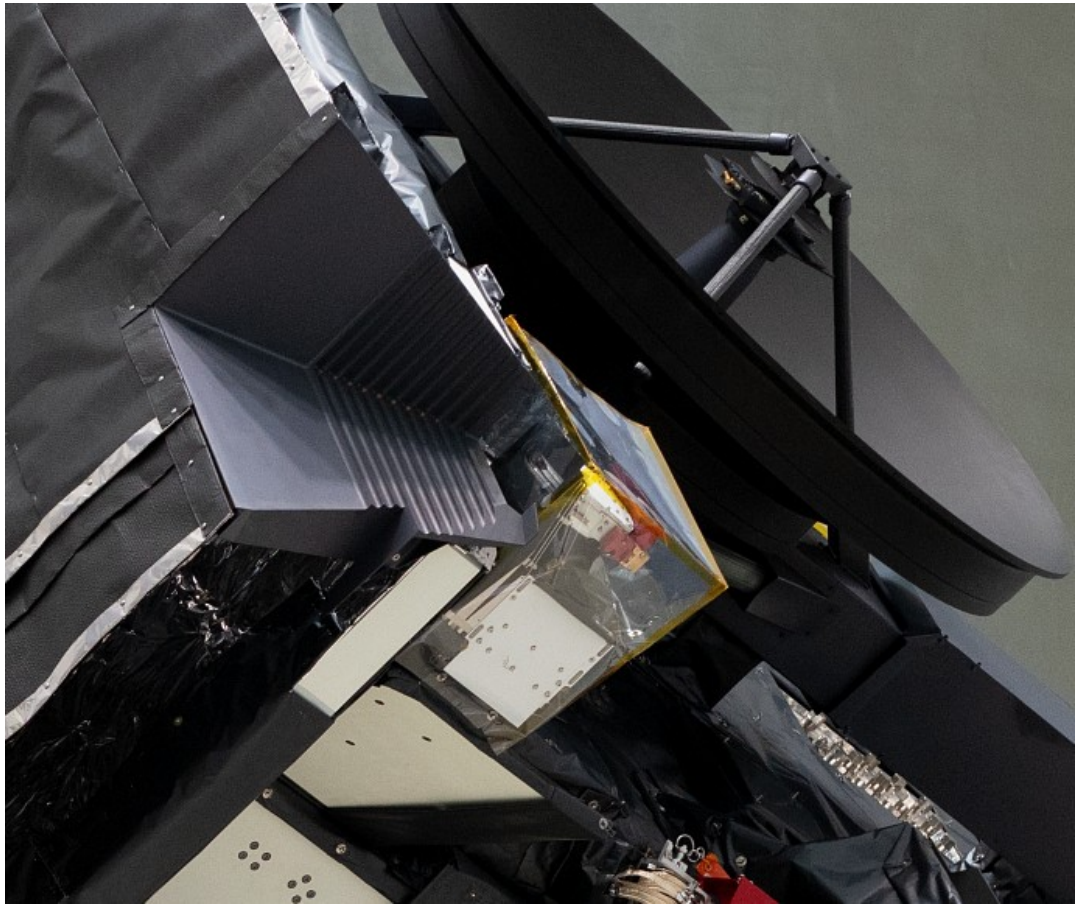
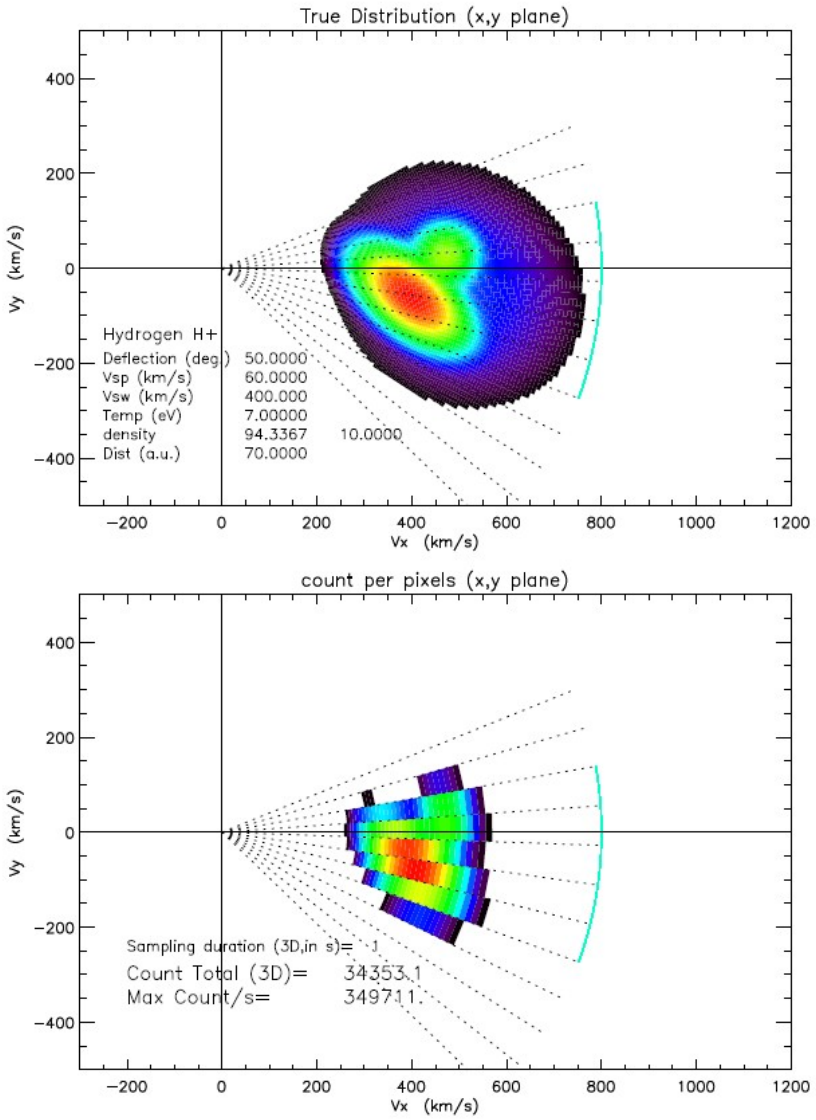


