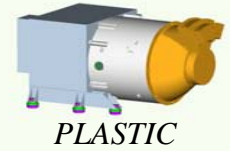


STEREO SC/B Magnetosheath Observations

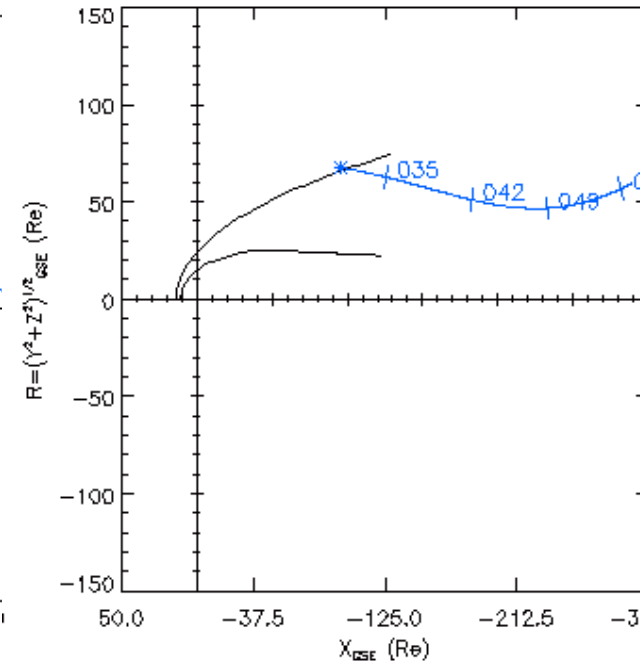
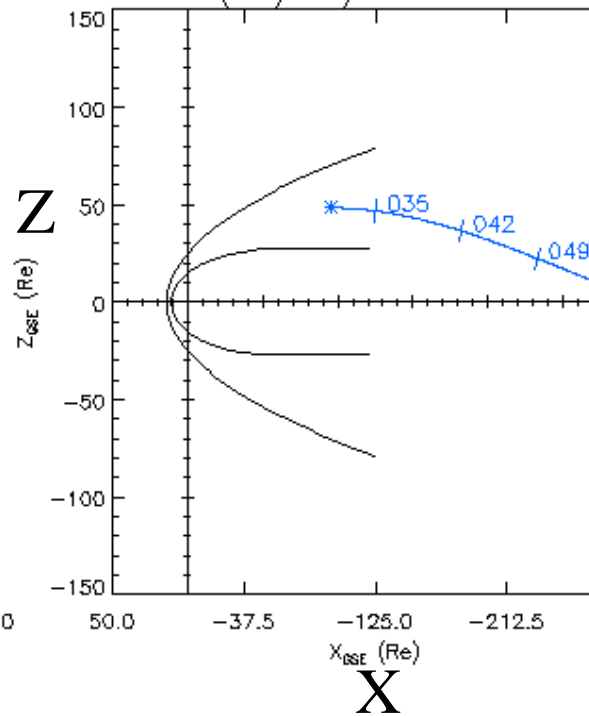
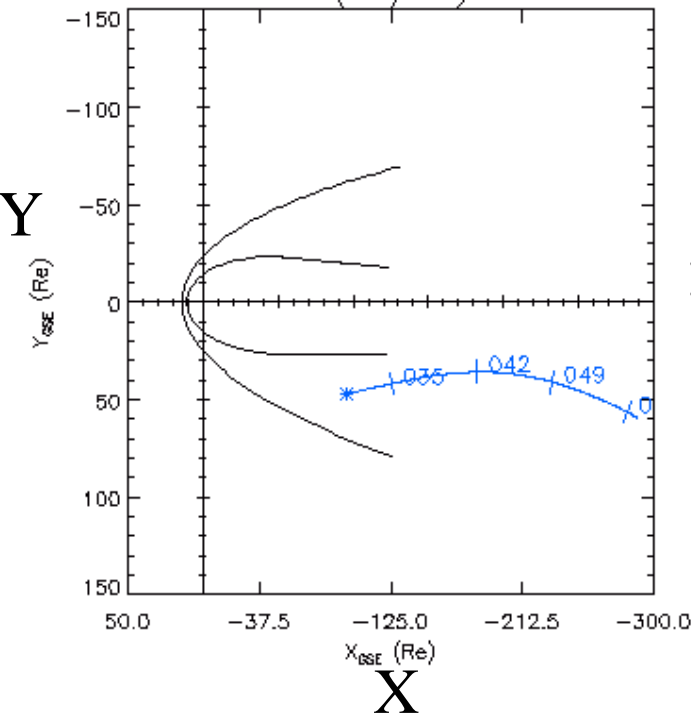
Lynn M. Kistler
Space Science Center
UNH



