PLASTIC SIDELOBE TLM OPTIONS

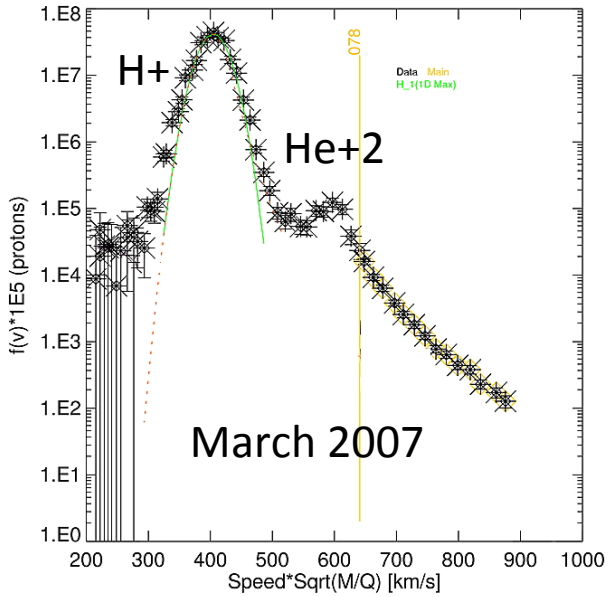
PLASTIC ApIDs and Bitrate

ApID	Description	Purpose	Bps
200	Analog HK (IMPACT)	Instrument safety	(IMPACT)
313	Digital HK	Instrument safety	36
316	Coarse Rates (5min, grouped E/Q, grouped angles)	Solar wind H, He Bulk Parameters (> 850 kps); Efficiencies for Ion Rates	232
317	Fine Resolution Rate (1min)	Solar wind H, He Bulk Parameters (< 850 kps)	290
321	SW Priority Rates	Grouped solar wind ion rates	58
322	WAP SSD Priority Rates	Grouped suprathermal ion rates	7
323	WAP noSSD Priority Rates	Grouped suprathermal ion rates	7
370	Beacon Data	Solar Wind Bulk Parameters (OB Processing)	36

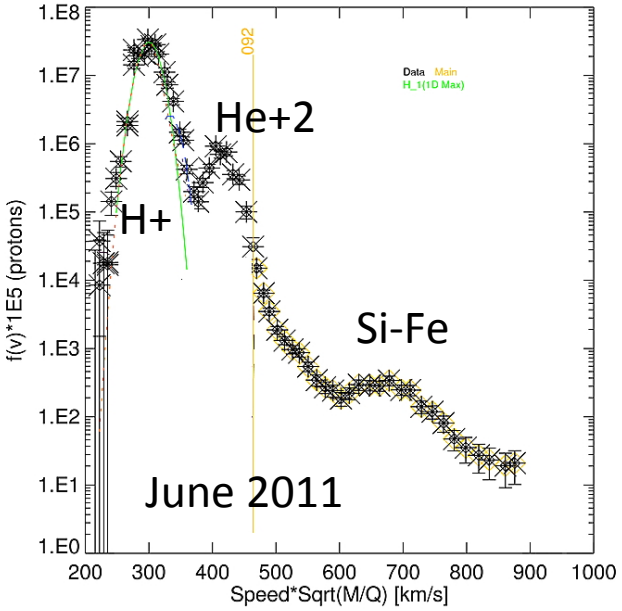
PLASTIC Sidelobe ApIDs and Bitrate

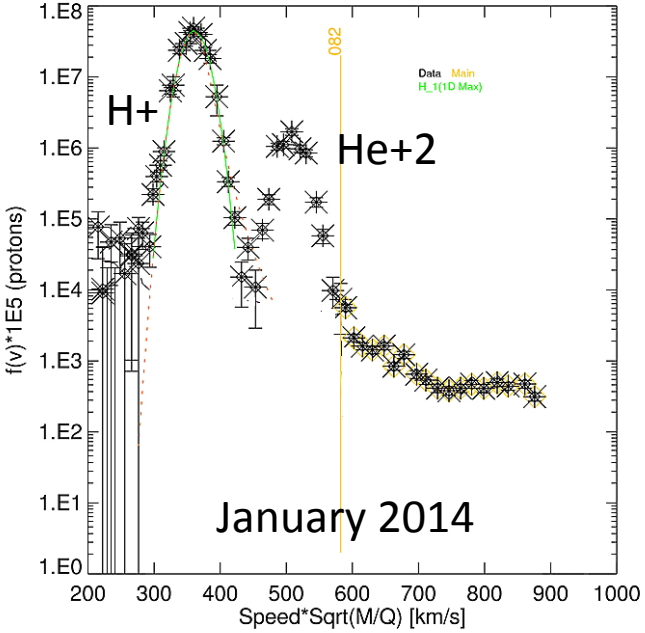
Operations	Ap IDs Requested	Combined Bitrate
Sidelobe 1	(200), 313, 316, 317, 321, 322, 323, 370	667 bps
Sidelobe 2	(200), 313, 322, 323, 370	87 bps
Sidelobe 2 plus	Include 317 (or 316)	290 (or 232) bps more

The Beacon Data (ApID 370) would be recorded to the SSR.



