

# THEMIS FTE

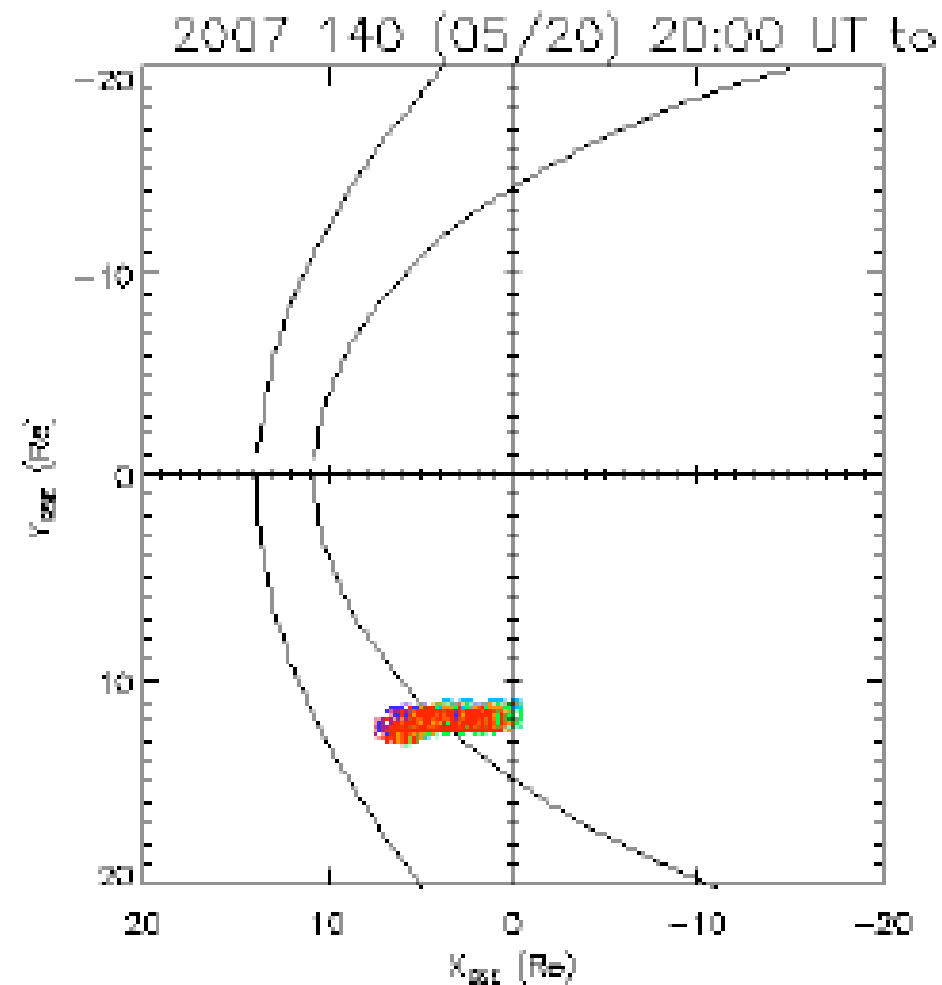
May 20, 2007

22:02 UT

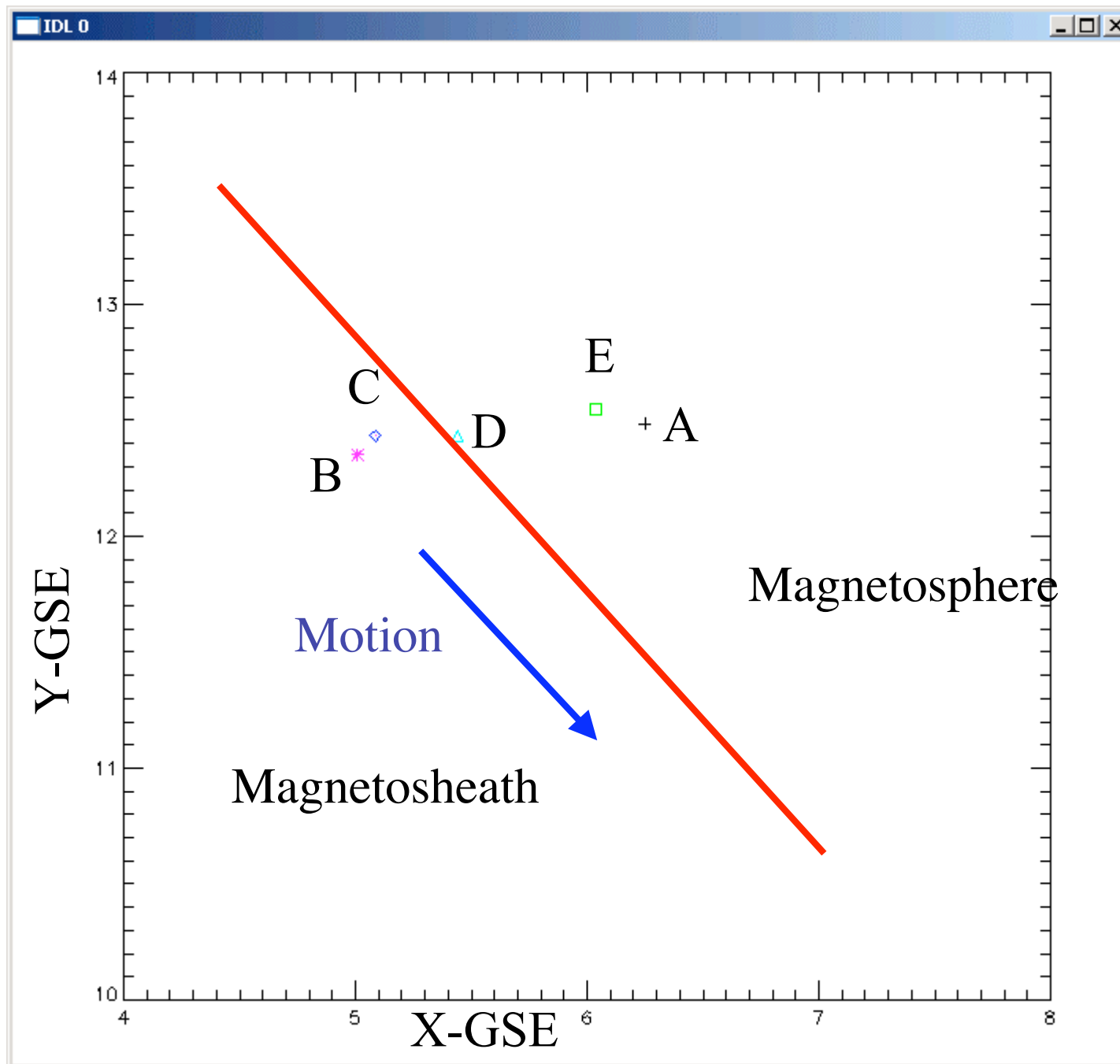
# THEMIS FTE

- May 20, 2007 from 2201 to 2203 UT
- Seen by all 5 THEMIS S/C.
- THEMIS A and E remain in magnetosheath
- THEMIS B and C see magnetospheric side
- THEMIS D scores a direct hit!