S/C B During February, 2007



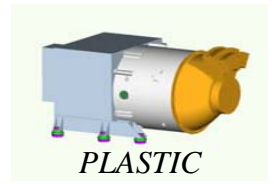
2007 032 (02/01) 00:00 UT to 2007 056 (02/25) 23:48 UT



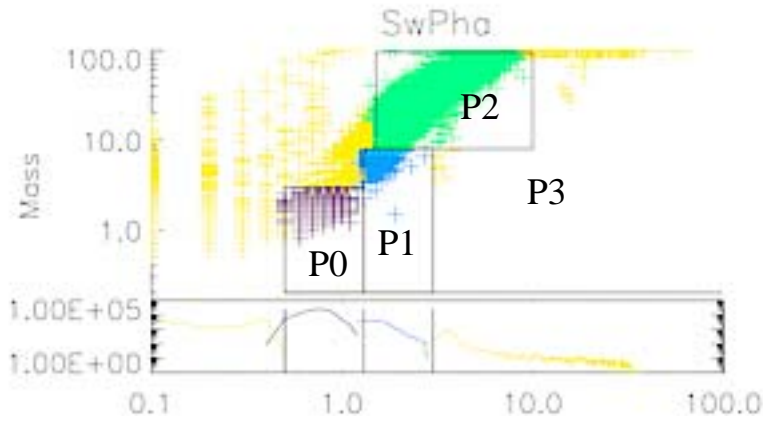
Solar Wind Pressure=2.1nPa IMF BZ=0.0nT



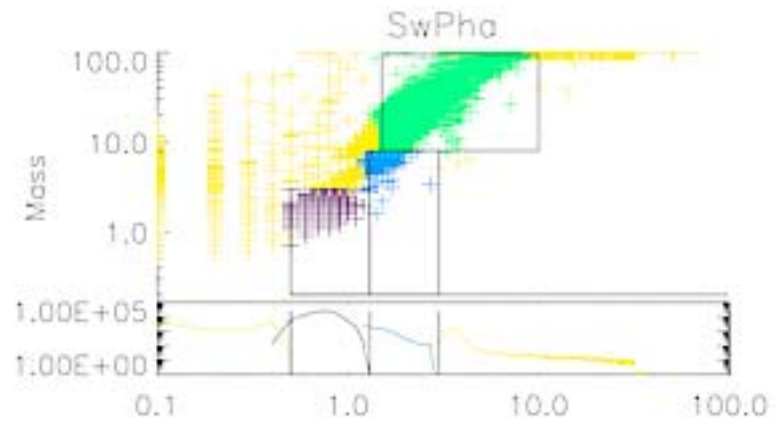
Mass - Mass per Charge Matrices All Energies (<80 keV)