SWA PAS commissioning results

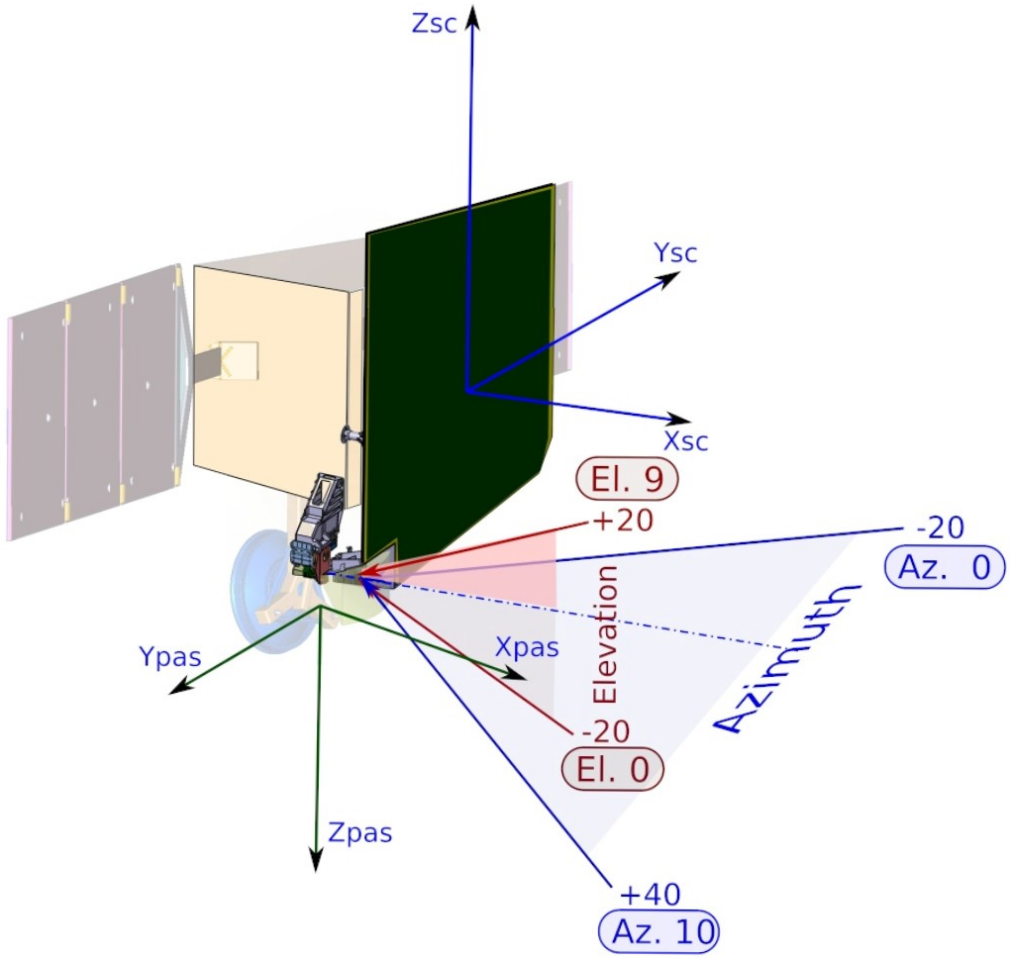


PAS is a very fast 3D ion spectrometer dedicated for solar wind measurements down to 0.25 AU.

