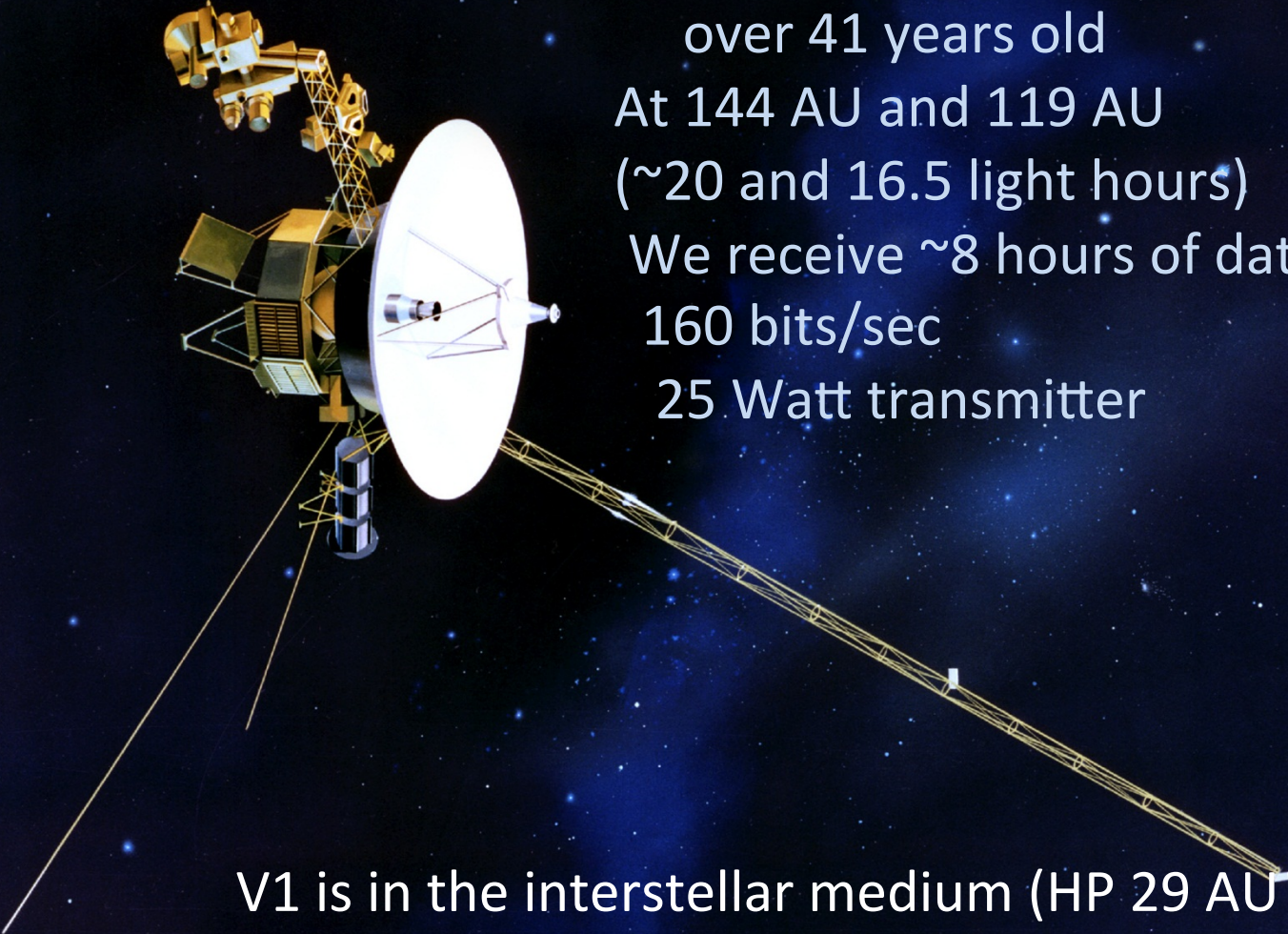


# Recent Voyager Data

John Richardson  
and the Voyager team



Voyagers 1 and 2:  
Launched Sept 5 and Aug 20, 1977:  
over 41 years old  
At 144 AU and 119 AU  
(~20 and 16.5 light hours)  
We receive ~8 hours of data/day  
160 bits/sec  
25 Watt transmitter