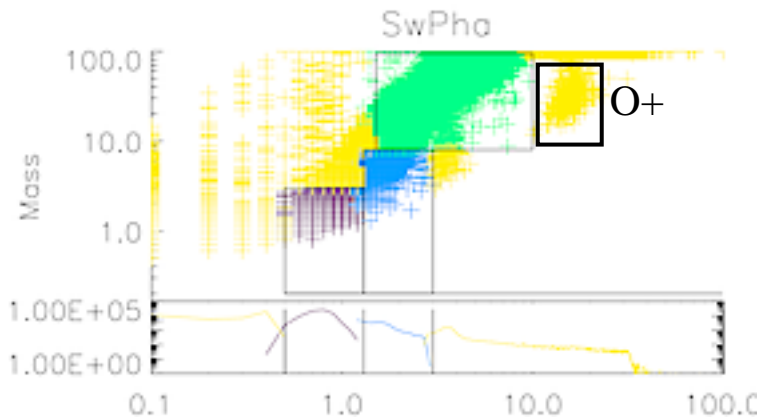
Feb 10



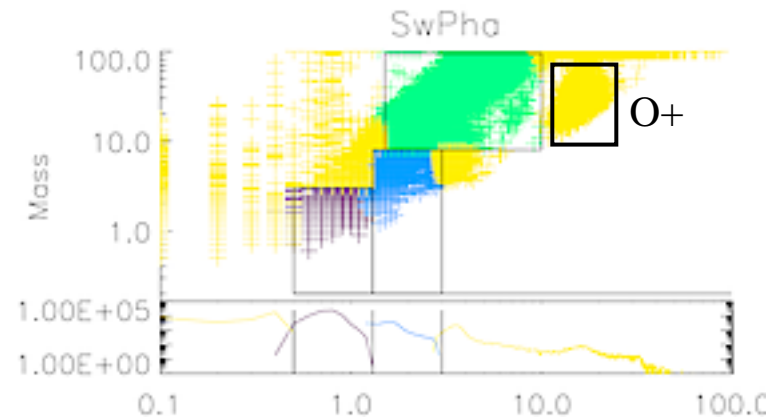
Feb 11



Feb 12



Feb 13





Mass - Mass per Charge Matrices

Feb 13, 2007

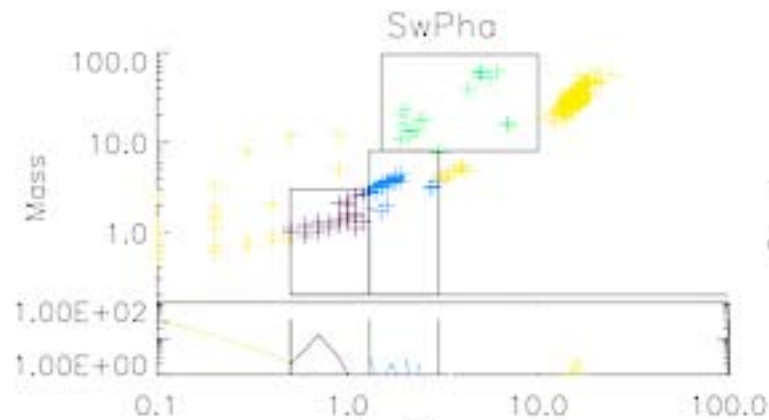
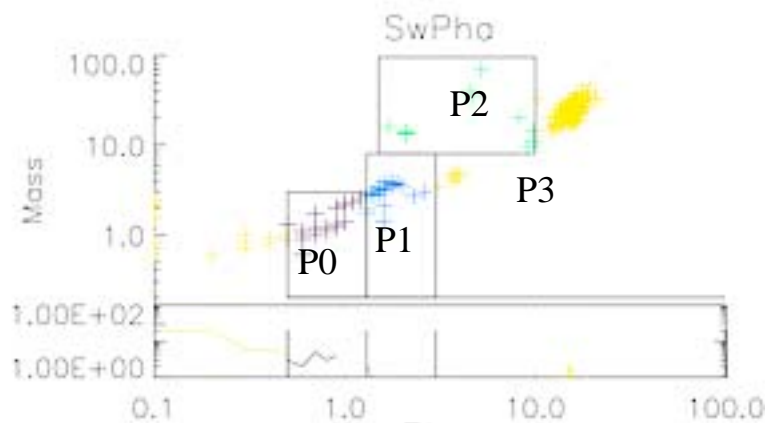
Individual Energies



