Plastic Software Status and Data Access

March 27, 2007
Lynn Kistler & Lorna Ellis

Software

- Level0 to 1 software creates CDF files of the data. Data decompressed, but not calibrated.
- ReadCdf
  - Simple program to create tab-delimited ascii files of plastic data
- ScienceOverview
  - Program to create a series of displays of all the science data, averaged over a given time period.
- SPLAT (Stereo PLastic Analysis Tool)
  - Program to plot data versus time, based on the IDL-based tplot software from Berkeley
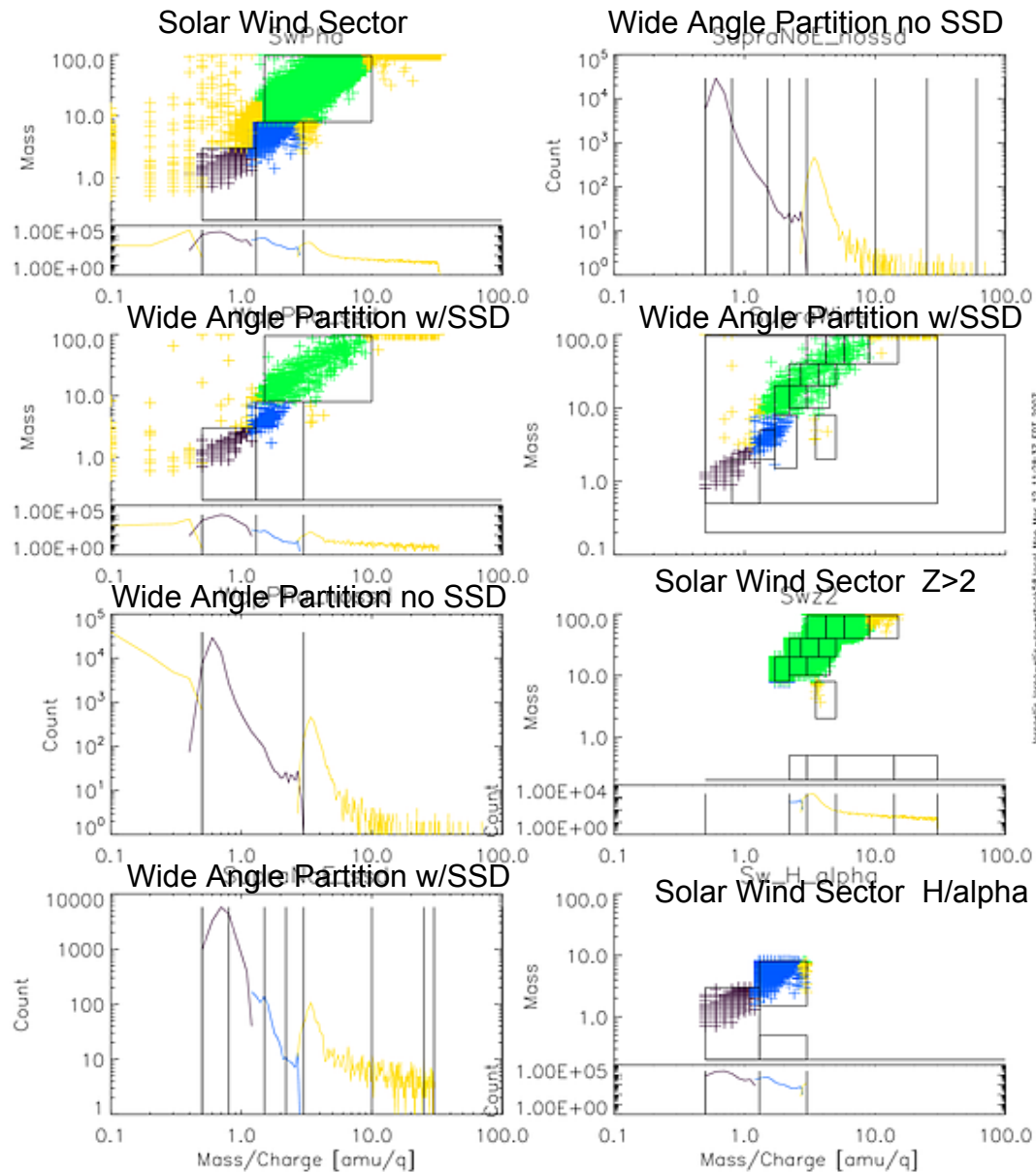
Output from science_overview