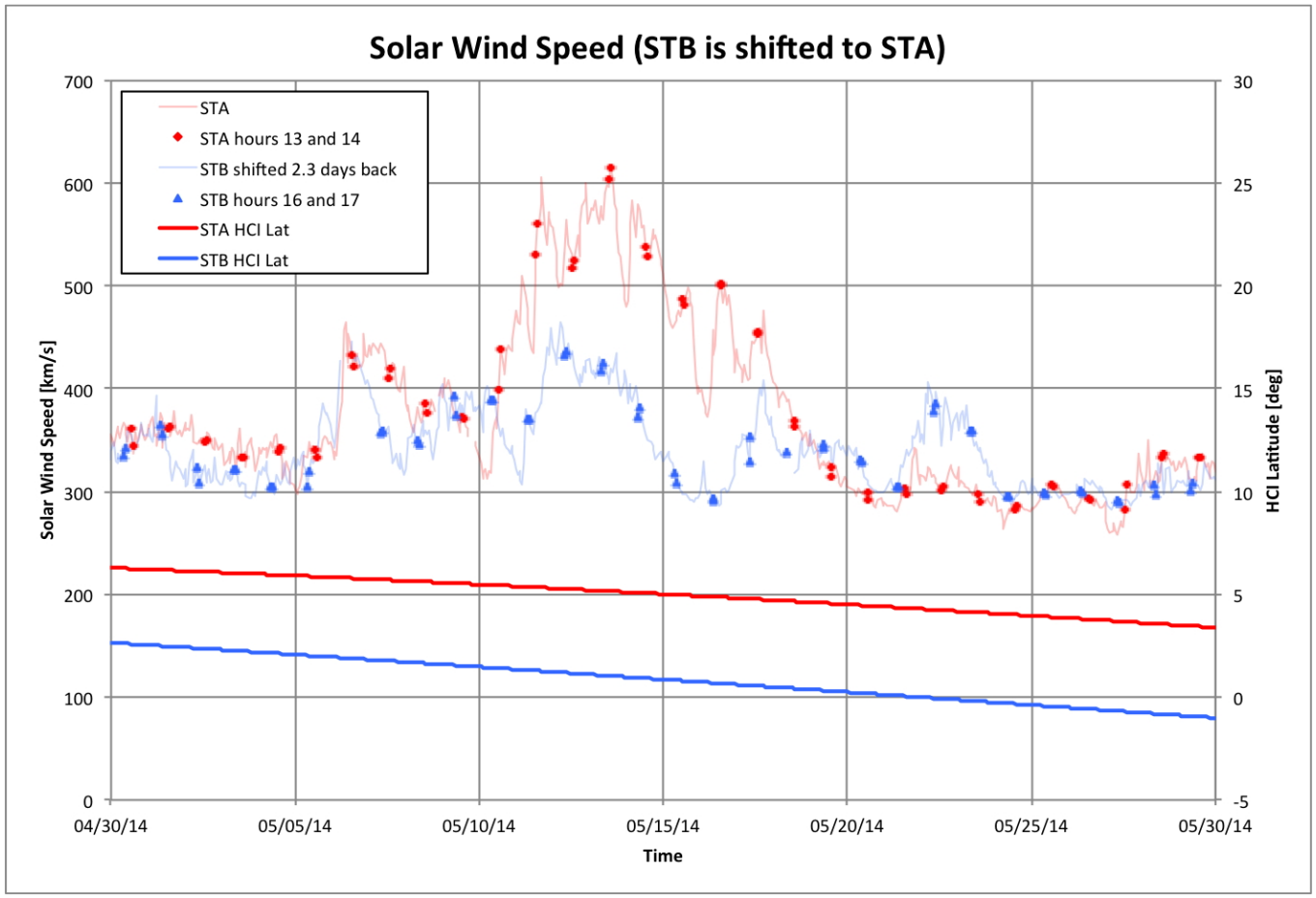
Solar Wind Ap ID 317
1minute Proton and Alpha distribution functions
(Supplemental 5min ApID 316 extends speed range and provides some efficiency information)





Provides solar wind proton bulk parameters, including Speed, Kinetic Temperature, Density, Mass Flux, and He/H ratios.