PLASTIC

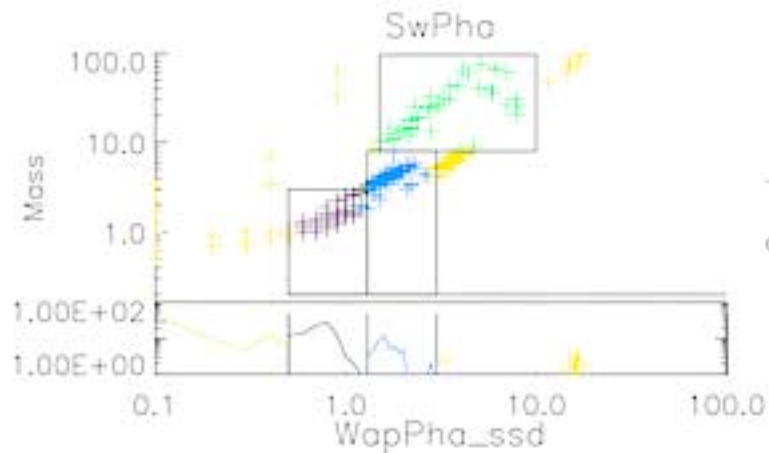
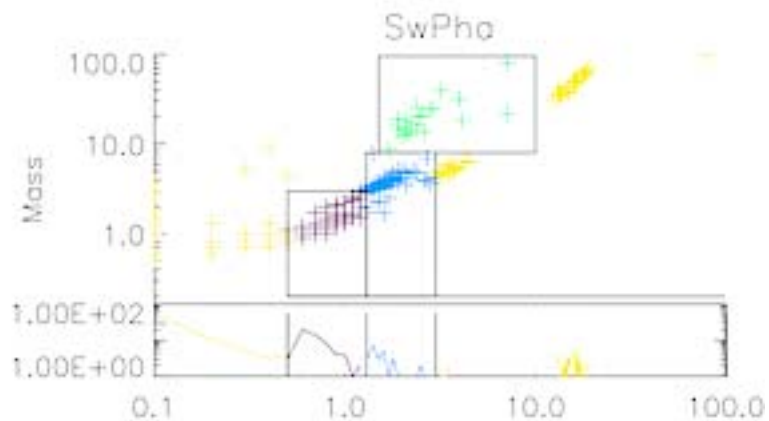
79 keV/e

