

ROSETTA Standard Radiation Environment Monitor

Detectors: three silicon
Mass: 2.5 kg
Size: 96 x 122 x 217 mm
Angular Resolution: $\pm 20^\circ$
Power: 2.5 Watts

Detector 3: 0.7 mm Al Window
Minimum Energy
Electrons: ~ 0.5 MeV
Protons: ~ 10 MeV

Detectors 1/2: 2.0 mm Al Window
Separator: 1.7 mm Al &
0.7 mm Ta

Minimum Energy
D1 Electrons: 1.5 MeV
D1 Protons: 20 MeV
D2 Electrons: Blocked
D2 Protons: ~ 39 MeV

15 Discriminator Channels



PRINCIPAL INVESTIGATOR
Hugh Evans & Petteri Nieminen

Data Set Evaluation Tools

Staging -

Machine: IBM lenovo T60p ThinkPad

Operating System: Fedora 27 Linux

Evaluation -

Machine: Dell Precision T3400

Operating System: Fedora 19 Linux

Data Processing -

Machine: Sun Ultra-350

Operating System: Sun Solaris OS 5.9

SREM Data Sets

ro-c-srem-2-ext3-mtp034-v1.0

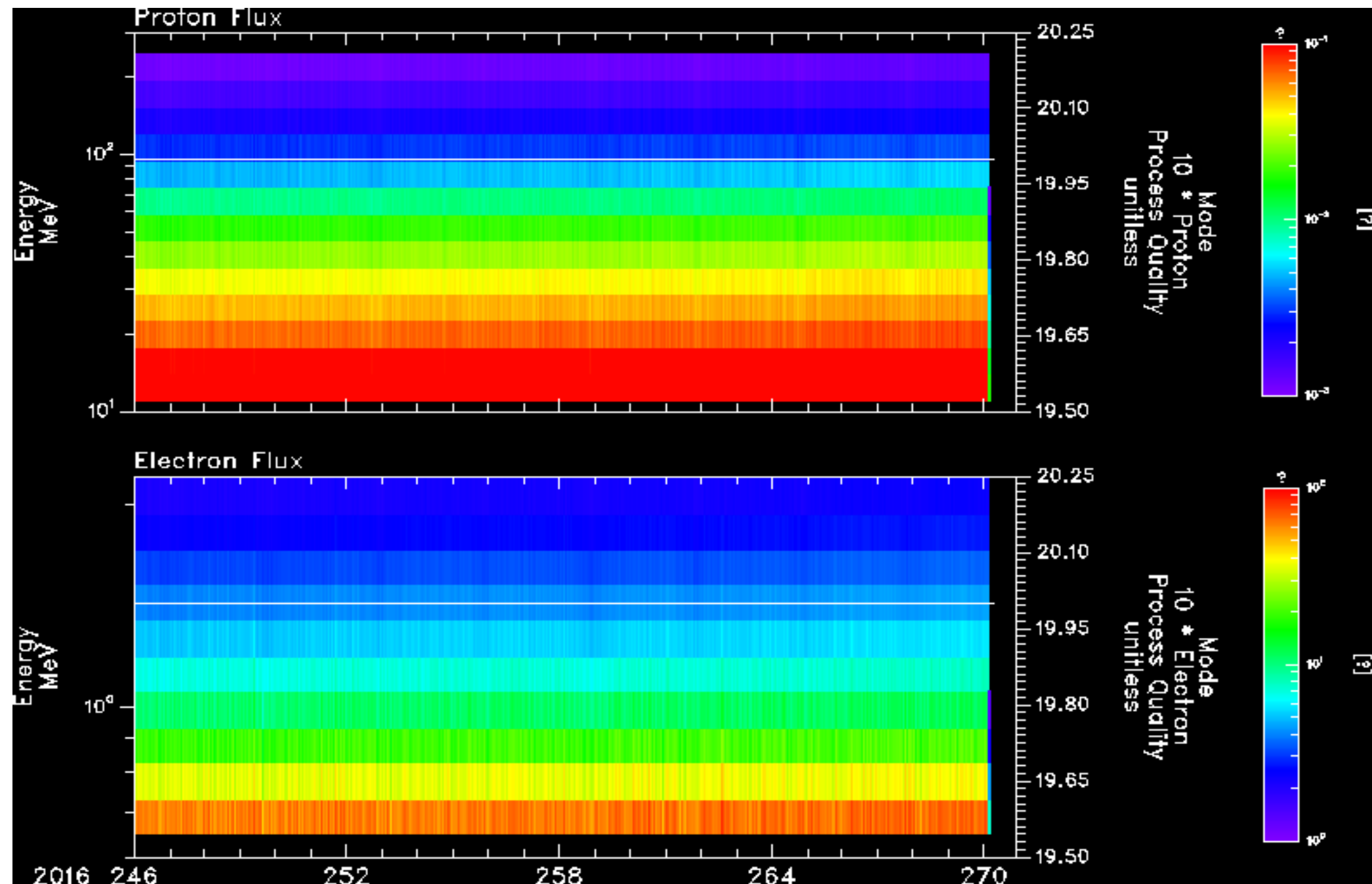
ro-c-srem-3-ext3-mtp034-v1.0

Data Evaluation

Reason for this Supplement

Quality Parameters were missed in the original data set. Re-examination showed that the quality field recorded within the Level 3 data files failed on the reviewer end due to mixed mode. Documentation set integer values to the data quality; however, the data files specified real values. A mixed mode occurred when the reviewer stored a 4 byte floating point number as a 2 byte integer.

ro-c-srem-3-ext3-mtp034-v1.0



Level 3 Quality Definitions dataset.cat

There are quality values that provide recommendations on the use of the flux values according to the table below (Q=P,E):

- Quality=0 SREM count-rate data determined by charged particle fluxes Q. Use flux.
- Quality=1 SREM count-rate data most likely determined by charged particle fluxes Q. Use flux with some caution.
- Quality=2 SREM count-rate contaminated by various sources. None criterion is satisfied. Do not use flux.
- Quality=3 SREM count-rate dominated by fluxes of non-Q particles. Do not use the flux.
- Quality=5 SREM count-rate data dominated by background (cosmic, detector electronics). Do not use the flux.

Conclusion

Quality fields exist in the Level 3 data and are the value 2.0 as indicated by the experimenters. No quality parameters were found in the Level 2 data.

Note on Dead Time

The amount of dead time correction to the accumulation relates to the probability of one or more events occurring simultaneously during the data collection period. It is an indicator of the activity level of the instrument. The higher the dead time correction, the more the instrument can be overdriven.