# Locations: May 20, 2007

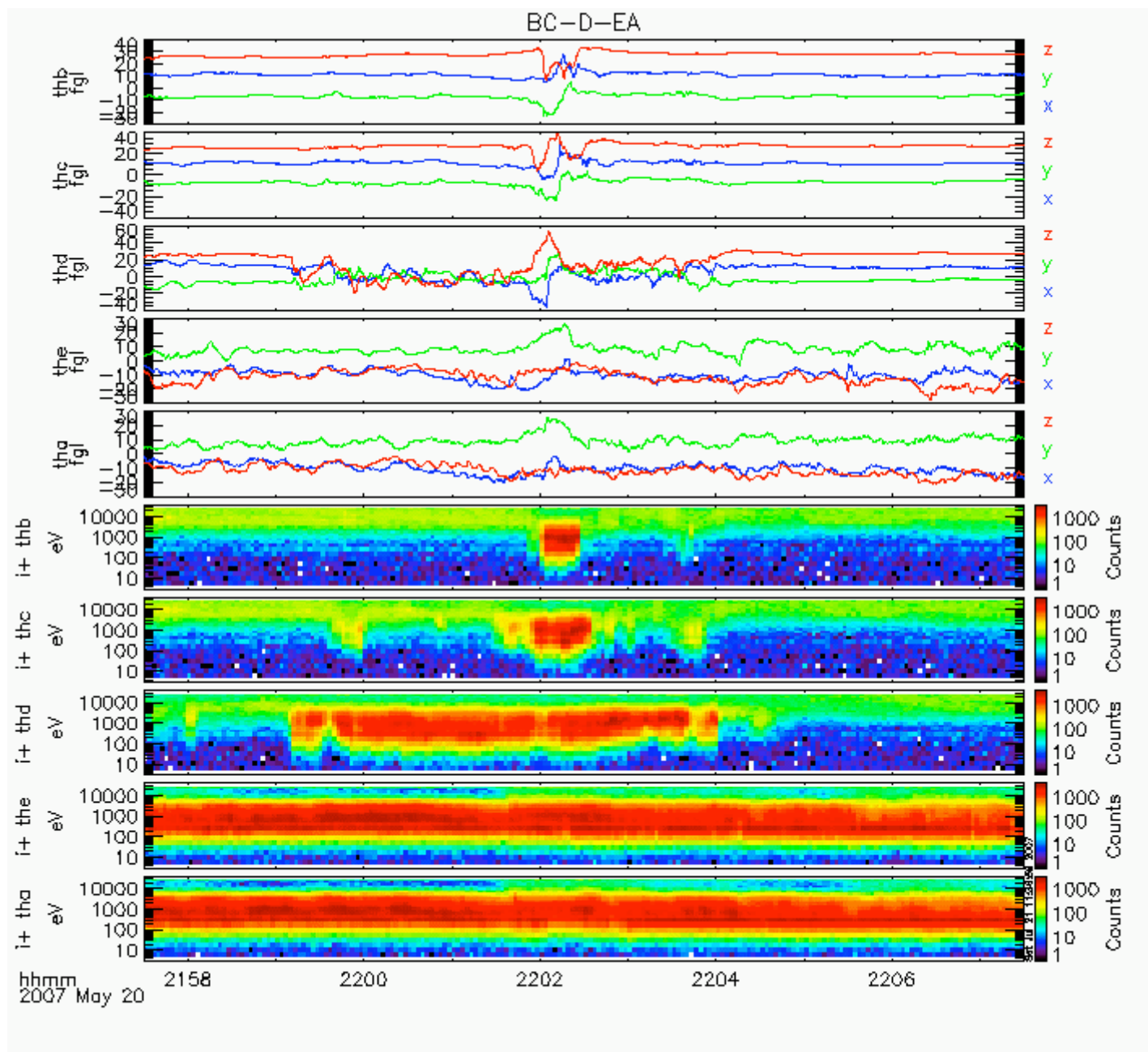


Post-noon  
magnetopause