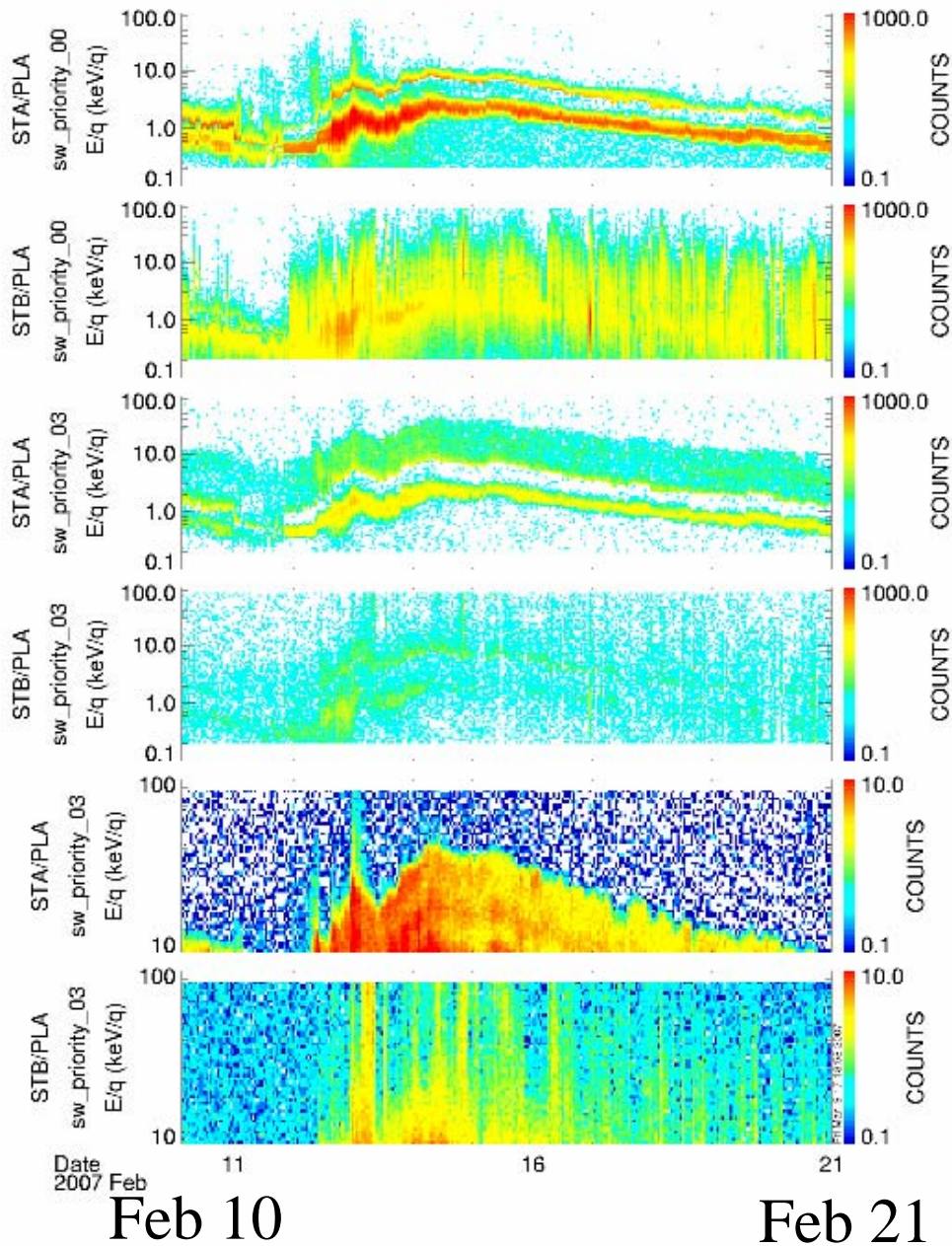
59 keV/e



40 keV/e

29 keV/e