- Select time period (default 1 day)
- Select energy-per-charge range (default all)
- Creates a variety of plots averaged over the time period
  - Raw event data
  - On-board classified rates

Individual Event (PHA) Data

STA_L1_PLA_20070211_042_V08
ESA: −1
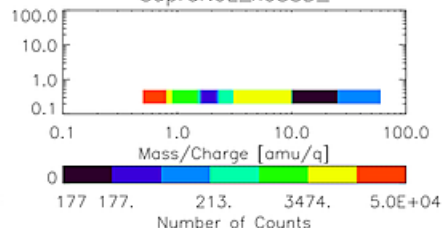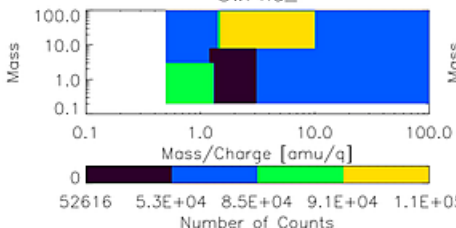
Mass

Mass Per Charge
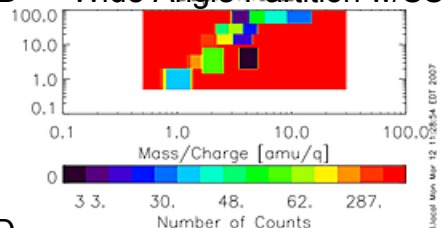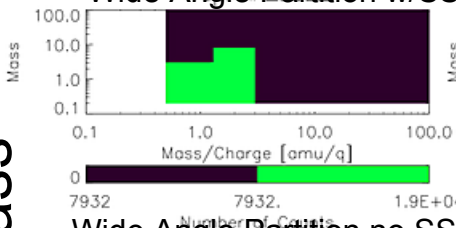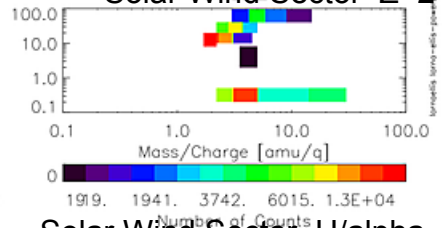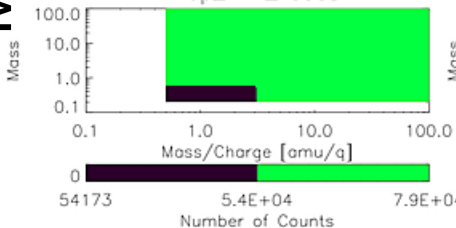
Summed Event (PHA) Data
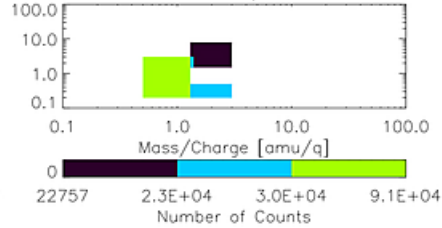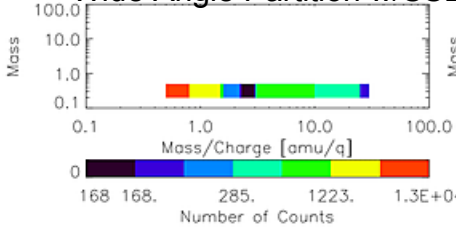
Data Classified and Summed Onboard
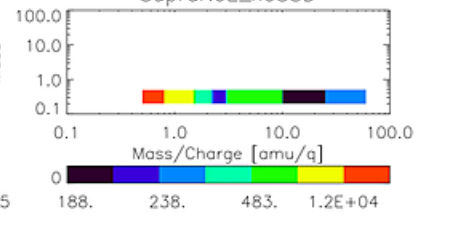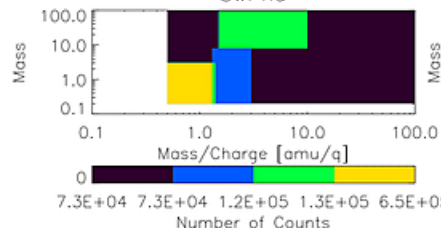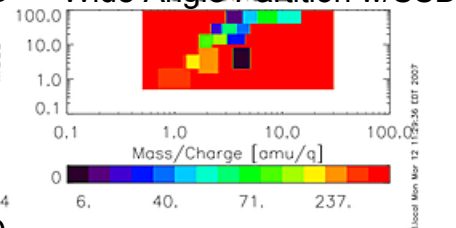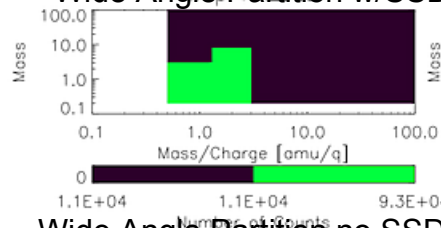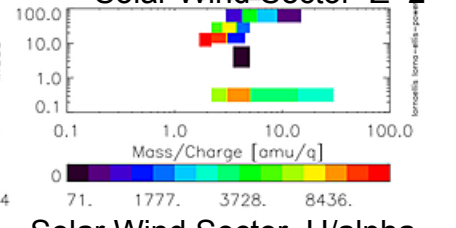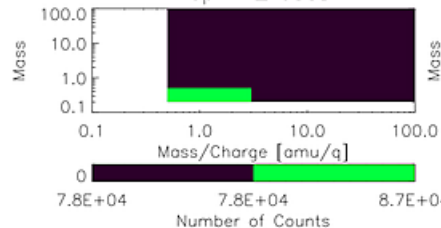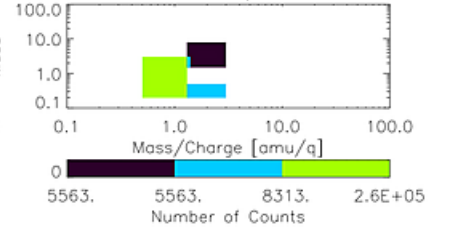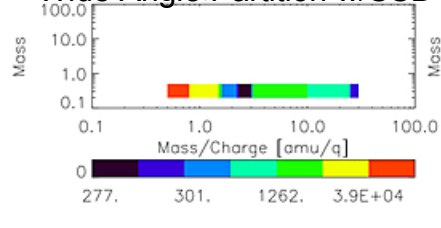
Mass