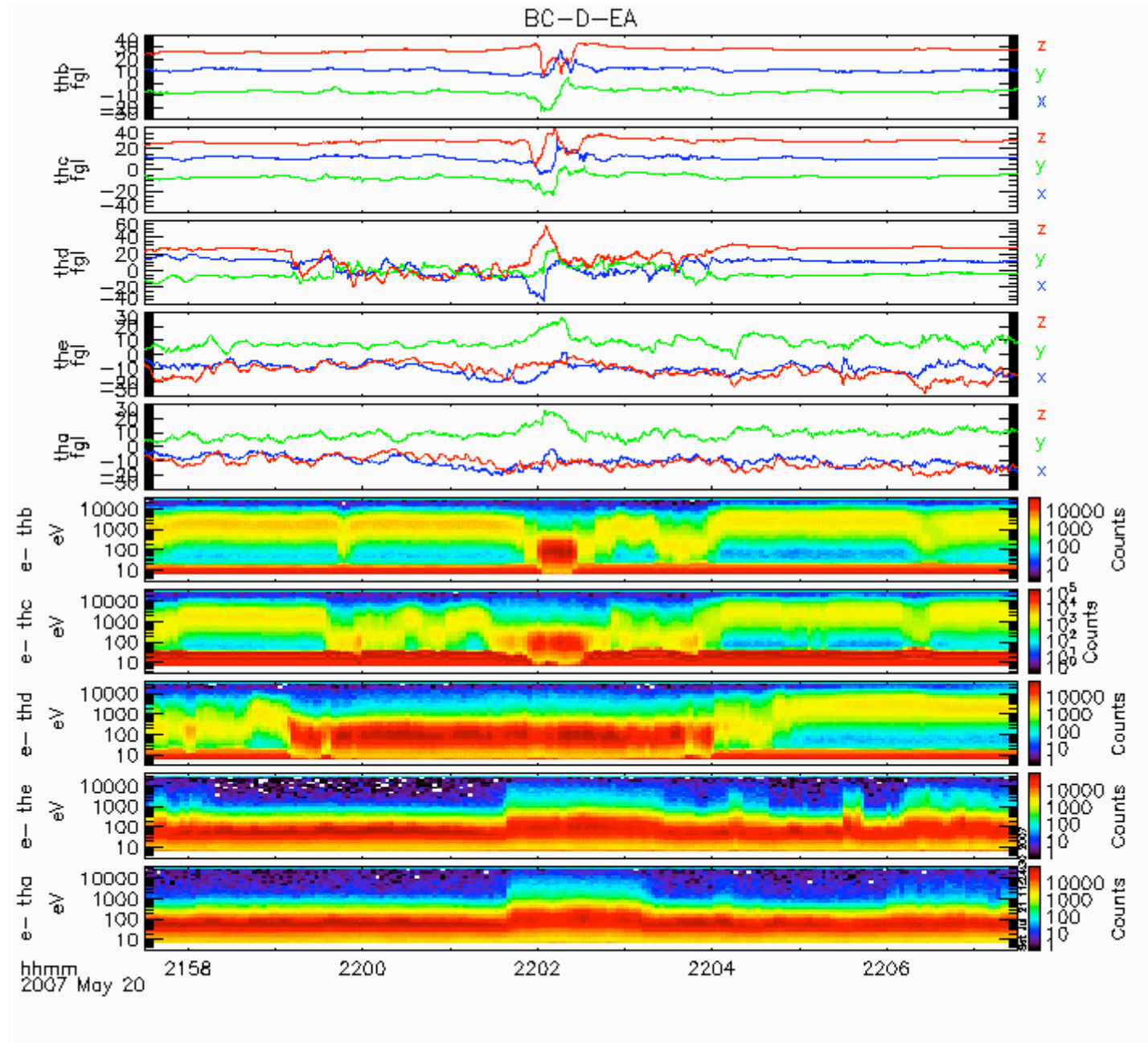
ESA  
Ions

B  
C  
D  
E  
A



ESA  
Electrons  
RDFs