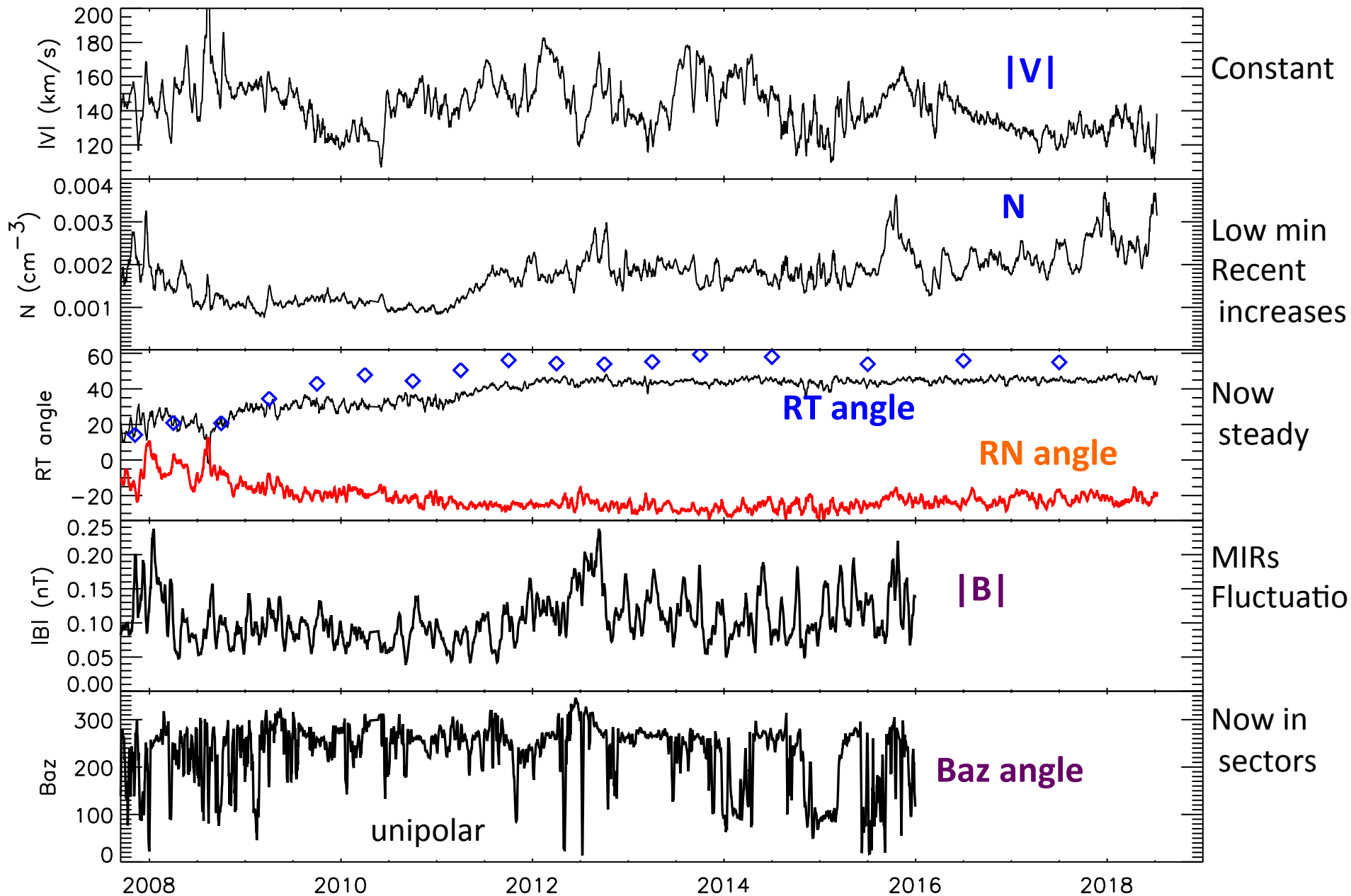
V1 is in the interstellar medium (HP 29 AU past TS)  
V2 is in the heliosheath (35 AU past TS)