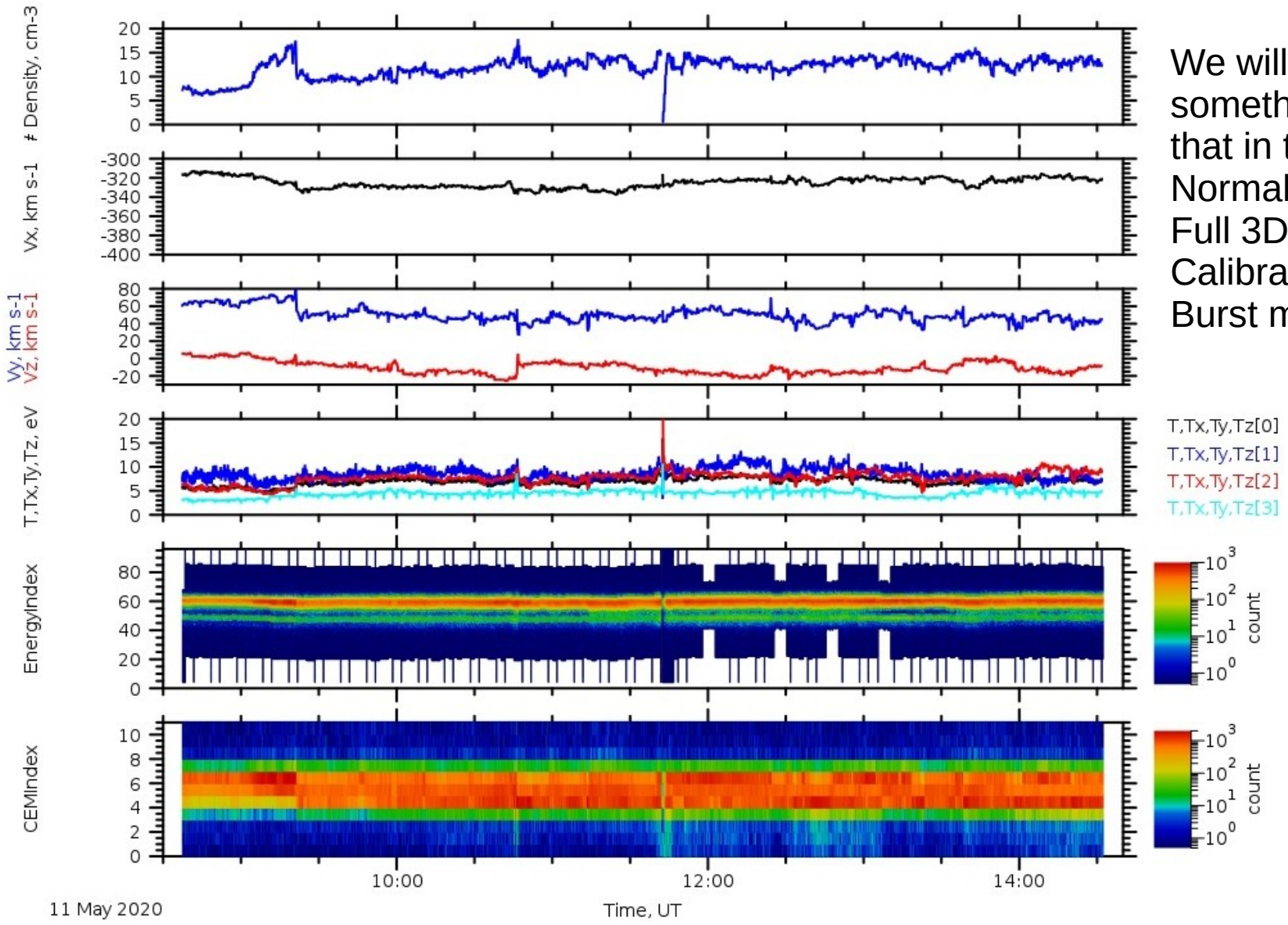
It can return 3D solar wind ion velocity distribution function with 6° angular resolution and 6% energy resolution.

PAS cadence can be 8 VDFs per seconde.

