

# RISR-C radar observations: Ion heating event caused by fast azimuthal flows near the cusp

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Magnetospheric energy input and its role in the MIT coupling

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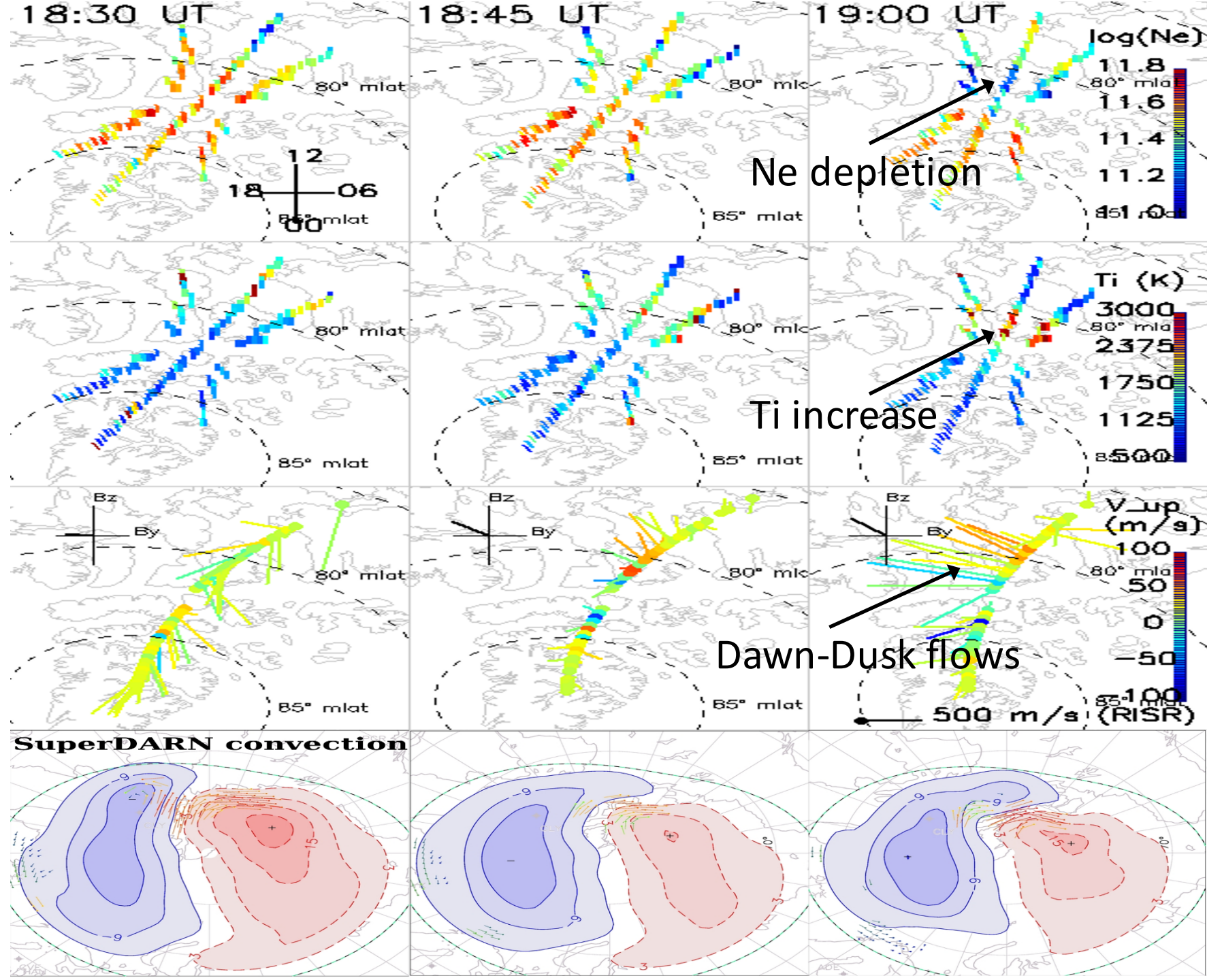
Ion temp  
enhancement:

-change in IMF  $B_y$  from  
positive to negative

-fast dawn-to-dusk flows in  
both RISR and SuperDARN

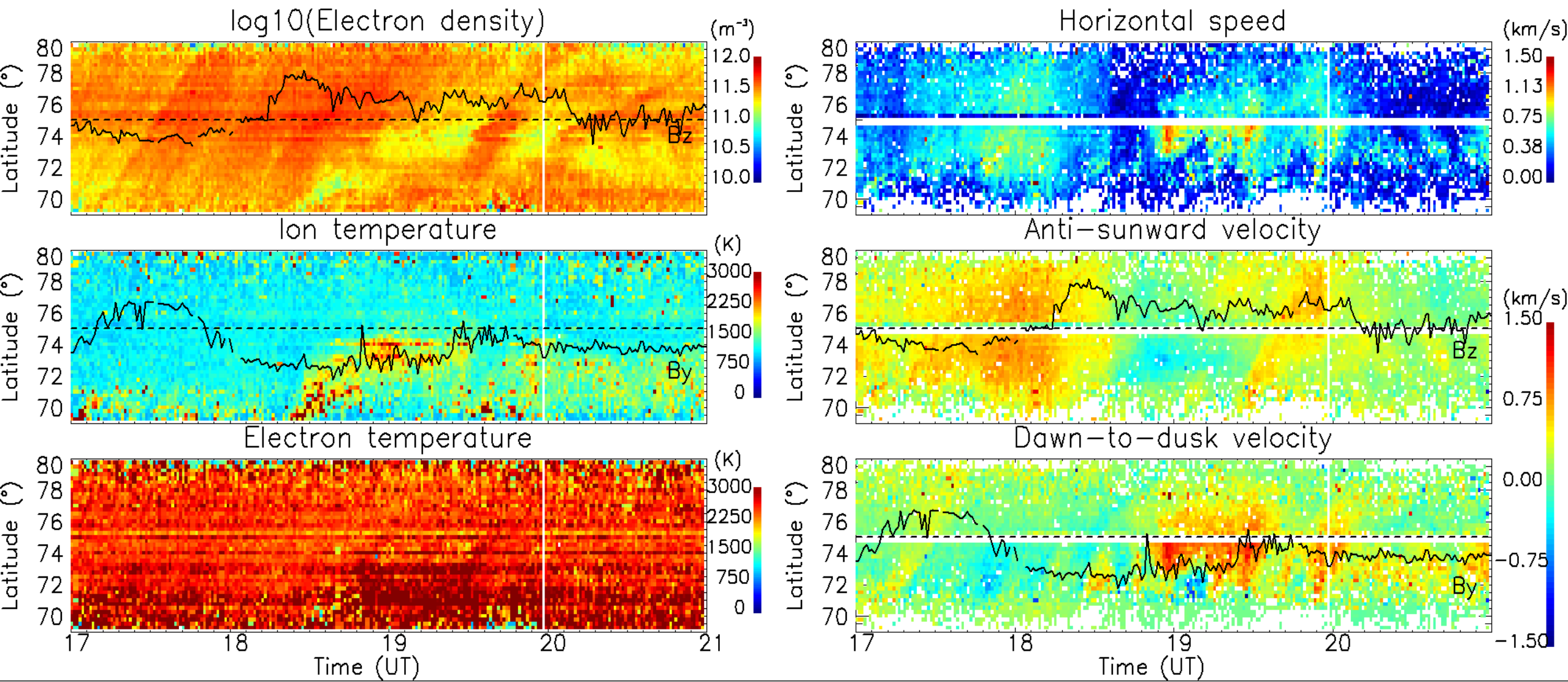
-ion temperature  
enhancement

-electron density depletion





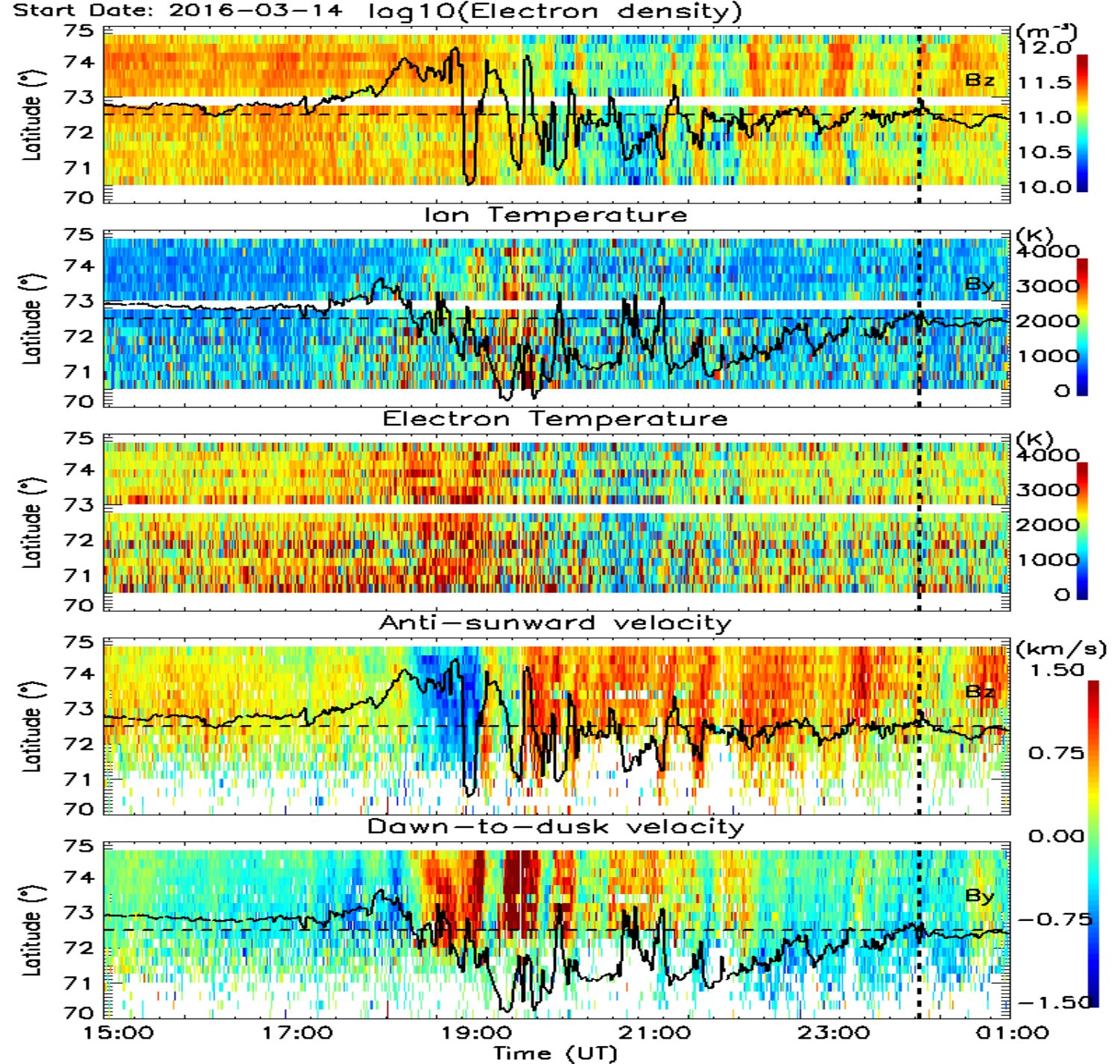
# RISR keograms:



-Ion temperature enhancement coincides with electron density depletion and IMF and convection changes

# More intense Ti event:

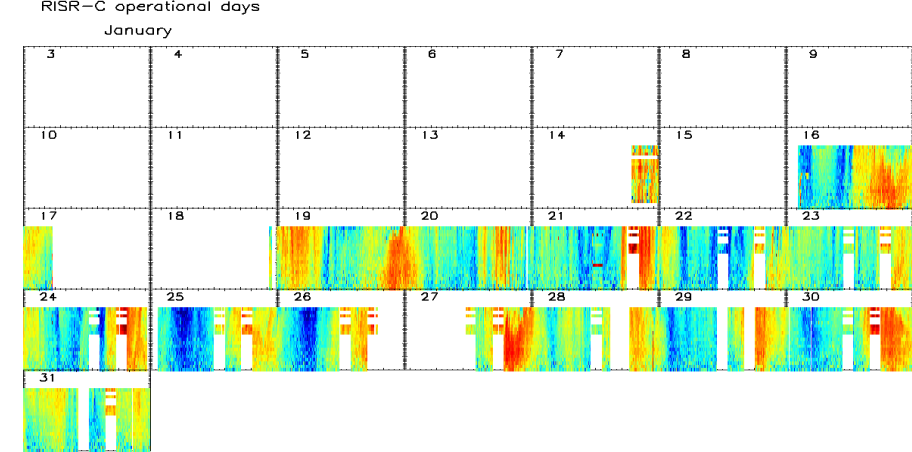
-Rapid change in Bz (+20 to -20 nT) accompanied by Ti increase to over 4000 K



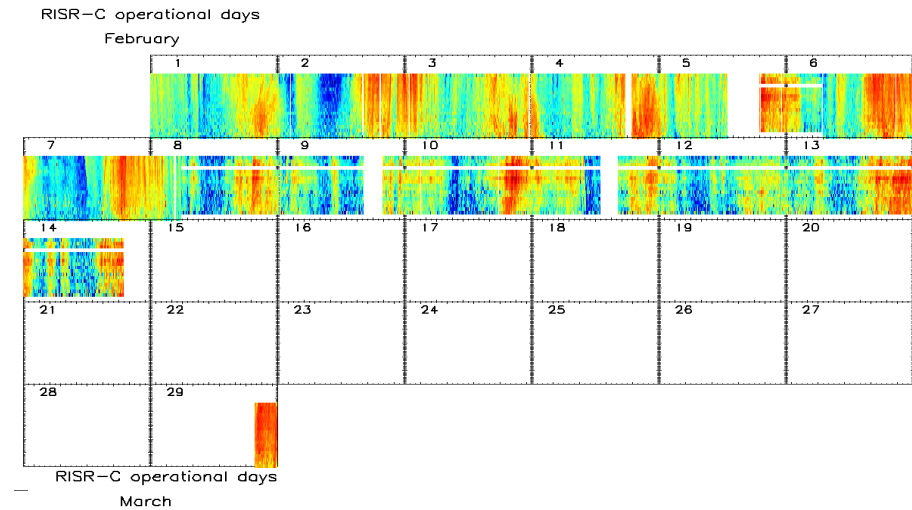
# RISR-C 2016 operations and data access:

- 42 days of RISR-C data from Jan.-Mar.
- RISR-N was also operating for these days
- Experiment modes used:
  - 11-beam World day mode (LP and AC data)
  - 51-beam imaging mode (LP data)
  - 4-beam topside mode for ePOP conjunctions (LP data)
- Processed data available in .H5 file format
  - Contact R. Gillies for data (email:rgillies@ucalgary.ca)

January:



February:



March:

