

# PLASTIC

## Post Launch Data Flow

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# Beacon Data

Parameter	# Items	bits	resolution	bytes/min	Additional Processing
HKStat (Eng vs Science mode, etc).	1	8	1	1	
Array used for Alpha Peak	1	8	1	1	
Array used for Alpha Dist.	1	8	1	1	
S-channel Switch Step	1	8	1	1	
PAC Value	1	16	1	2	None
MCP Value	1	16	1	2	None
SW H Moments Main Channel	13	16	1	26	None
SW H Moments S- Channel	13	16	1	26	None
SW He++ peak Position step	1	8	1	1	Be able to select ApID327 (triples) or 326 (doubles). Default 327
SW He++ peak Deflection step	1	8	1	1	Be able to select ApID327 (triples) or 326 (doubles). Default 327
SW He++ Energy step of peak	1	8	1	1	Be able to select ApID327 (triples) or 326 (doubles). Default 327
SW He++ distribution	125	8	1	125	Be able to select ApID327 (triples) or
Ebin_1 (for SW ions)	1	8	5	1	Selectable energy step
Ebin_2 (For SW ions)	1	8	5	1	Selectable energy step
SW- Representative Species	10	8	5	10	Sum from bin Ebin_1 or Ebin_2 to 128. Be able to select Ebin_1 and Ebin_2
SW - Overflow Indicator	10	8	5	10	Indicates overflow in above sums
TCR Suprathermal rates - Erange 1	5	8	5	5	Define three E-bins, 0-40, 41-80, 80-128 (would be nice if thresholds were selectable)
TCR Suprathermal rates - Erange 2	5	8	5	5	
TCR Suprathermal rates - Erange 3	5	8	5	5	
DCR Suprathermal rates - Erange 1	5	8	5	5	Define three E-bins, 0-40, 41-80, 80-128 (would be nice if thresholds were selectable)
DCR Suprathermal rates - Erange 2	5	8	5	5	
DCR Suprathermal rates - Erange 3	5	8	5	5	

total

240

# Beacon Data Status

- Beacon processing software given to SSC 11/05
- Puts raw data in CDF files
- One file per day (UTC time)
- Creates plots of moments and heavy ion counts
- To be done: convert to physical units

# Level 0 Status

- During Sim 3, we collected this from MOC manually (need to automate)
- Graphed histograms for each apid: how many packets received
- Not receiving analog housekeeping (apid200) yet
- Logged data irregularities -- this has led to several DPU issues that are being addressed

# Level 1

- Highest time resolution for full data set
- Only generated once
- Only raw values (decompressed and formatted)
- C and IDL translators
- CDF and ASCII
- Supporting software

# Level 1 Status

- Have software to create cdf files, but only putting PHA data in them so far
- Need to:
  - Add other data products
  - Create software for ASCII distributions
  - Add supporting data (calibrations files, etc)

# Level 2

- Includes conversions
- All data except raw event data (PHA)
- Reprocessed as our knowledge increases
- Summary data
  - Solar wind proton density and speed
  - Proton temperatures
  - Major ion species densities
- Separated by type of product. High priority products (e.g. H<sup>+</sup>, He<sup>++</sup>) may be released before heavy ion products.
- CDF & tools to convert to other formats

# Level 3

- Higher level data products
- Not routinely produced
- Created by scientific analysis of summary data
- Coordinated with IMPACT, SWAVES, & SECCHI



# Data Timeline

- Check and verify L0
  - Level 1 processing
  - L0&1 data and software to archive
  - Level 2 processing
  - L2 to SSC and archive
  - Create L3 products
  - L3 data to SSC and archive
- < 3 hours
  - 24 hours
  - 1 month
  - 1.5 months
  - 2.5 months
  - 3 months minimum
  - 3 months minimum (UCLA)

# Data Access and Display

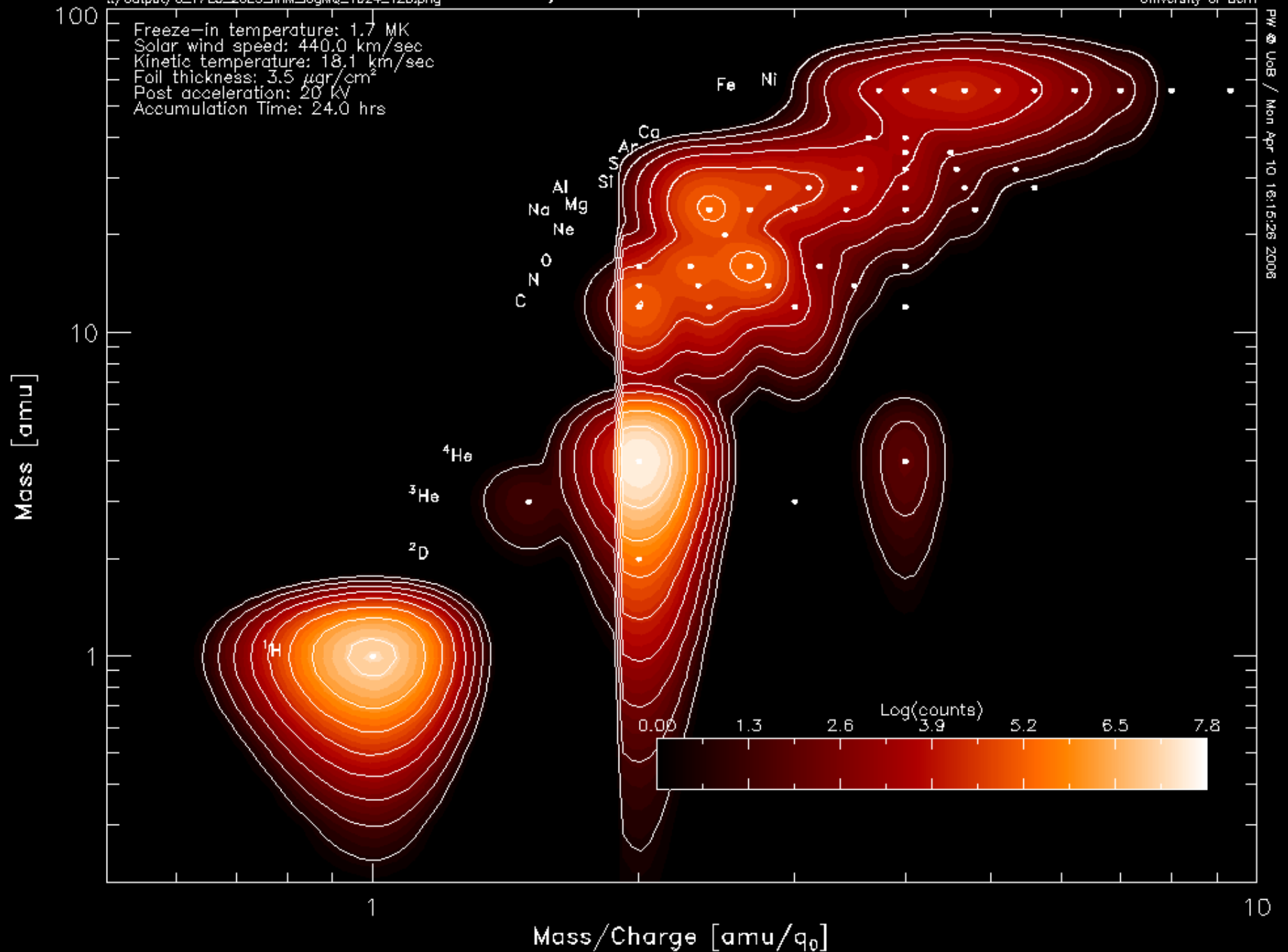
- L1 and L2 data to Co-Investigators and IMPACT team as soon as possible (unvalidated)
- Coordinate with IMPACT for display of key parameter and L2 data on their web page
- Our web page will provide additional displays of heavy ions and event data.

# PLASTIC/STEREO simulated data

../output/C\_17E5\_20E3\_InM\_LogMQ\_1024\_128.png

University of Bern

Freeze-in temperature: 1.7 MK  
Solar wind speed: 440.0 km/sec  
Kinetic temperature: 18.1 km/sec  
Foil thickness: 3.5  $\mu\text{g}/\text{cm}^2$   
Post acceleration: 20 kV  
Accumulation Time: 24.0 hrs