84 AU

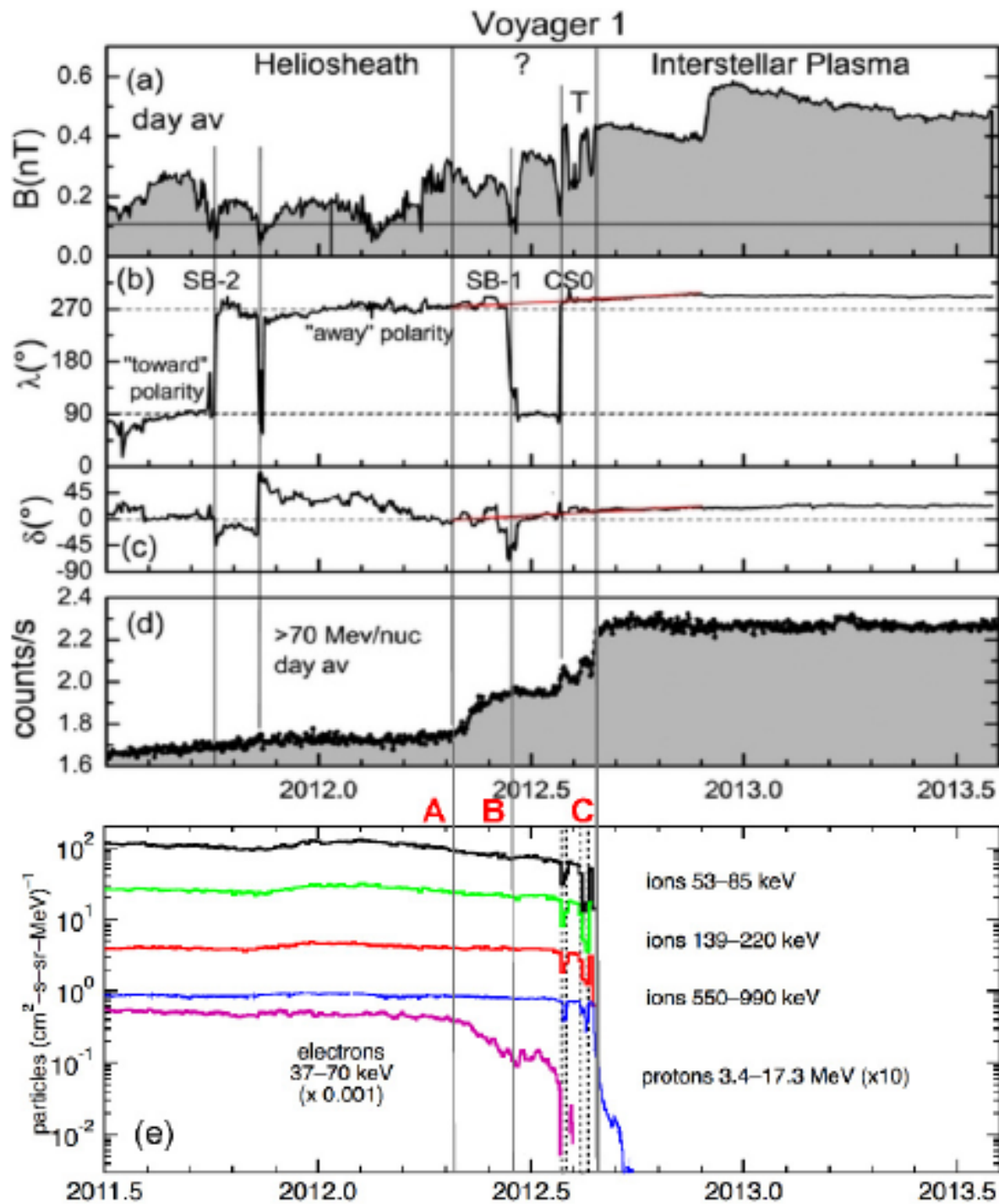
118 AU

TS

### HELIOSHEATH OVERVIEW







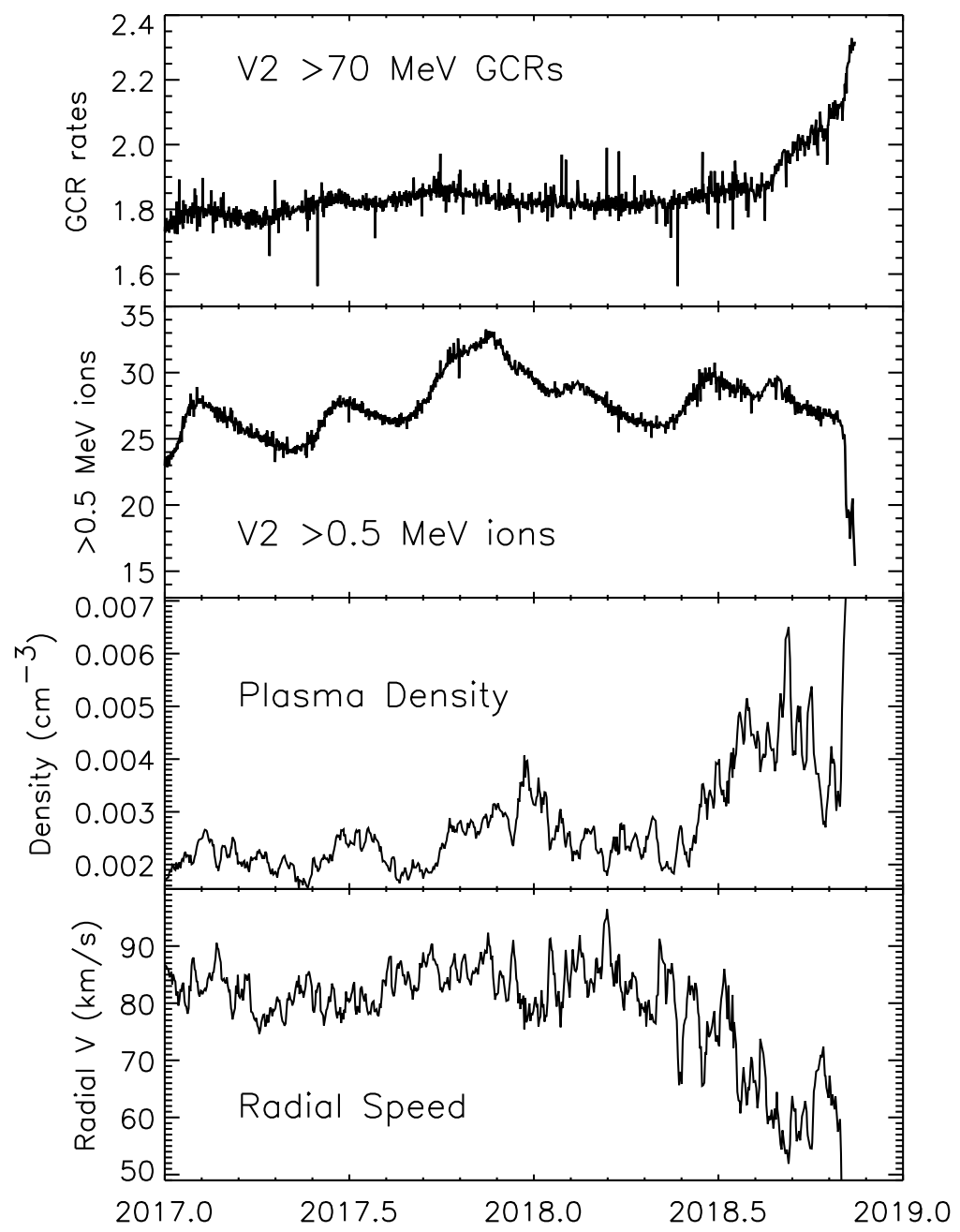
V1 heliopause crossing

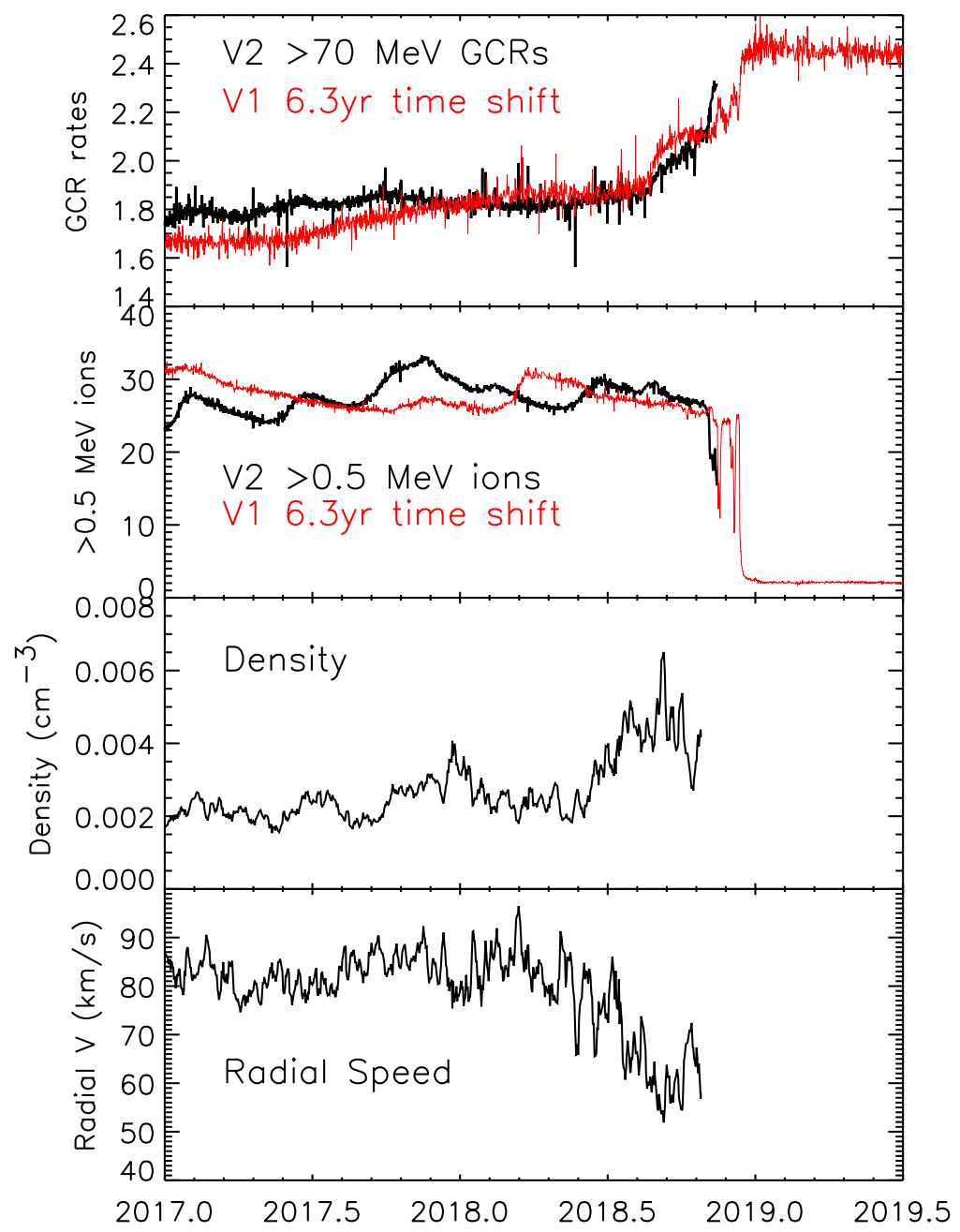
B increase

Slow rotation of B away  
 Parker spiral direction

Increase in GCRs

Dropout of TSPs





Voyager Plasma Experiment  
(V2 only)

3 Faraday Cups look  
sunward.

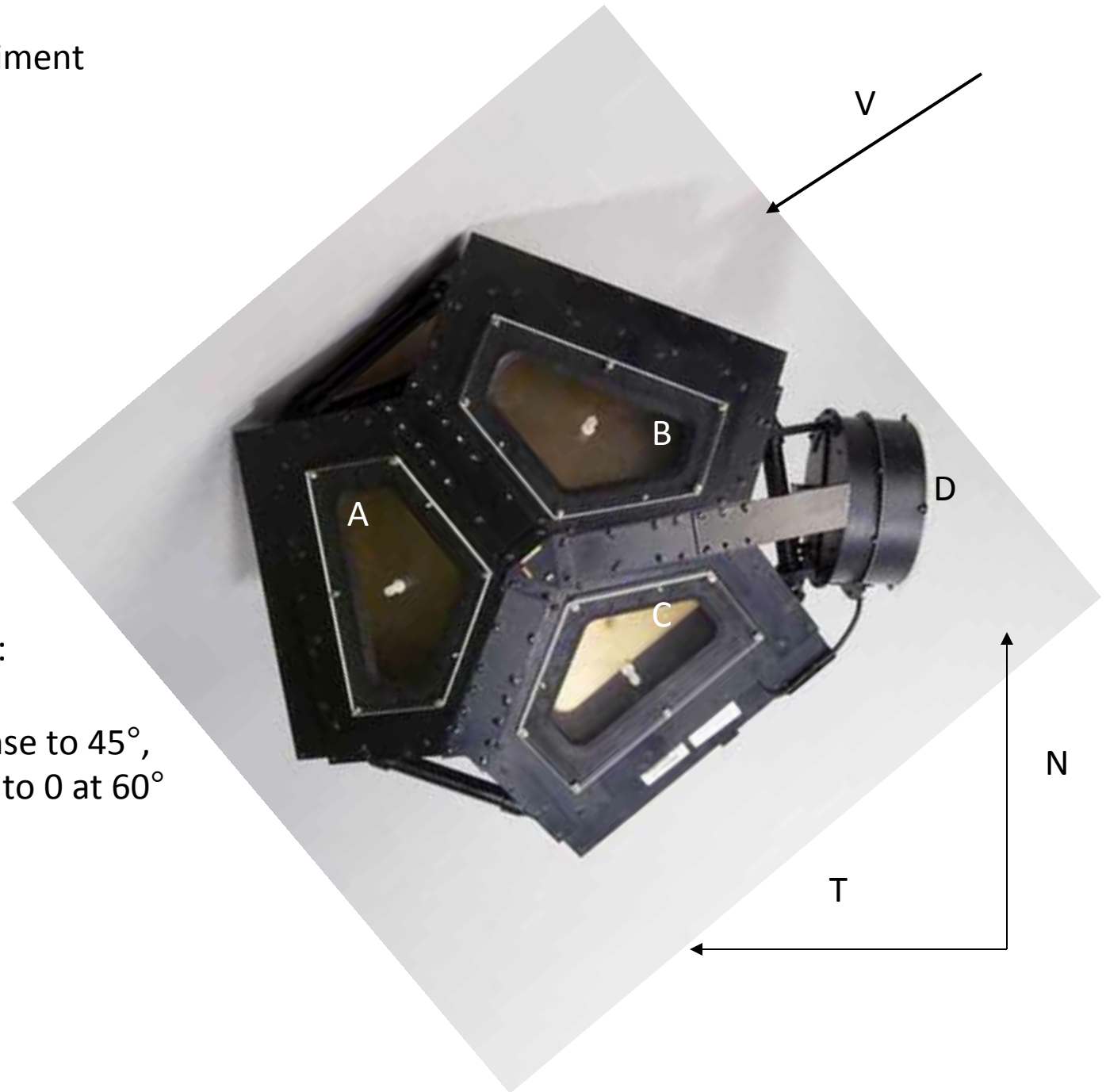
Flow is now in +R,  
+T, and -N  
direction.