S/CA H+ (SW)

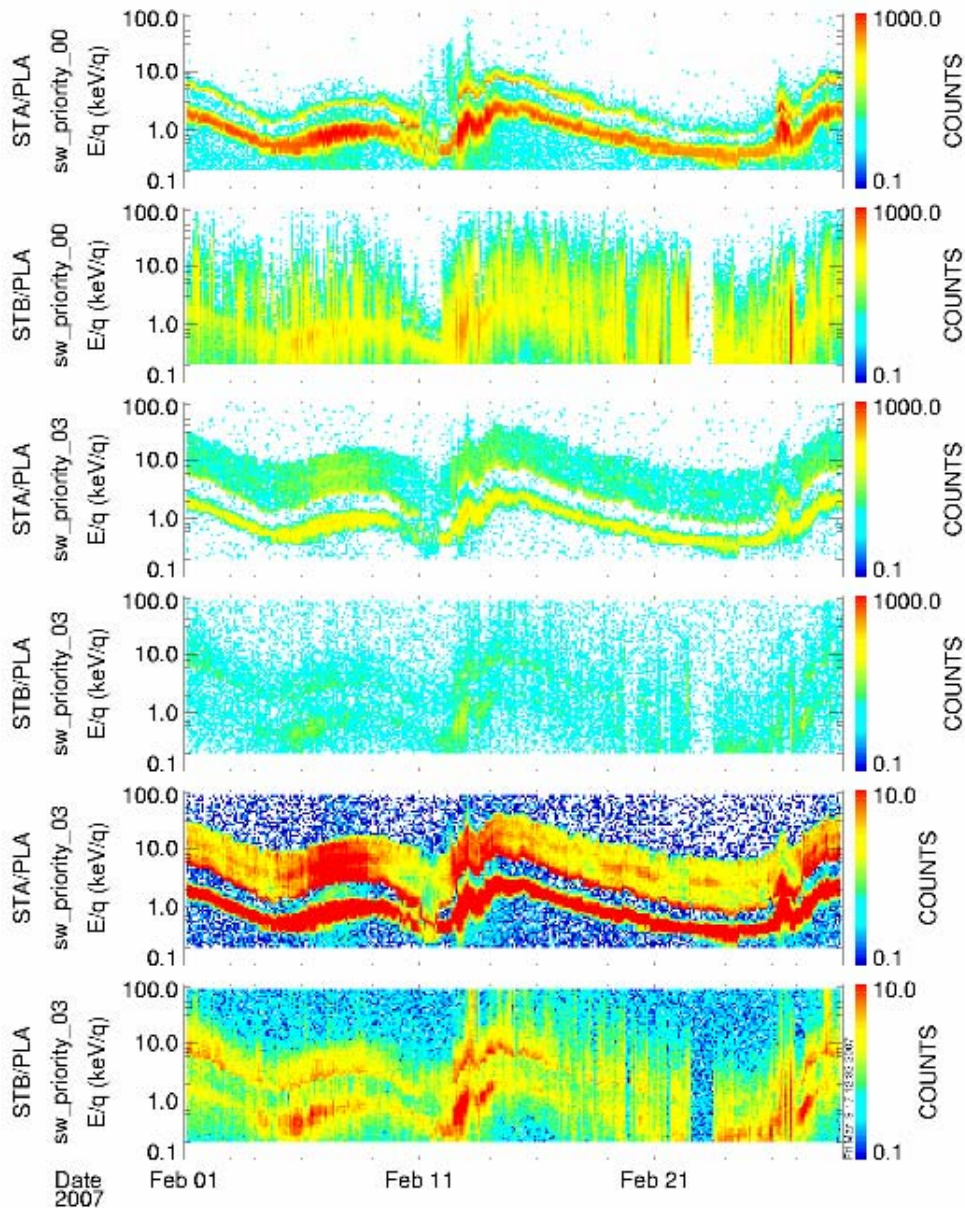
S/C B H+ (Magnetosheath)