Mass Per Charge

Mass Per Charge

Solar wind H+   Solar wind He++
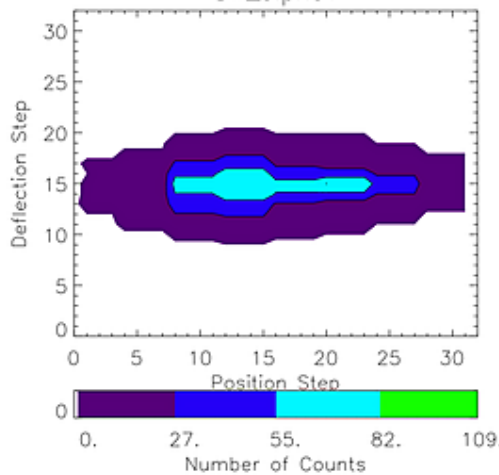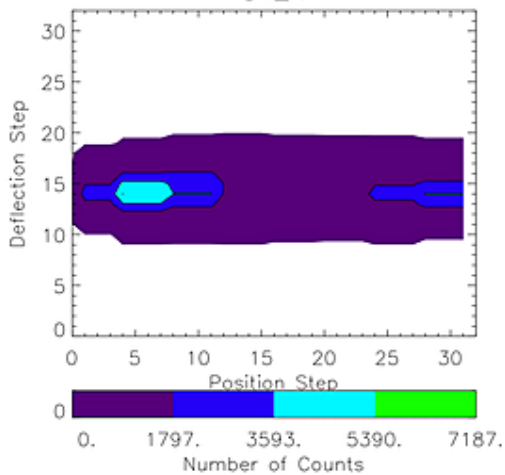
Solar wind He++   Solar wind All