Need data in all 3  
Cups to fit V

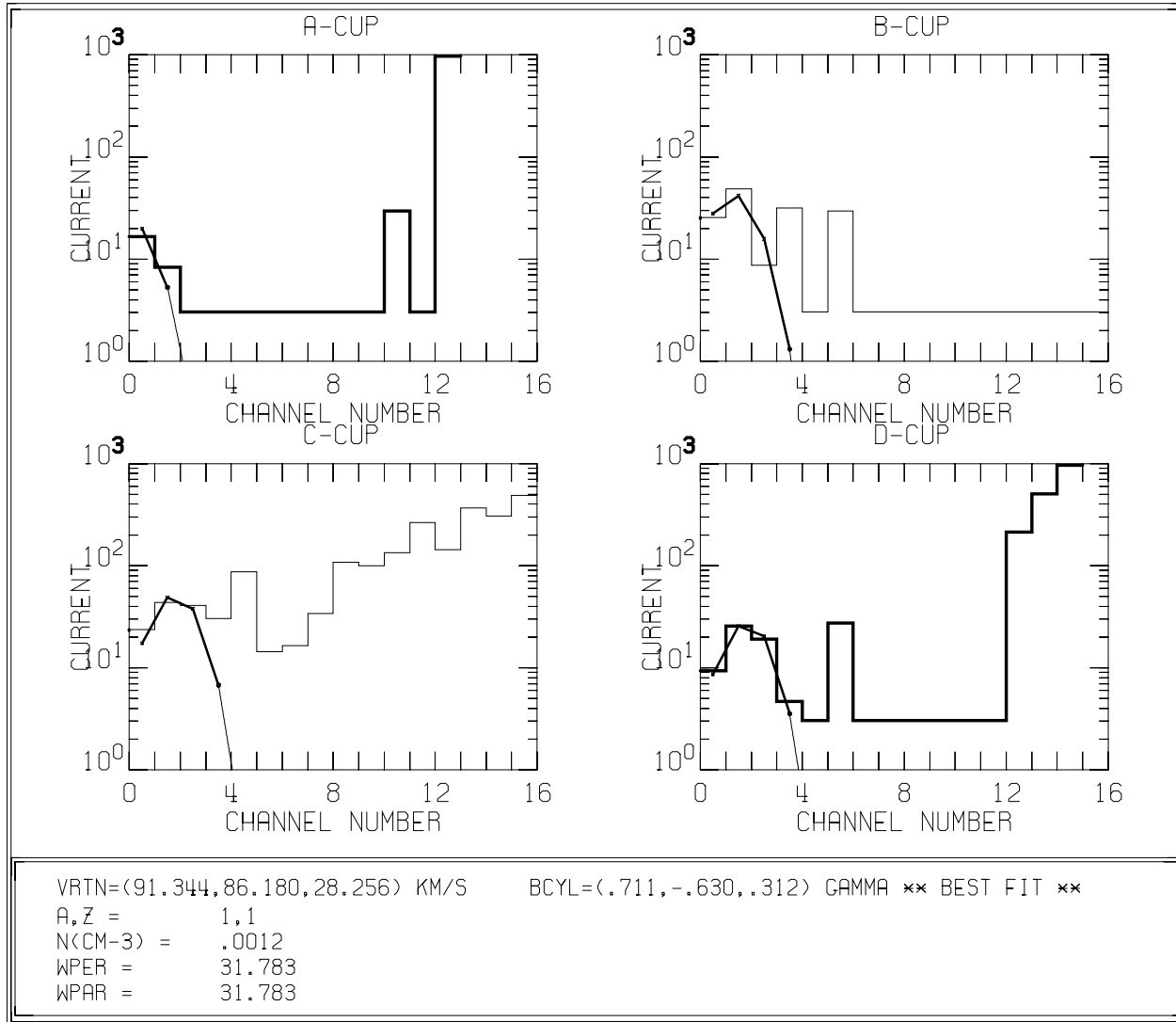
Instrument thresholds:

$N > \sim 0.0003 \text{ cm}^{-3}$

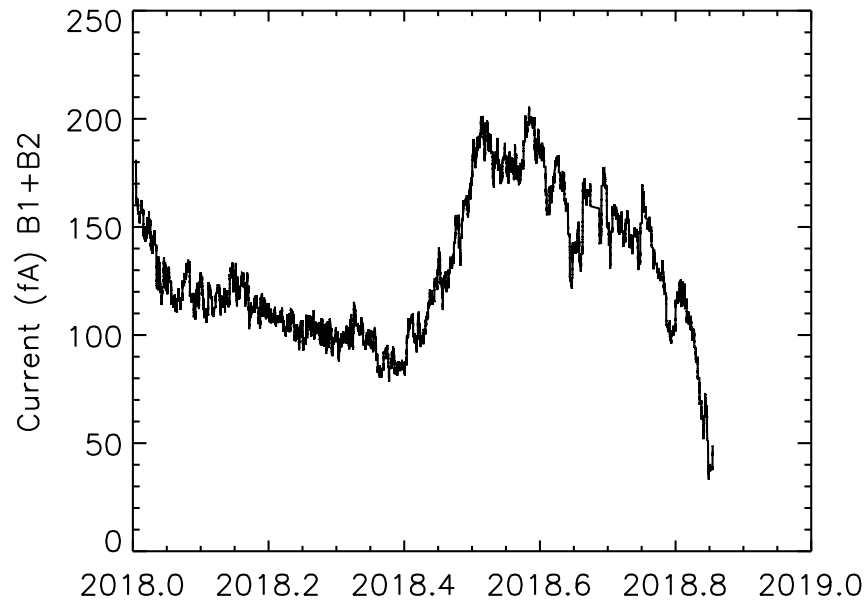
Flow angle: flat response to  $45^\circ$ ,  
then linear decrease to 0 at  $60^\circ$