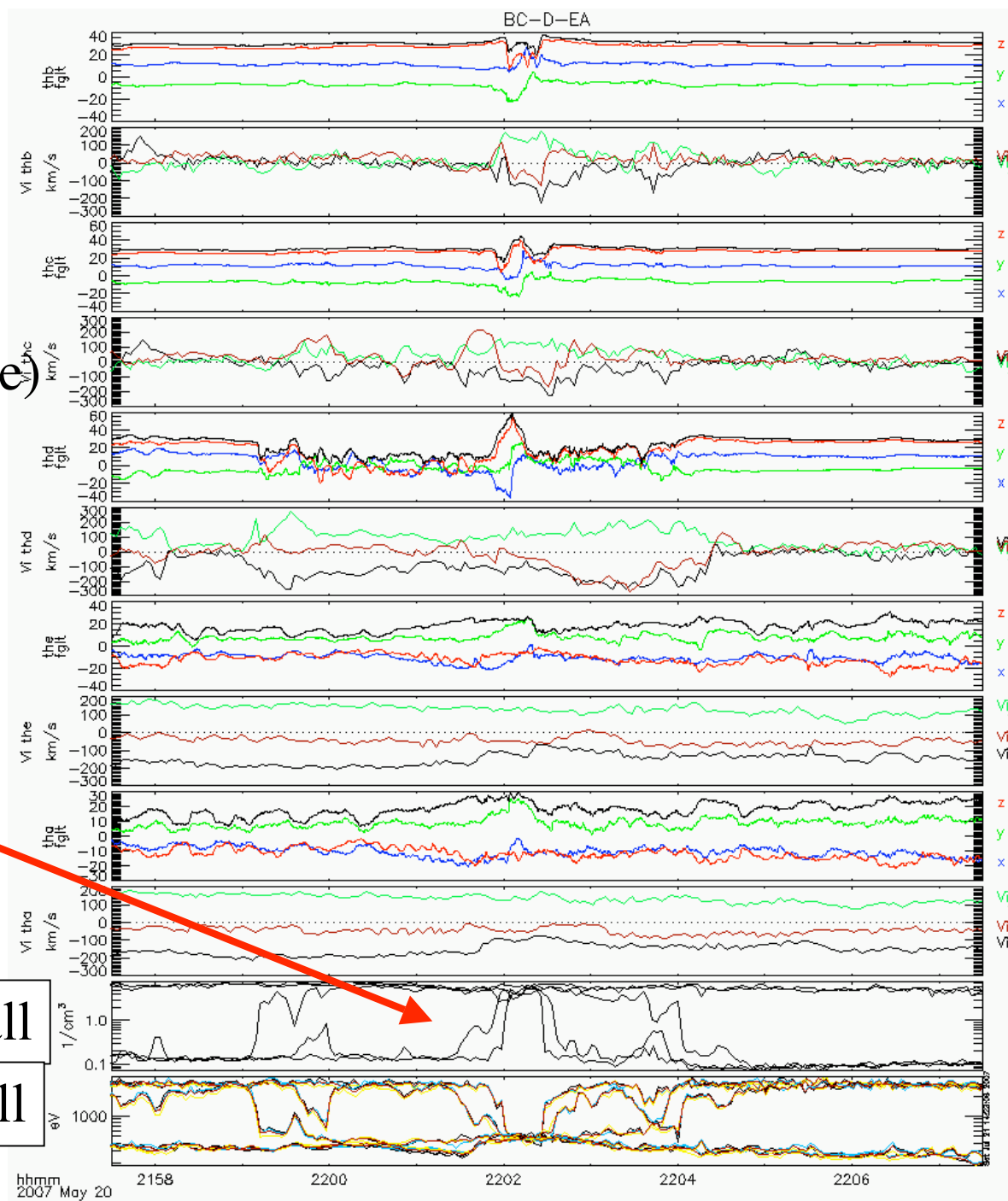
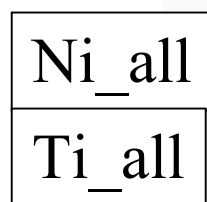
B  
C  
D  
E  
A

