Plastic Software Status and Data Access

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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

Mass Per Charge

Solar Wind Sector

Wide Angle Partition w/SSD

Wide Angle Partition no SSD

Solar Wind Sector Z>2

Wide Angle Partition w/SSD

Wide Angle Partition no SSD

Solar Wind Sector H/alpha

Wide Angle Partition w/SSD

Count

Count
Position (angle in ecliptic)
Raw Event Data Histograms and Scatter Plots
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
  - yyyyymmdd = 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)