Deflection (polar angle)
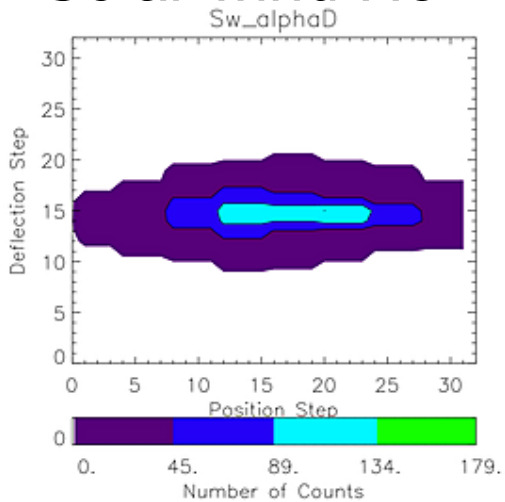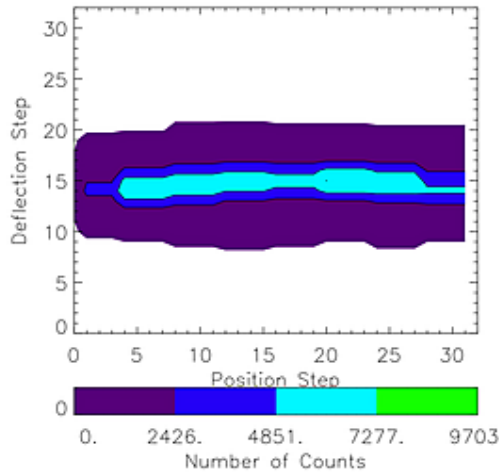
Position (angle in ecliptic)

Raw Event Data Histograms and Scatter Plots

STA_L1_PLA_20070211_042_V08 PHA data
ESA: −1

Output from SPLAT

- Select time period (default 1 day)
- Select Type of Plot
  - Energy spectrogram
  - Deflection angle
  - Position Angle
  - Line Plot
- Select data type (all the different rate "boxes")
- Plots data vs. time

SPLAT -- Example

SC/A Energy spec

SC/B Energy spec

SC/A deflection
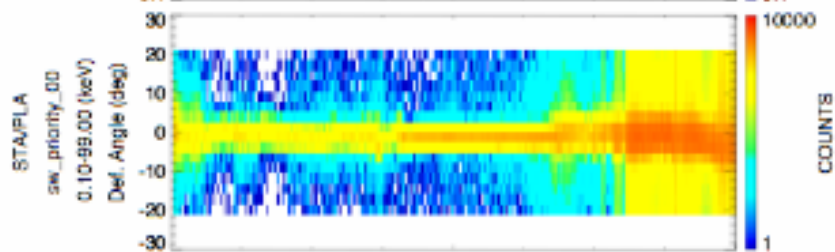
SC/B deflection

pla_def_spec_crib

Onboard moments for
S/C A(black) and B(blue)