PAS location and frame

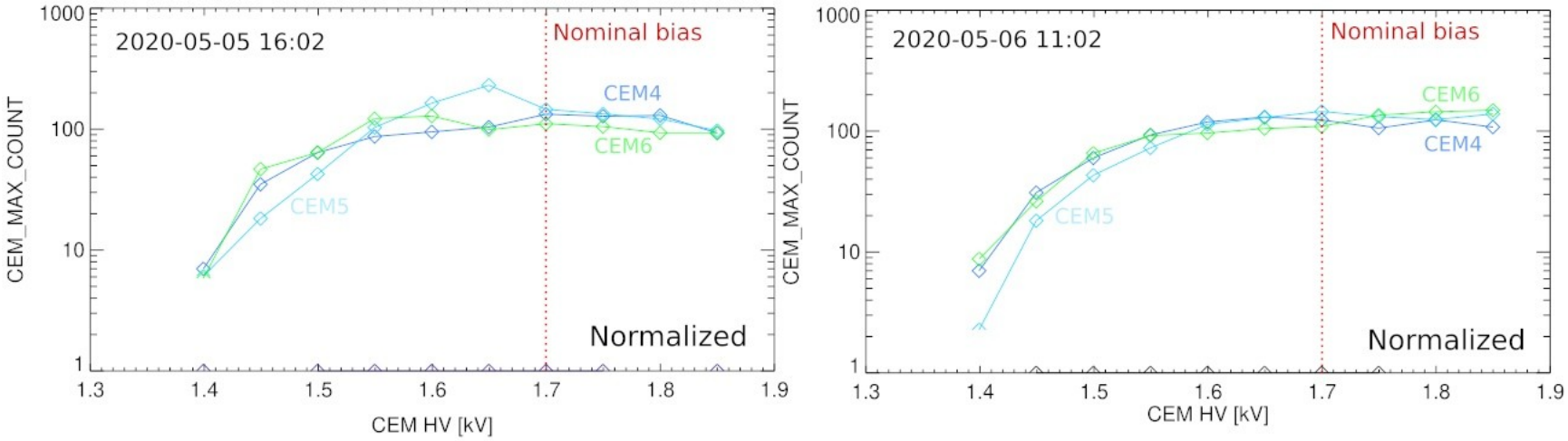


PAS Commissioning Data Example



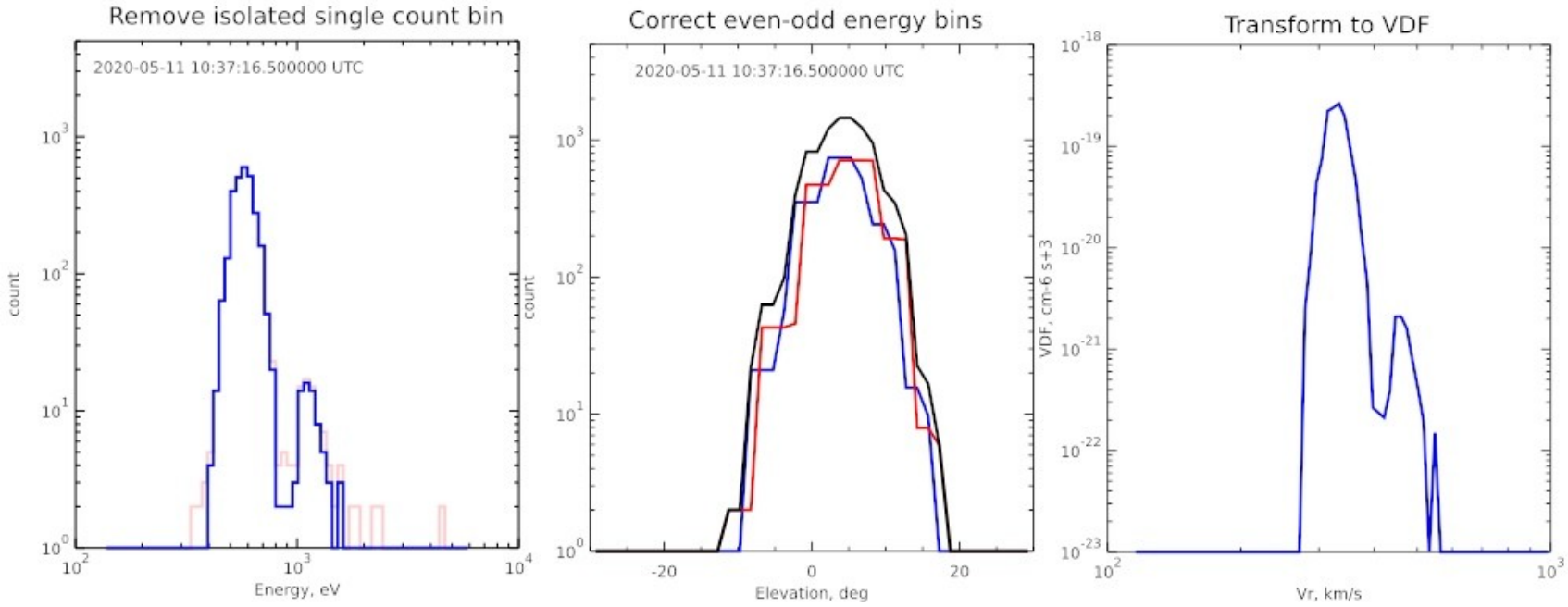
We will see something like that in the flight:
Normal mode,
Full 3Ds
Calibrations
Burst modes

PAS CEMs Calibration

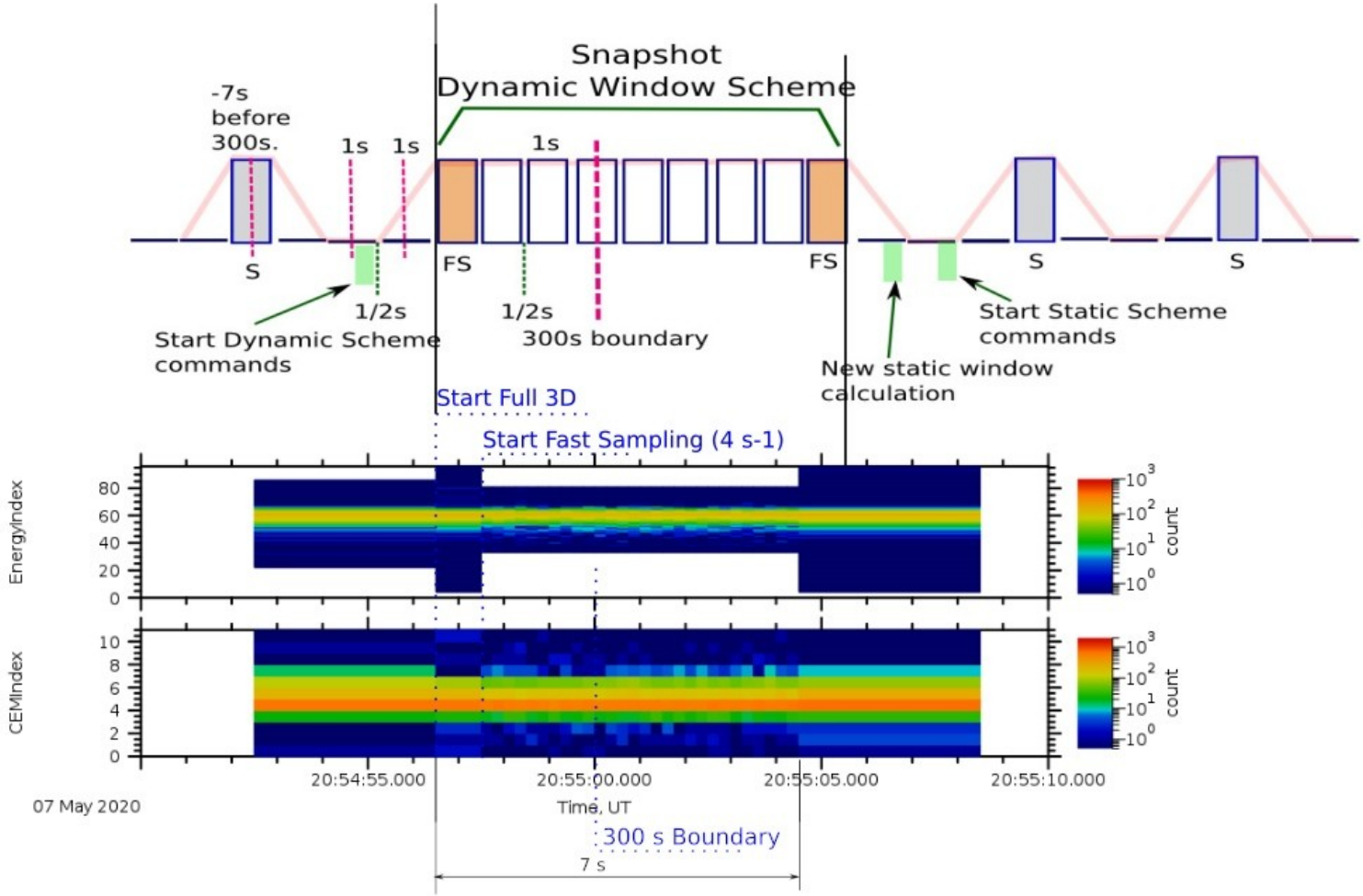


During one month of activity the CEM calibration profiles did not change

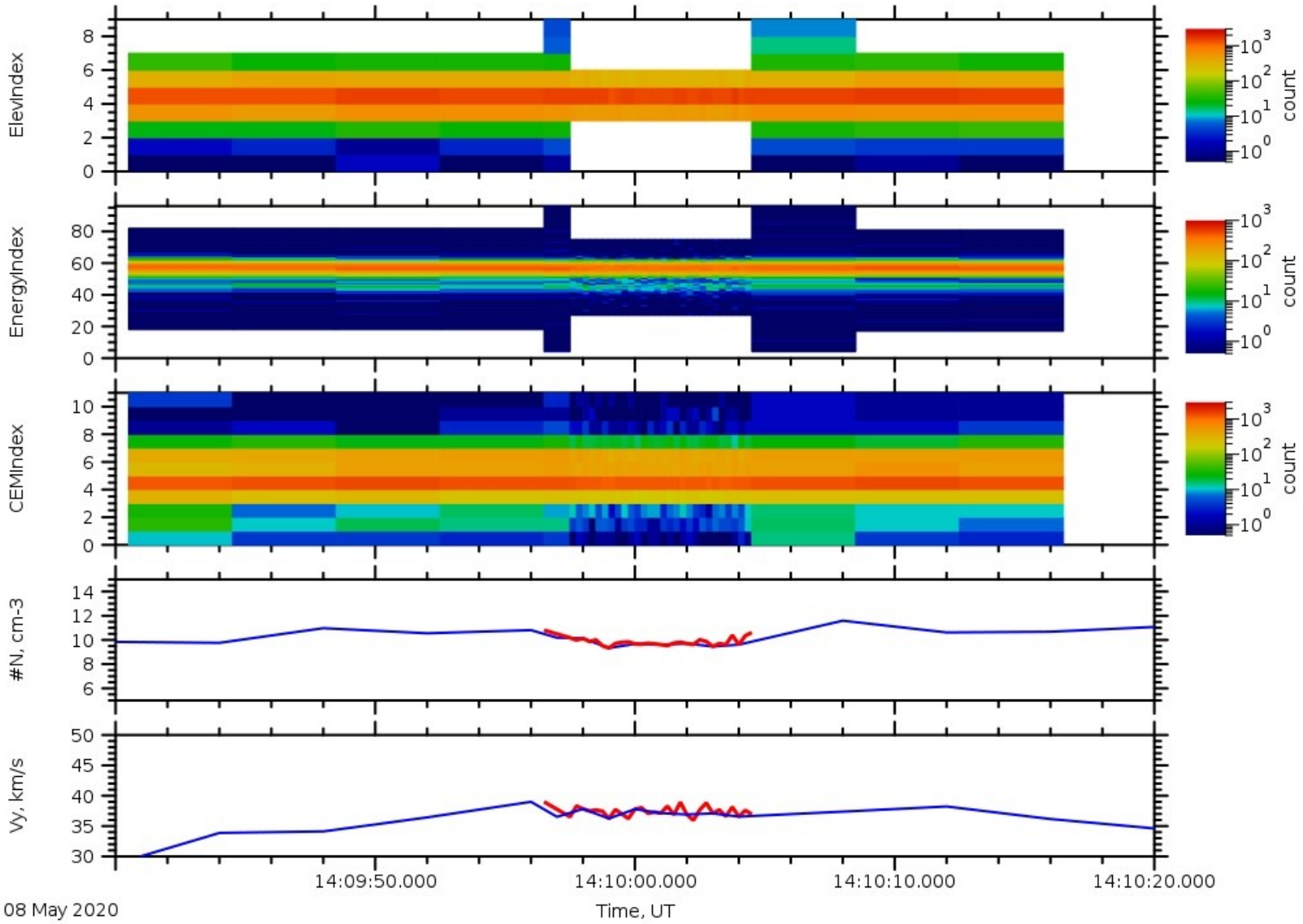
PAS L2 Processing



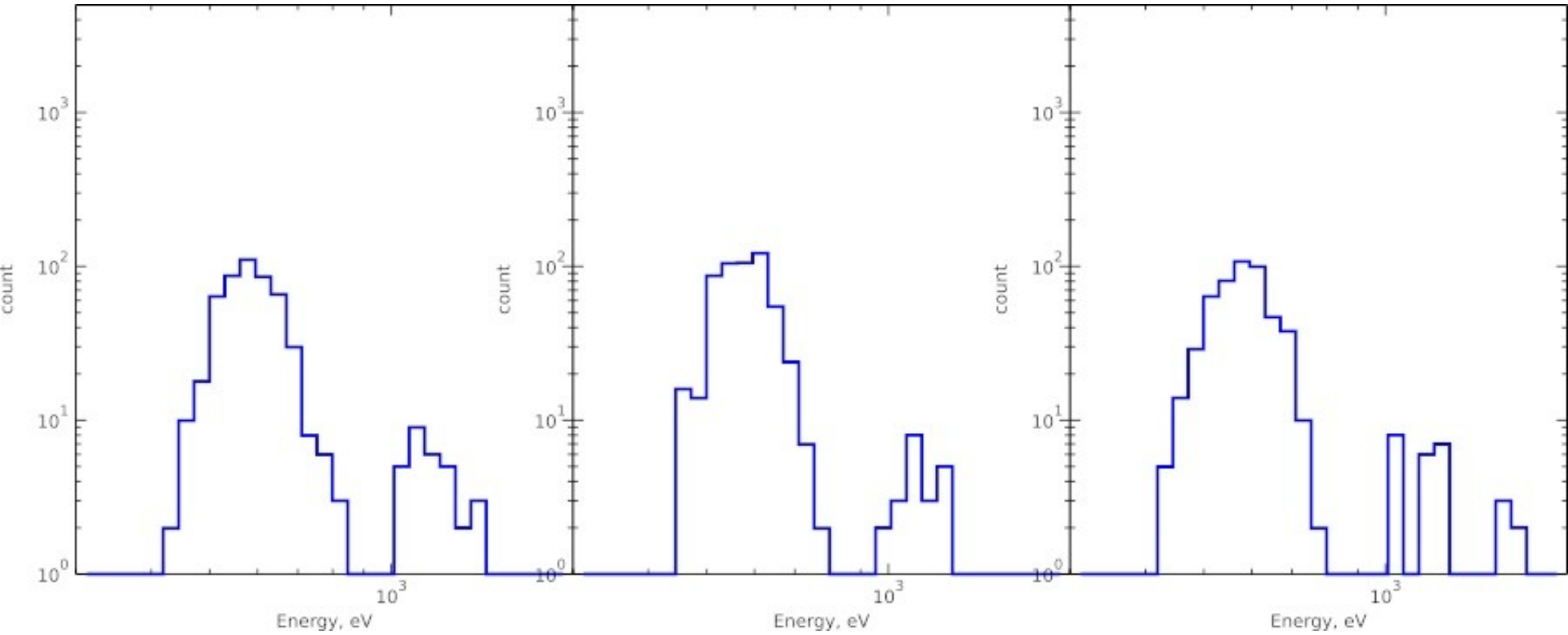
How does it work