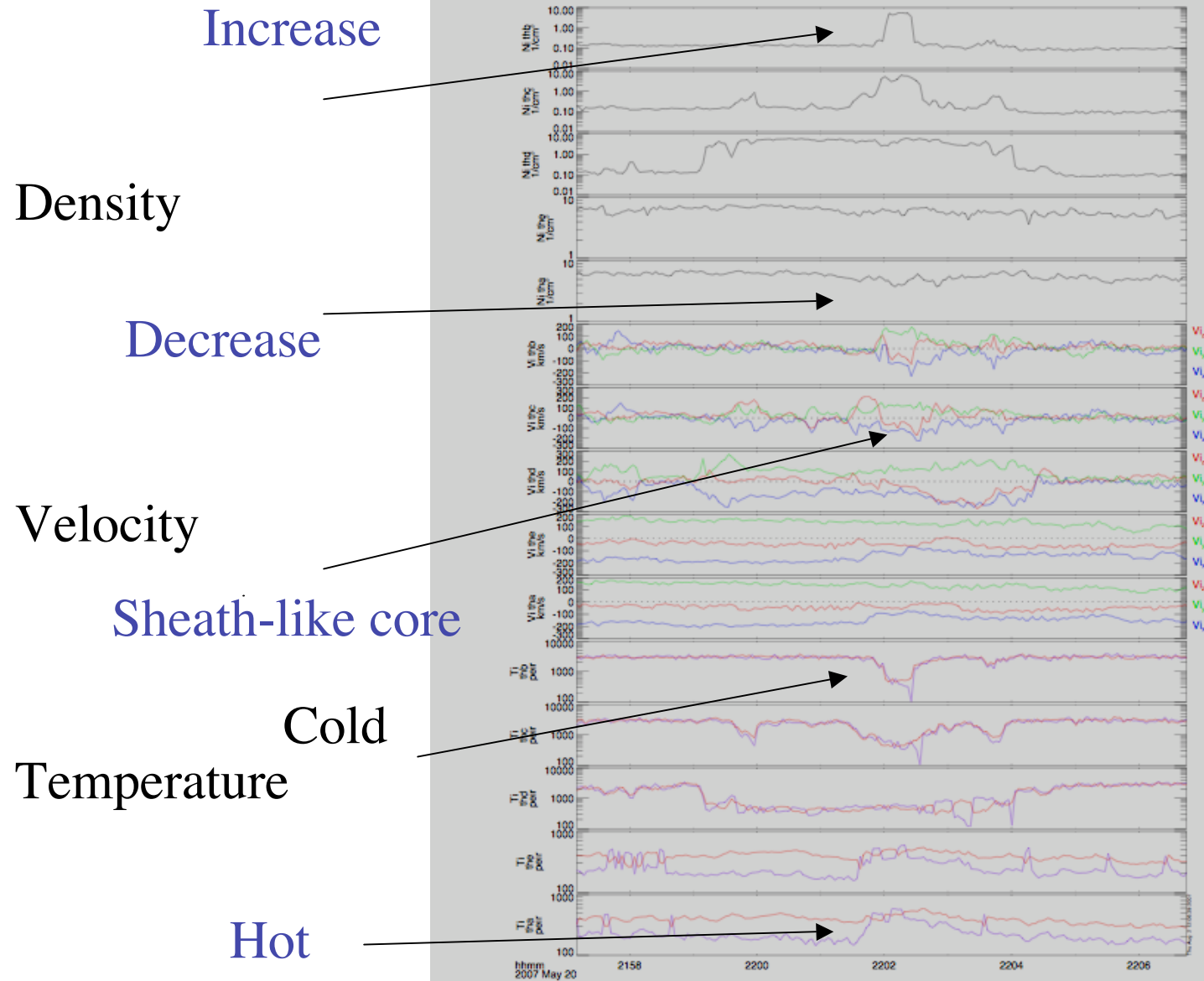


$V_x < 0, V_y > 0$   
 $V_z < 0$  within core)

