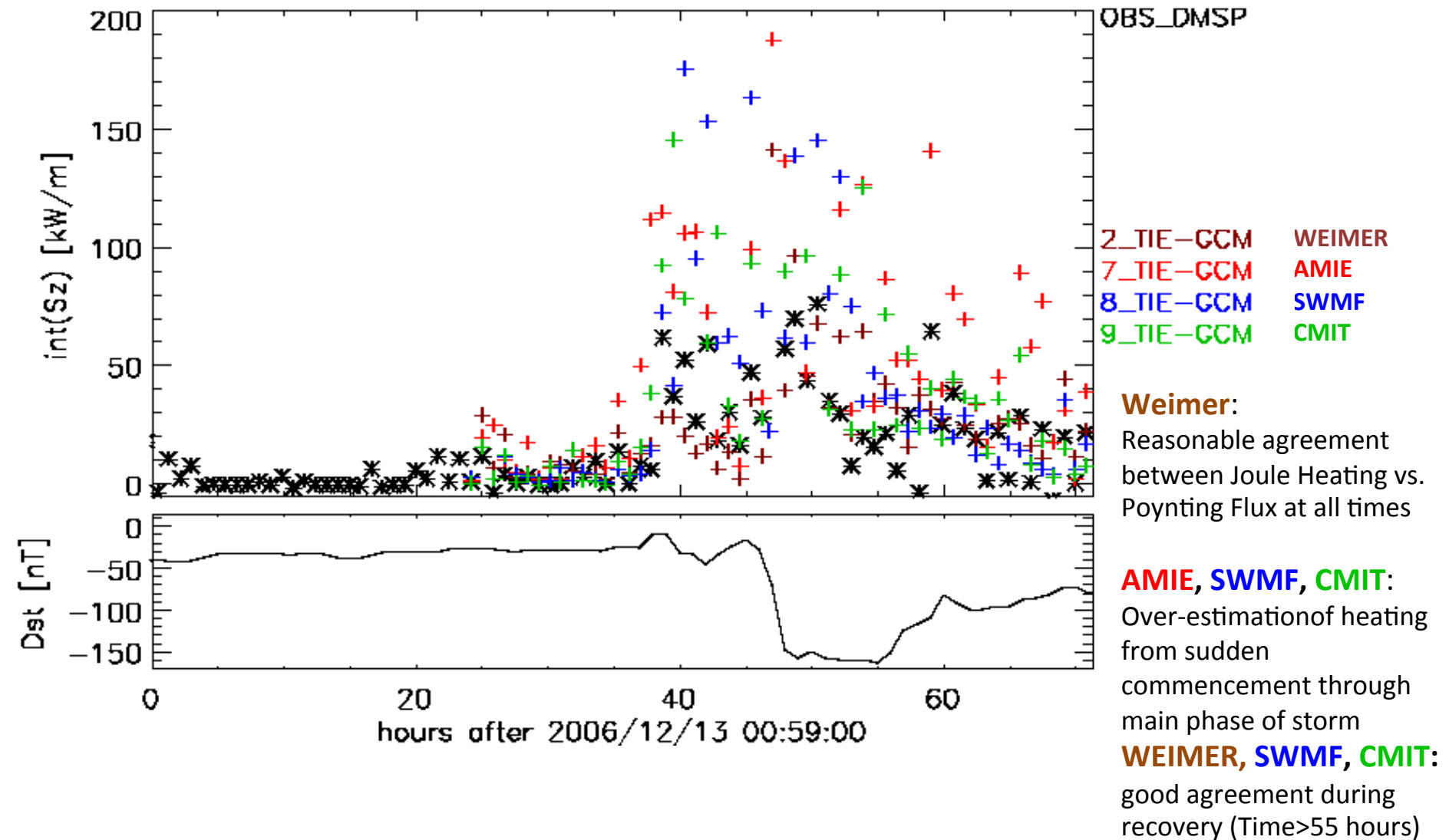


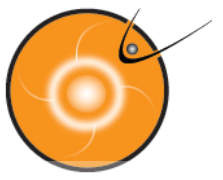
Analysis by DMSP pass - CTIPe





Analysis by DMSP pass – TIE-GCM





Orbit-averaged density