Level 2-Still being worked on

- "Key parameter" data

- Includes conversions

- Summary data
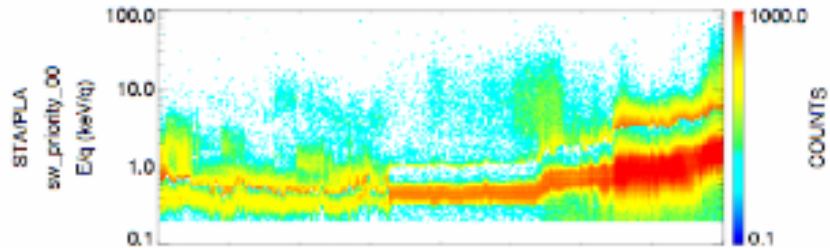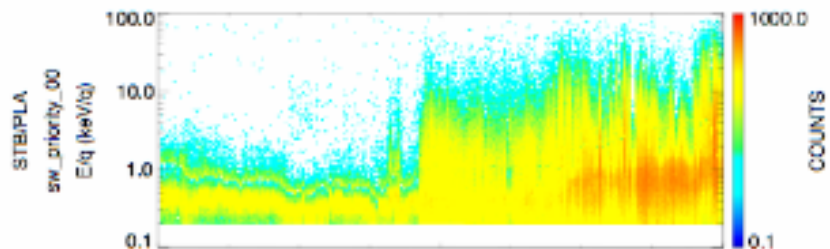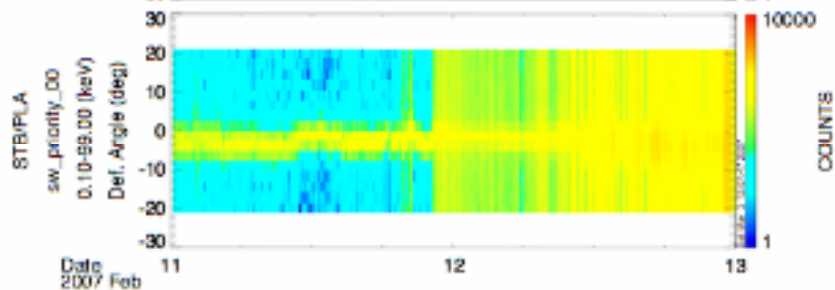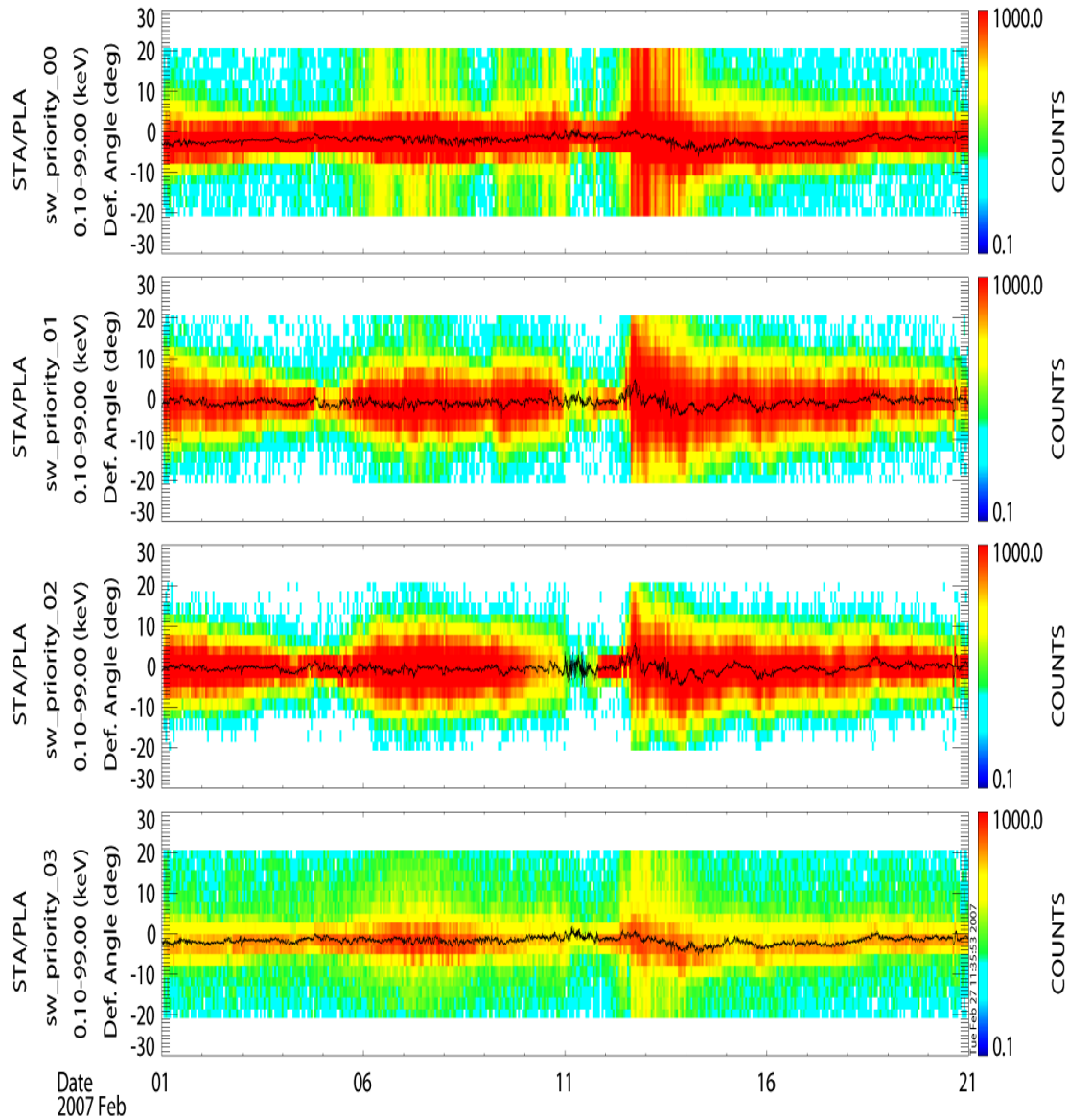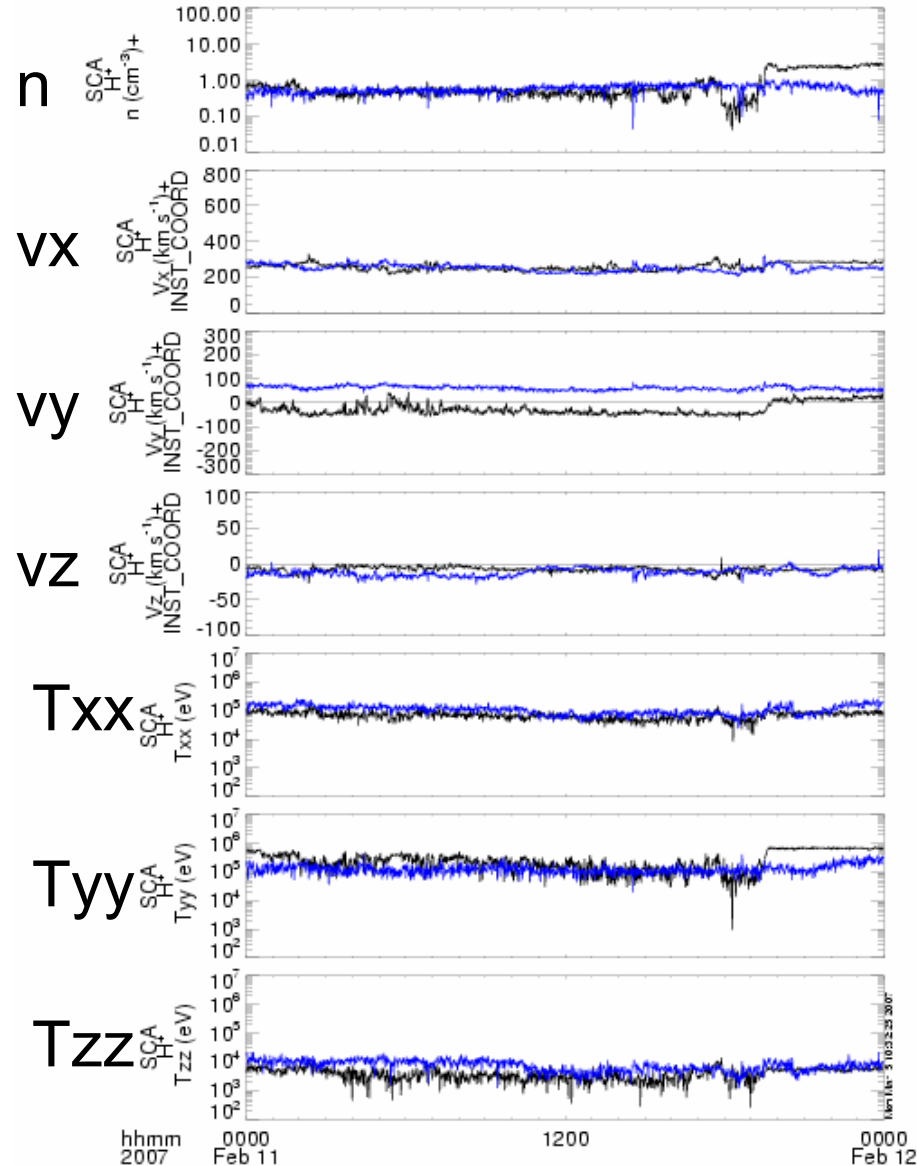
  - Solar wind proton density and speed