Density  
Increase  
Temp Decrease

ESA  
gmoms





## THEMIS D (Red)

Strongest (northward) core field

Strongest bipolar  $(-,+)$

$B_x$  and  $B_y$  signatures

## THEMIS B&C (Blue)

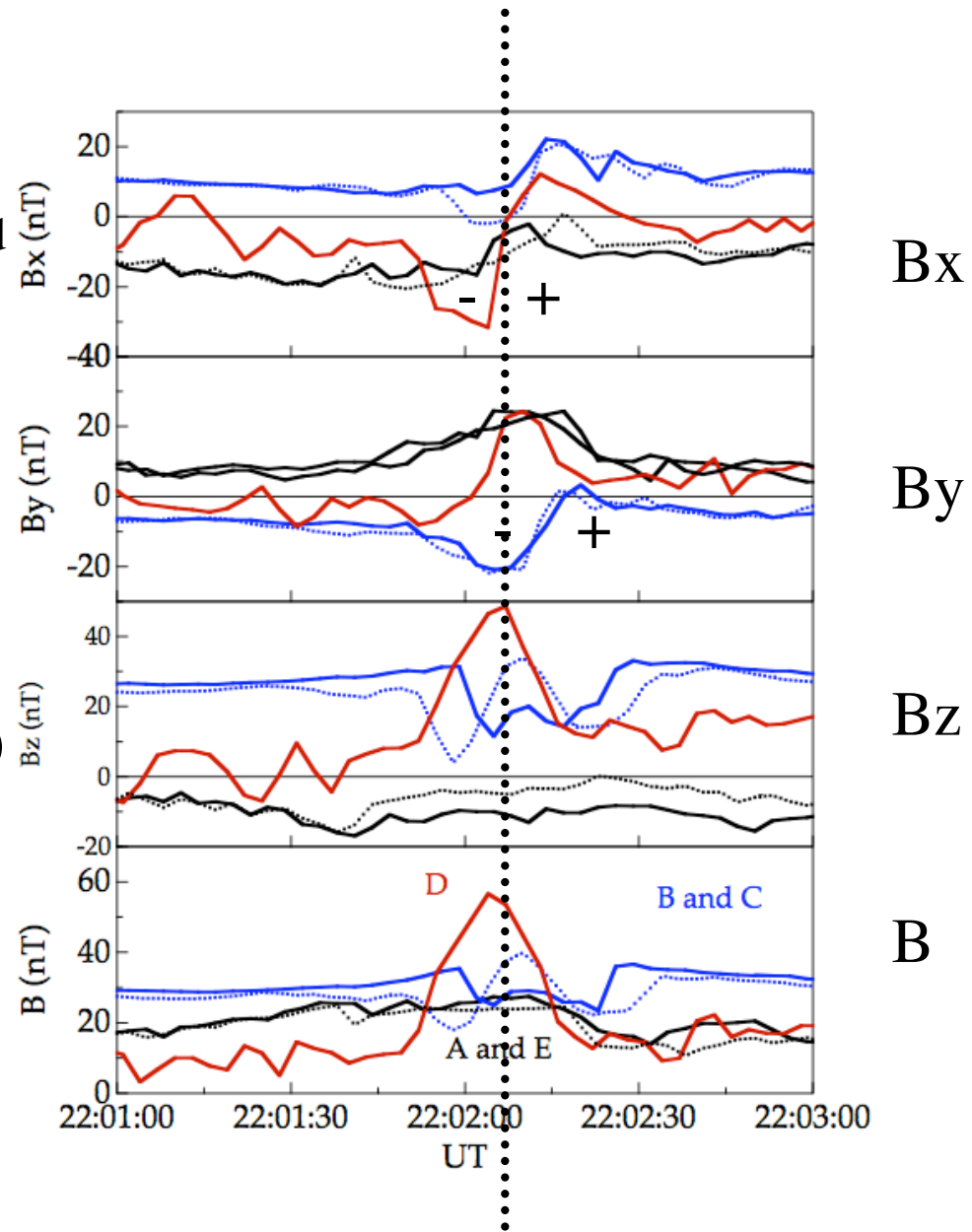
Crater FTEs

Strong core fields

## THEMIS A&E (Black)

Modest compressions

Weak bipolar  $(-,+)$   $B_x$

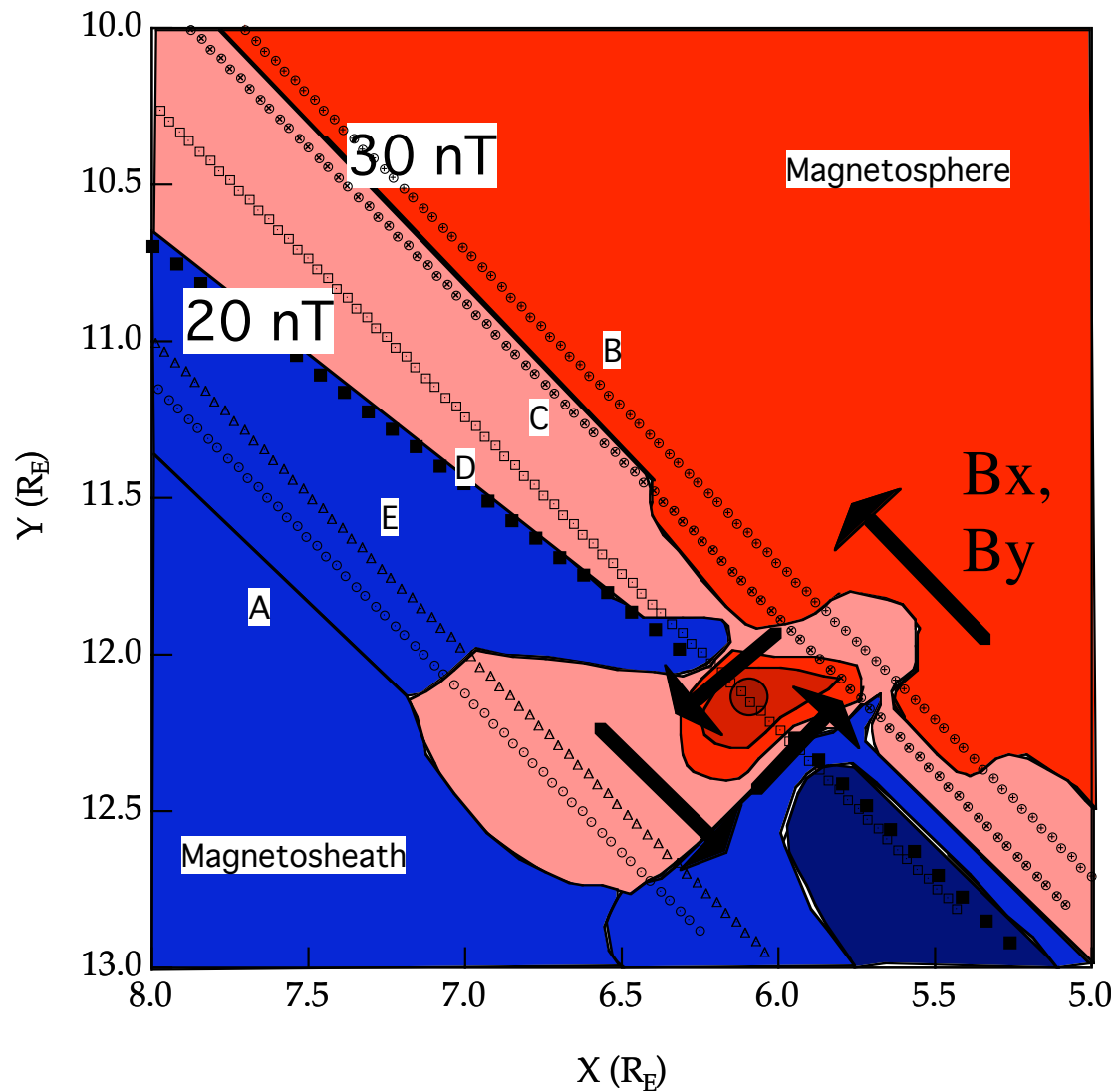


# Magnetic Field Strength Contours

10 nT contours

Red high,

Blue low



# Needed for Further Study

- 1. Comprehensive model, including pressure balance and (co-axial) currents
- 2. Information concerning suprathermal ion and electron anisotropies: connectivity, cause of waves
- 3. Wave activity
- 4. Correlative observations from (Canadian) ground observatories and other s/c (GOES?).