These parameters vary with wind type (ICME) and with phase of the solar cycle (sources of slow solar wind).

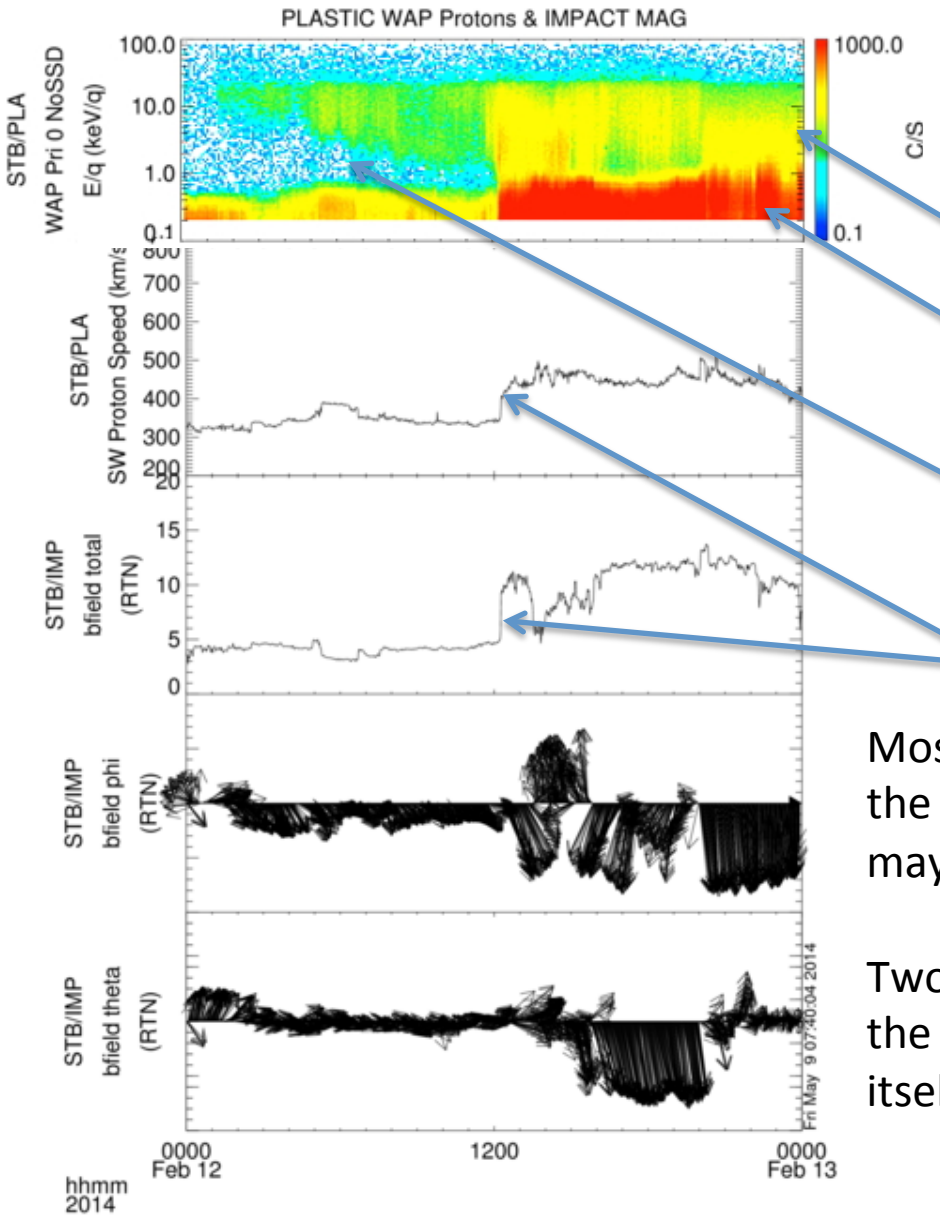


Solar Wind Ap ID 317
Example of 2 Hours RT
at the same time each day (vs normal full coverage)

Daily RT data establishes solar wind conditions for Space Weather. Conditions can vary significantly from STA to STB, if the s/c latitudes are different or if there is a transient event.

The solar wind bulk parameters established in the RT ApID 317 snapshots provide the highest quality product, which will be used after the SSR dump to improve the Beacon Data browse product.

WAP Suprathermal Ions (ApID 323)



Suprathermal Protons

Solar Wind Protons

Velocity Dispersion (higher energy particles seen first) prior to shock

Shock in SW and MAG

Most accelerated particle events (seen here in the vicinity of a shock) last for several hours, and may be seen both before and after the shock.

Two hour RT snapshot could indicate presence of the accelerated suprathermals, even if shock itself was not recorded during the RT pass.