  - Proton temperatures

  - Major ion species: relative abundances

- Separated by type of product

- CDF & tools to convert to other formats

Where to get software & data

- SSC has L1 data CDFs: http://stereo-ssc.nascom.nasa.gov/data/ins_data/plastic/

- Software in the Plastic tree of SolarSoft

- E-mail Lorna.Ellis@unh.edu

- Our daily plots (non-public) are on maui.sr.unh.edu:/data1/Plots/ScienceOverview/

- Our daily ascii files (non-public) are on ganymede.sr.unh.edu:/raid/fm1/CDF/ascii/2007/ (or fm2 for spacecraft B)

Level 1 CDFs

- Names
  - x = A or B
  - yyyymmdd = date
  - doy = day of year
  - zz = software version for creating cdf
- STx_L1_PLA_yyyymmdd_doy_Vzz.cdf
  - Monitor Rates
  - Matrix Rates
  - PHA
  - Heavy Ions
- STx_L1_PLA_HK_yyyymmdd_doy_Vzz.cdf
  - Housekeeping
- STx_L1_PLA_SC_yyyymmdd_doy_Vzz.cdf
  - Spacecraft Housekeeping
- STx_L1_PLA_CL_yyyymmdd_doy_Vzz.cdf
  - Classifier Data (Raw Memory reads)