S/C A Priority 3 (SW)

S/C B Priority 3 (M-Sheath)

S/CA Priority 3 (1-hr averages)

S/C B Priority 3 (1-hr averages)
(this is the O+)



S/C A H⁺ (SW)

S/C B H⁺ (Magnetosheath)

S/C A Priority 3 (SW)

S/C B Priority 3 (M-Sheath)

S/C A Priority 3 (1-hr averages)

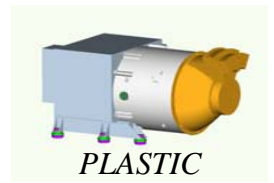
S/C B Priority 3 (1-hr averages)

Feb 1

Mar 1



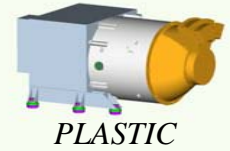
Summary



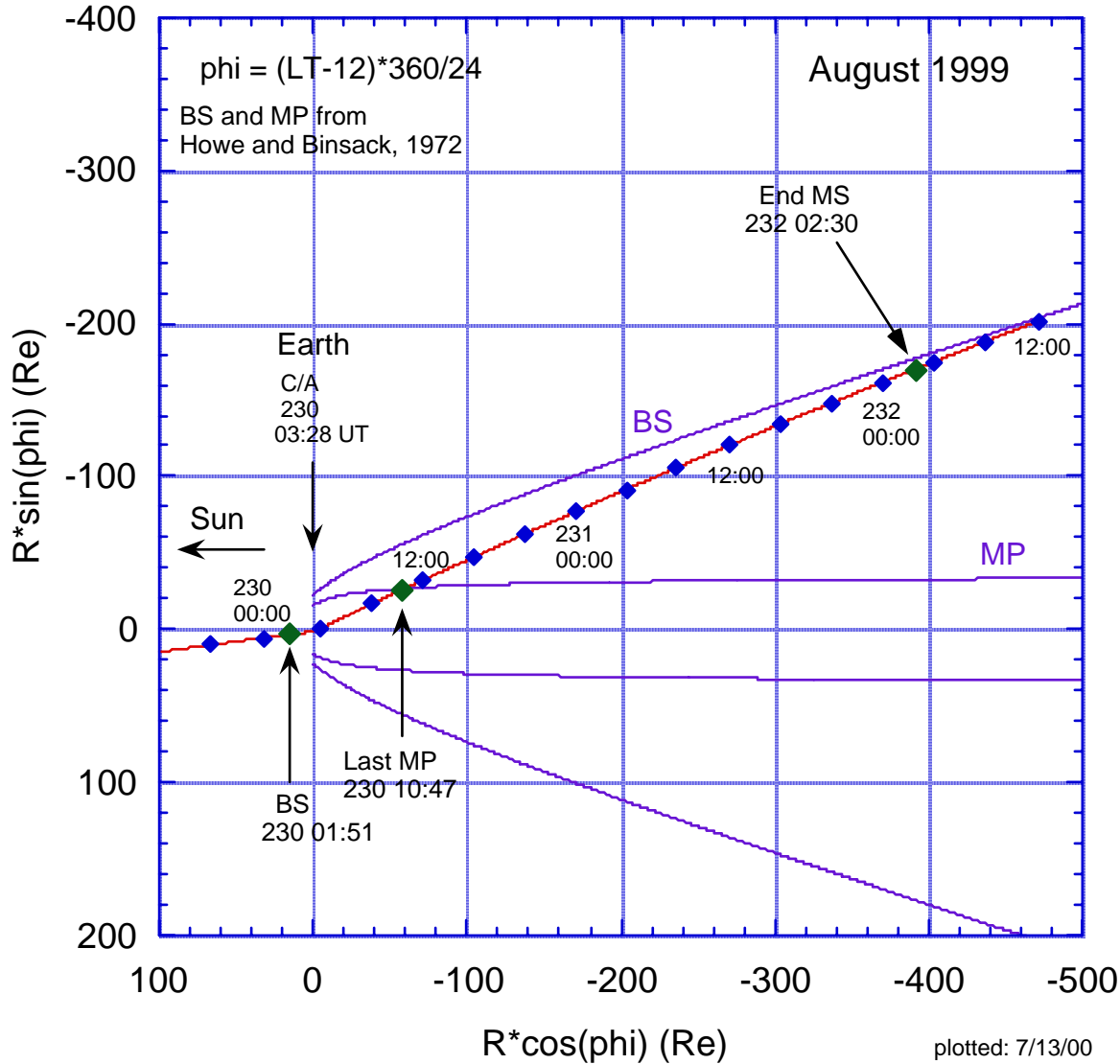
- In the dusk-side magnetosheath, we observe bursts of energetic (30-80 keV) O⁺
- The O⁺ correlates with times of high solar wind velocity.
- It is observed as far as 300 Re down the tail.