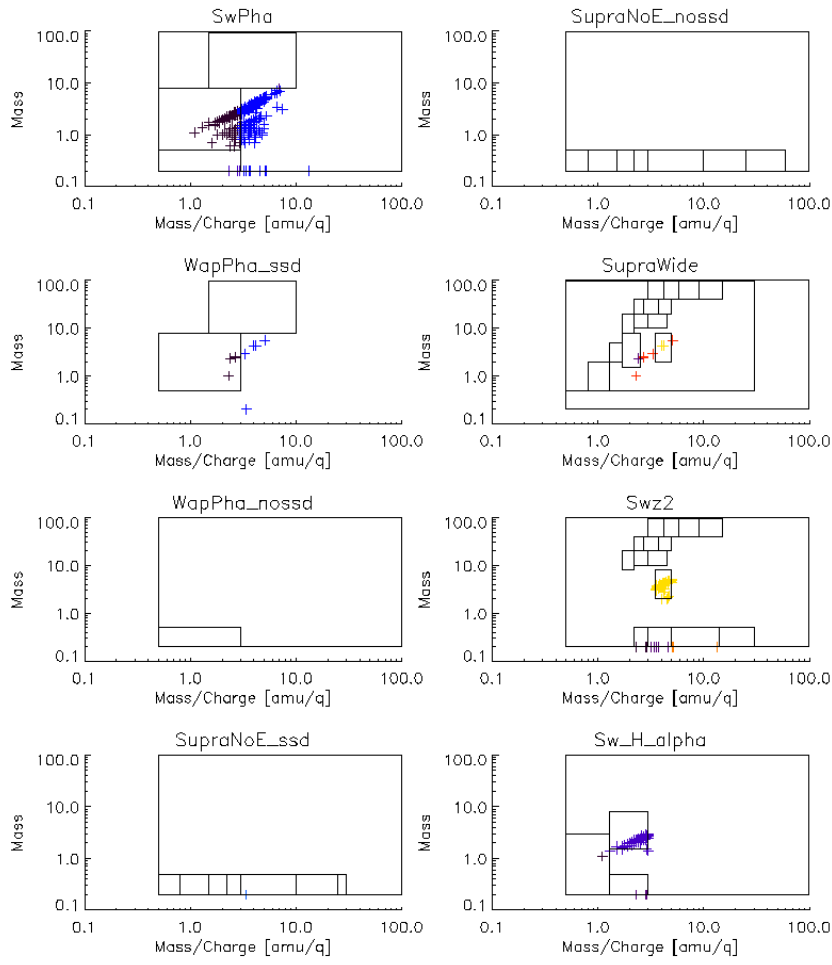


PW @ UoB / Mon Apr 10 16:15:26 2006

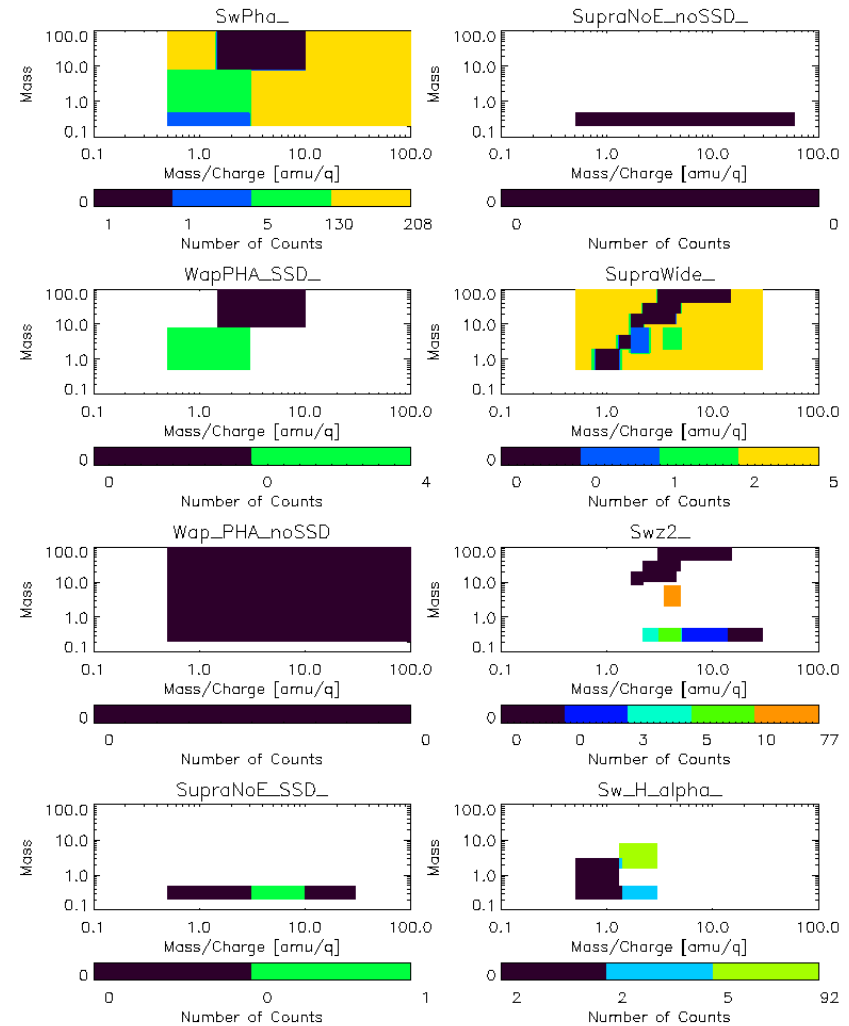
# Mass-M/Q Binned data

PHA\_raw\_PLA-FM1-041220-1015.log  
ESA step: 117

PHA\_raw\_PLA-FM1-041220-1015.log  
ESA step: 117



+ 0 + 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15



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