ABS0: MAXWELLIAN SIMULATION , V2 IN CRUISE ON 1915 69 1003:49.383

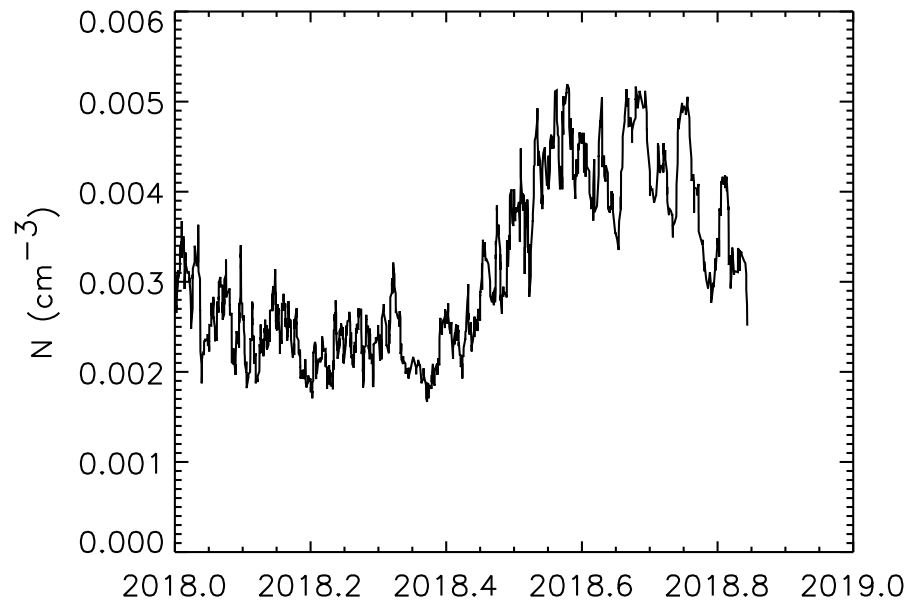


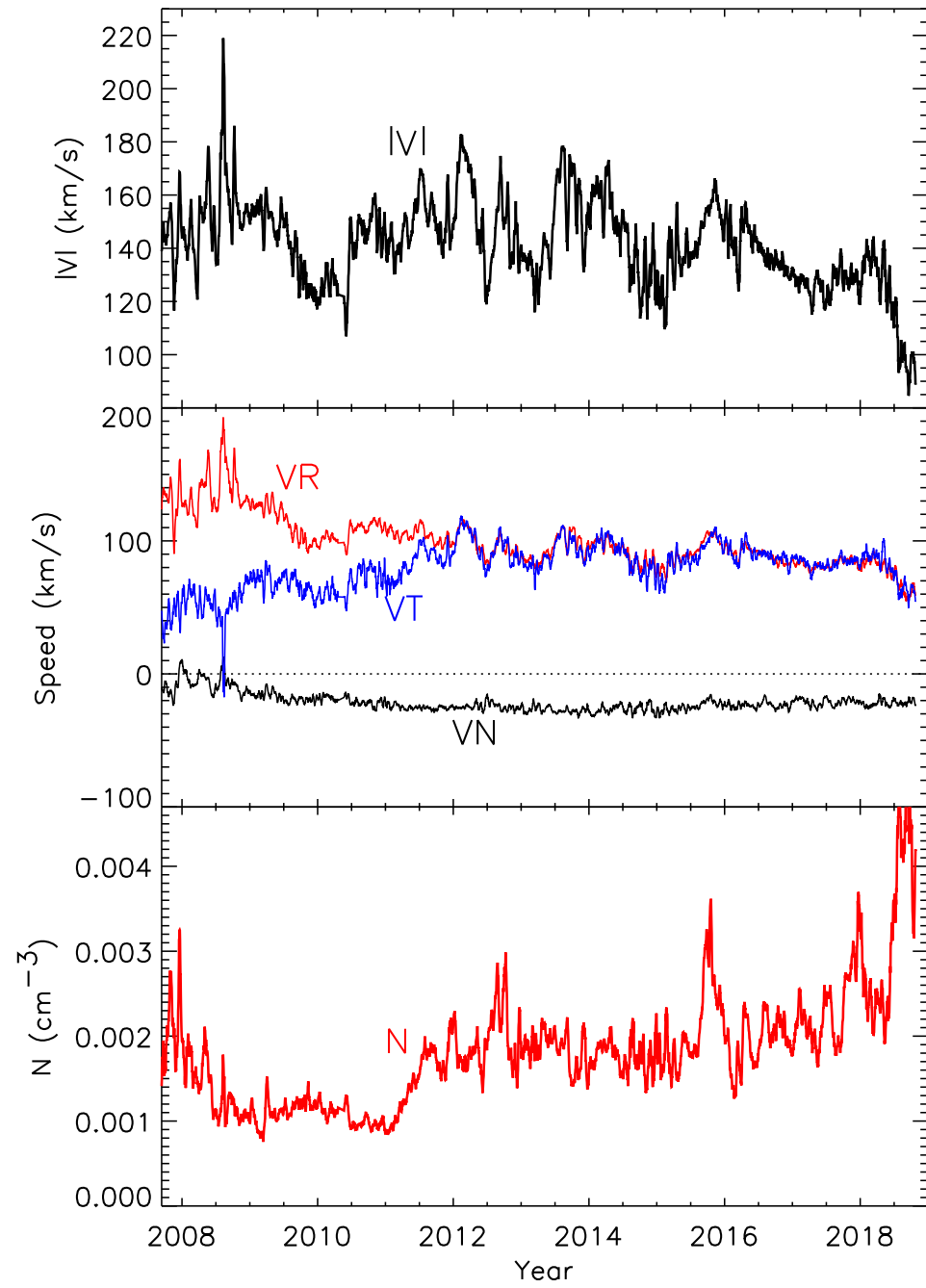




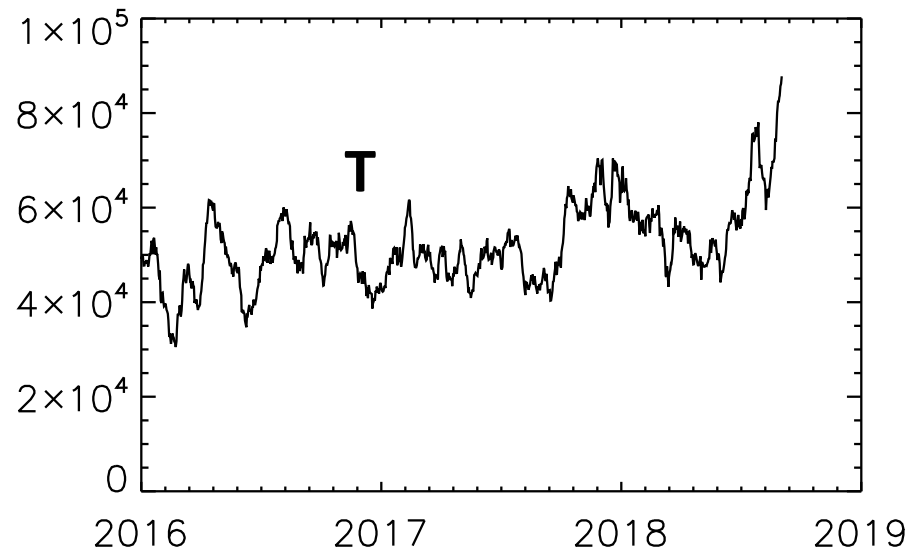