Cassini Earth Flyby



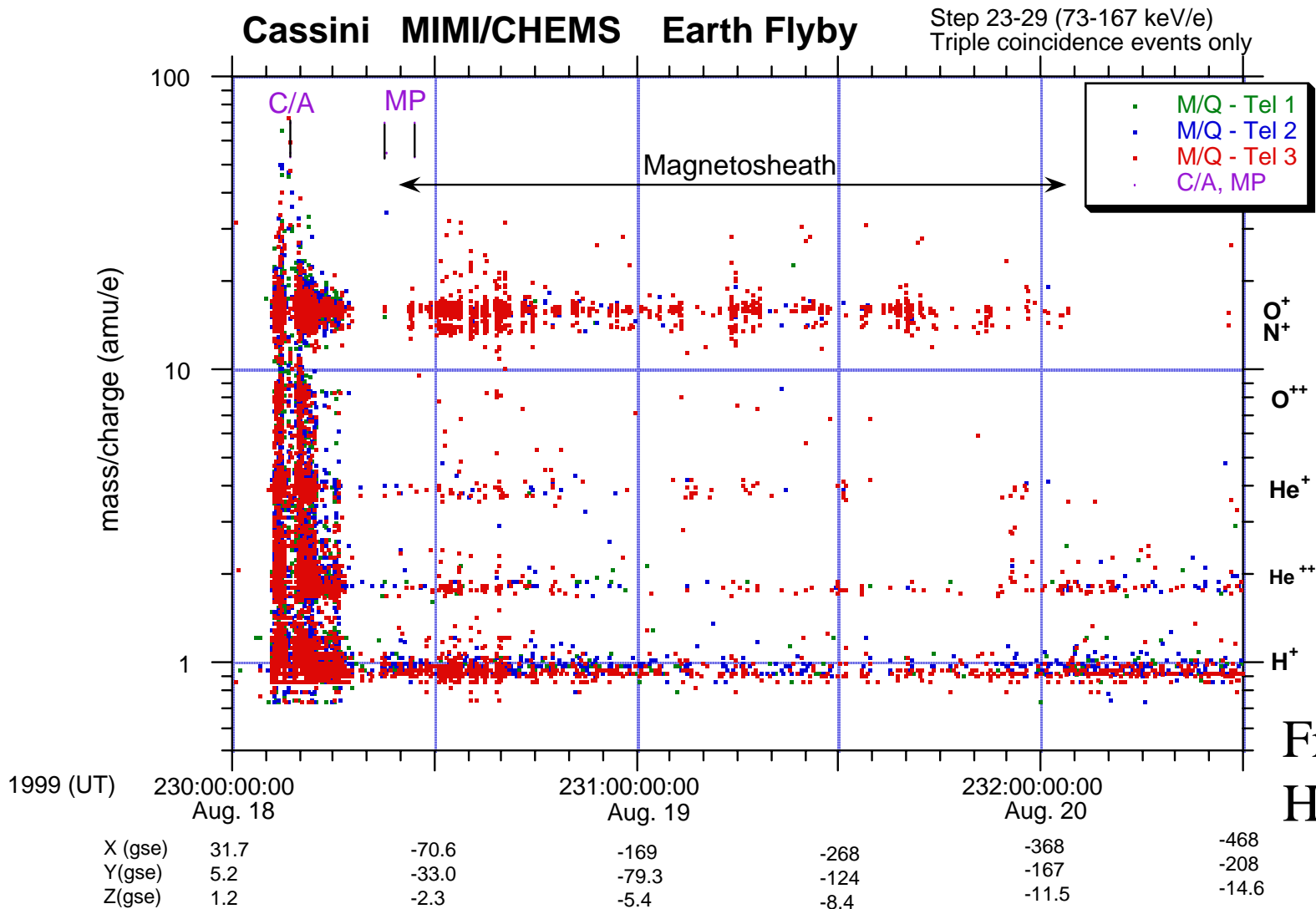
Cassini Earth Swingby Trajectory



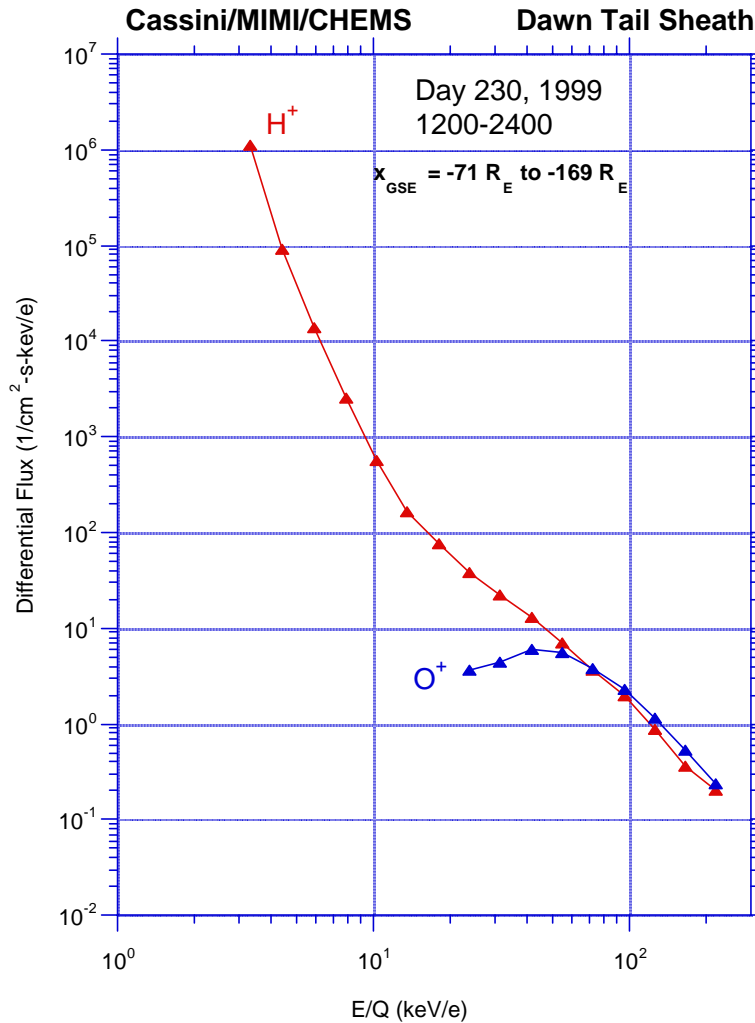
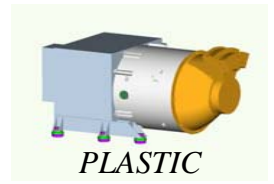
From Doug Hamilton



CASSINI/CHEMS Magnetosheath Data



From Doug Hamilton

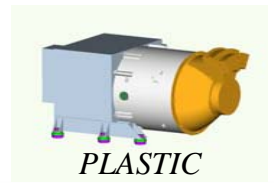


plotted: 12/13/00

From Doug Hamilton



Possible Sources



- Earth's Ring Current
 - Energetic O^+ exits the magnetosphere at the dayside magnetopause, and then gets swept up in the sheath flow
- Upflowing O^+ ions from the cusp.
 - Would they get accelerated enough
- CLUSTER is located at front-side magnetopause/bow-shock - maybe it can see the source - stay tuned ...