PAS Normal Mode and Snapshot

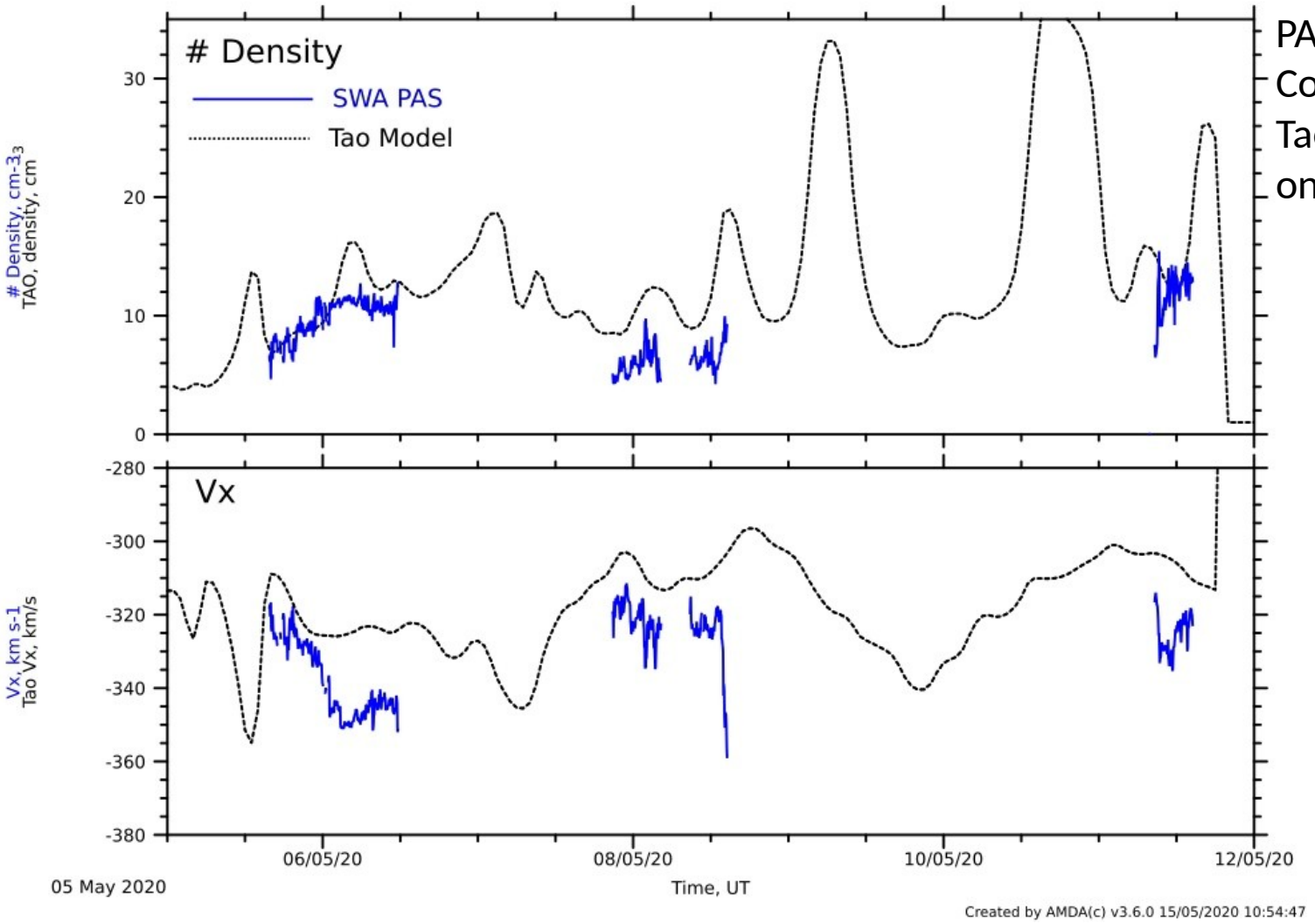


PAS Fast measurements statistical issue



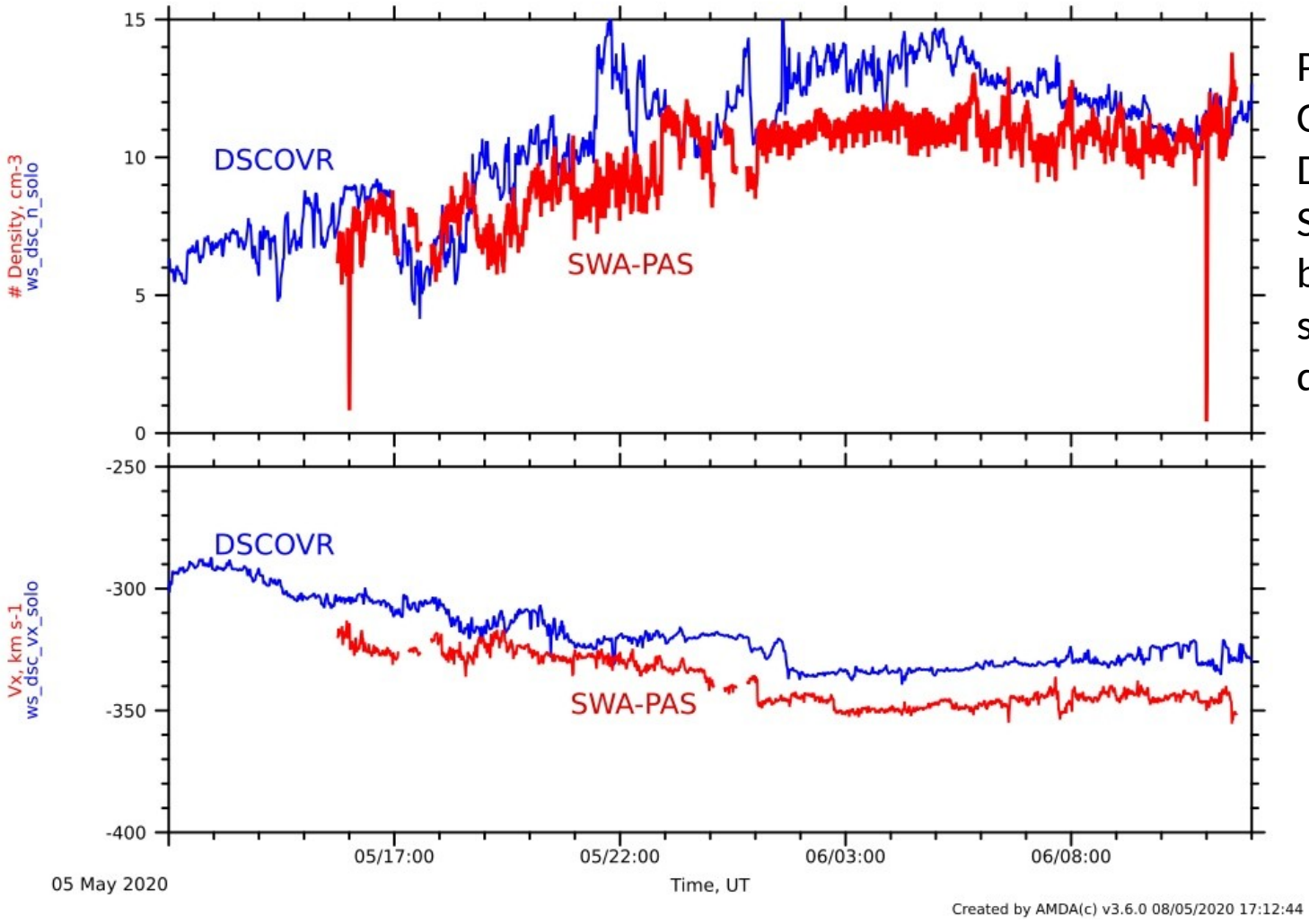
11 May 2020
One Azimuth – Elevation bin E-spectrum.
dT is ¼ sec
Spectrum variation is around statistical noise

PAS moments quality



PAS moments: Comparison to Tao model (based on DSCOVR data)

PAS moments quality



PAS moments: Comparison to DSCOVR data. Shifted by the ballistic model and scaled to the distance

Conclusions

PAS commissioning is completed with no significant issues

L2 (Version 1) data processing is ready to make L2 data product

TO DO:

1. Reload calibration tables for onboard moments calculations
2. Add and update the Flight MLT procedures
3. Change the PAS cadence to reduce the statistical noise
3. Continue with L1 → L2 processing validation