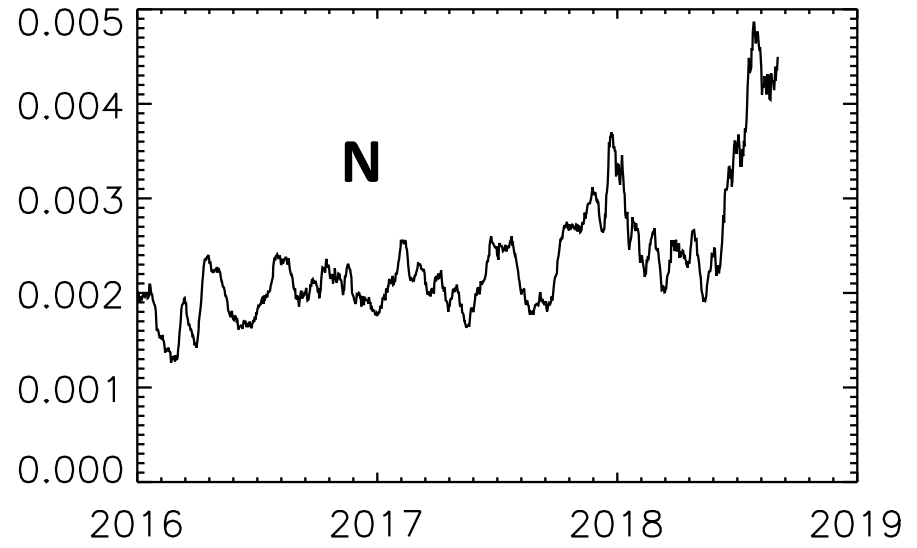
Boundary layer  $\sim 1.5$  AU

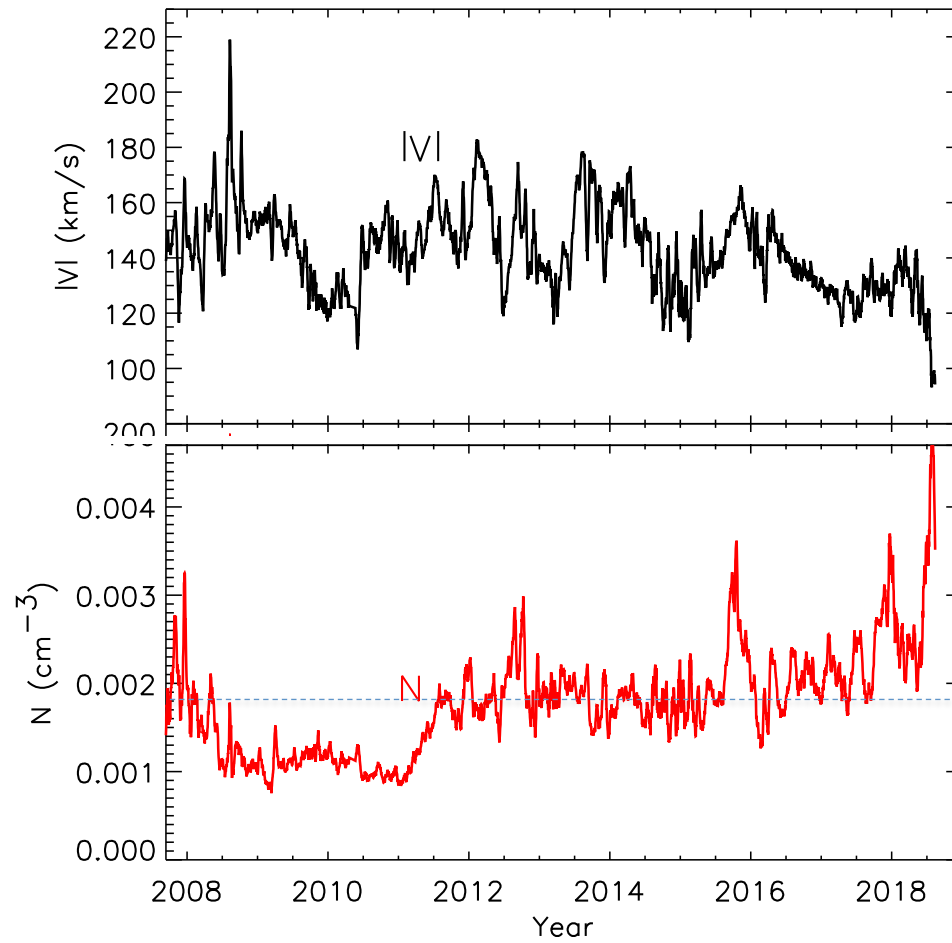
PDL in front of HP?  
(Pogorelov et al. predict)



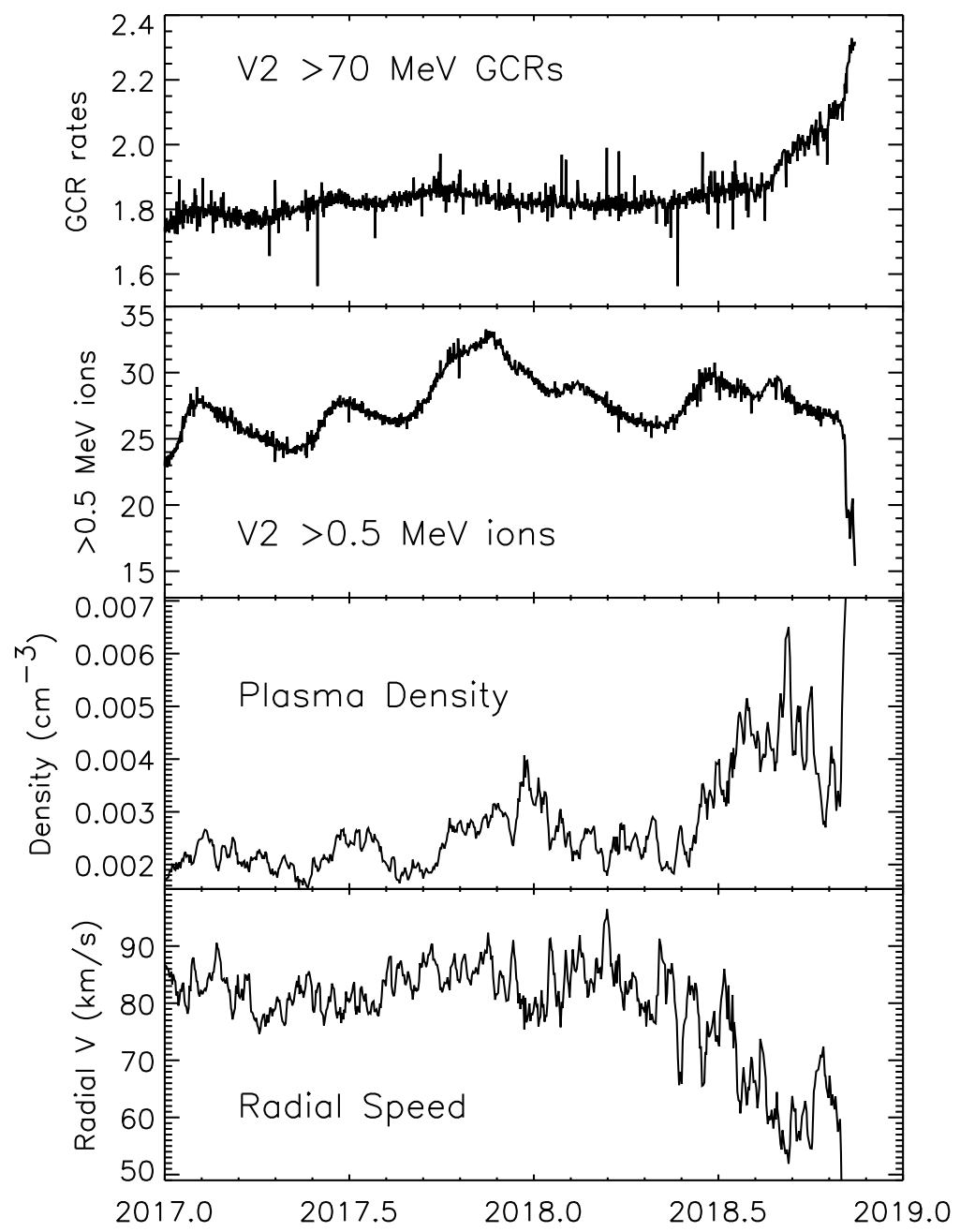


PLS T and N observations.

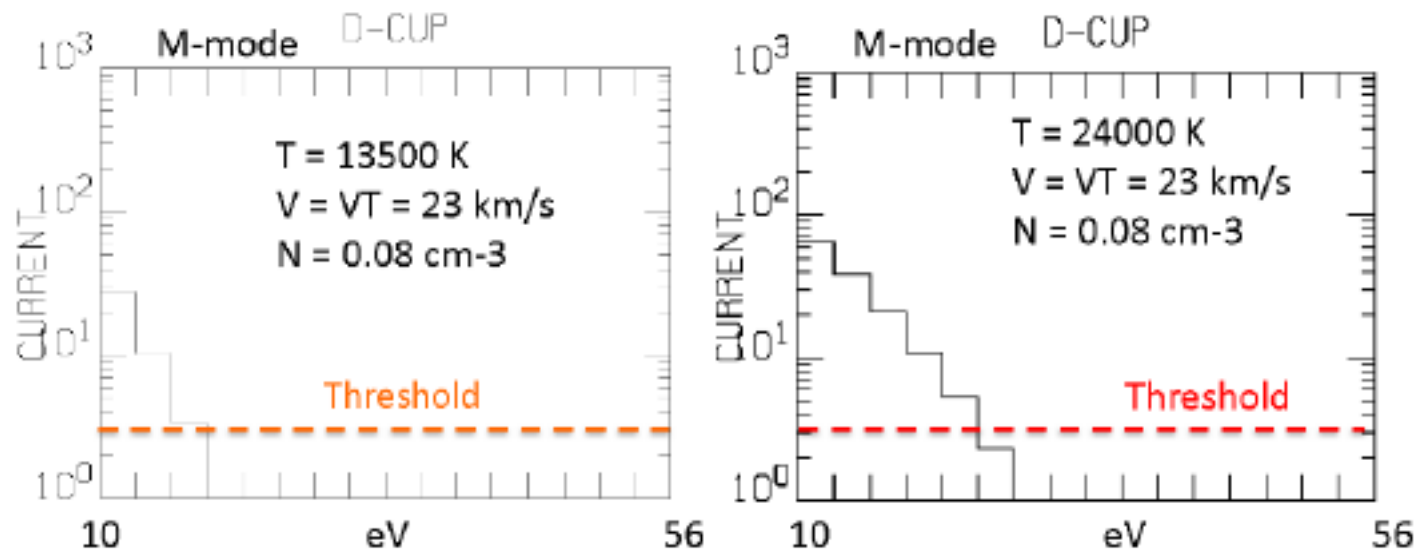




Speed down,  
Density up (starting  
in 2016?)



## Simulated V2 LISM spectra.





# V1 Observes the LISM: PWS-CRS-LECP- MAG Plot

A-D16-118-20

