2014 STAR JPSS Science Teams Annual Meeting

ICVS Team Lead Report

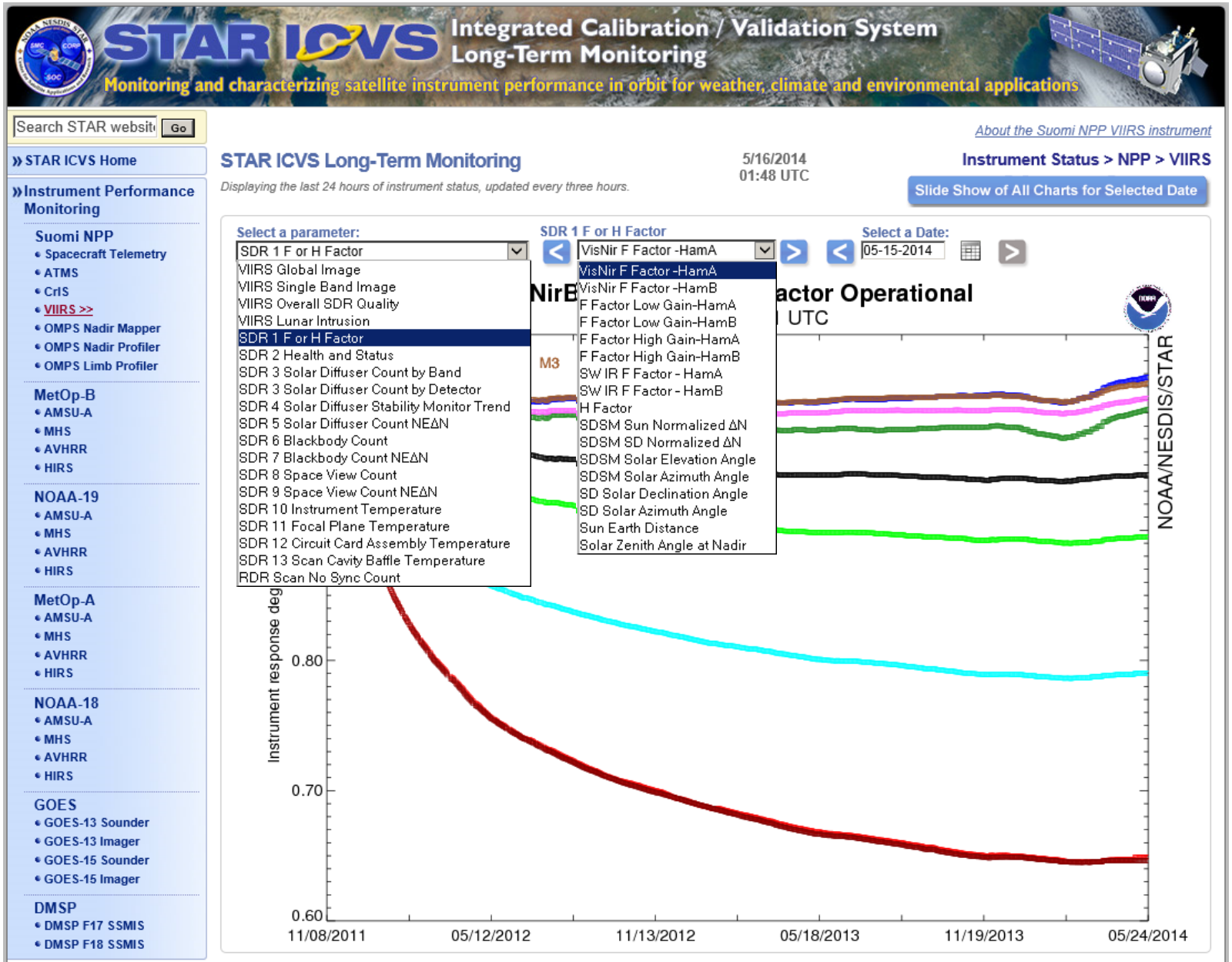
STAR ICVS Team

Major Accomplishments

- SNPP Spacecraft Level (Spacecraft health status and telemetry parameters)
  - 107 products
  - 2 customized text format data files
- Instrument Level (Health status and telemetry parameters) – 984 products
  - S-NPP (total 412 products)
    - ATMS – 92 products
    - CrIS – 46 products
    - VIIRS – 39 products
    - OMPS NM/NP/LP – 81/75/79 products
  - POES/MetOp (total 512 products)
    - AMSU/MHS – 380 products
    - AVHRR – 76 products
    - HIRS – 56 products
  - GOES Sounder/Imager – 60 products
- Calibration Level (Calibration target and performance parameters) – 1714 products
  - S-NPP (total 588 products)
    - ATMS – 92 products
    - CrIS – 170 products
    - VIIRS – 163 products
    - OMPS NM/NP/LP – 79/39/45 products
  - POES/MetOp (total 832 products)
    - AMSU/MHS – 352 products
    - AVHRR – 152 products
    - HIRS – 328 products
  - GOES Sounder/Imager – 294 products
- SDR Level (SDR images, quality flags, and bias characterization parameters) – 633 products
  - S-NPP (total 465 products)
    - ATMS – 108 products
    - CrIS – 213 products
    - VIIRS – 62 products
    - OMPS NM/NP/LP – 29/33/20 products
  - POES/MetOp (total 168 products)
    - AMSU/MHS – 132 products
    - AVHRR – 28 products
    - HIRS – 8 products
  - GOES Sounder/Imager

Total 3440 products from ICVS-LTM, 1574 for S-NPP

Major Accomplishments



Future Plan – ICVS-Lite Transition

- A lite version of ICVS will be transitioned to GRAVITE and serve as the operational S-NPP instrument and SDR data quality monitoring system
- GRAVITE (GV3) can provide more reliable support on S-NPP data stream and be operated in 24/7 mode
- STAR will keep the ownership of ICVS-Lite system and be responsible for system test, transition, maintenance, and upgrade services
- ICVS-Lite users can submit requests to add more parameters in the system

Future Plan – Generation of J1 Proxy Data

- J1 proxy data will be produced to evaluate the error handling capability of operational ground processing system
  - Functional test
    - Golden day data
  - Instrument/data anomaly will be provided using ICVS record
    - PRT inconsistency
    - Calibration count inconsistency
    - Calibration count out of range
    - Missing calibration or scene packets
    - Missing spacecraft diary packet
    - Missing scans
    - Maneuver flag setting
    - SDR data quality flag setting
    - Lunar intrusion

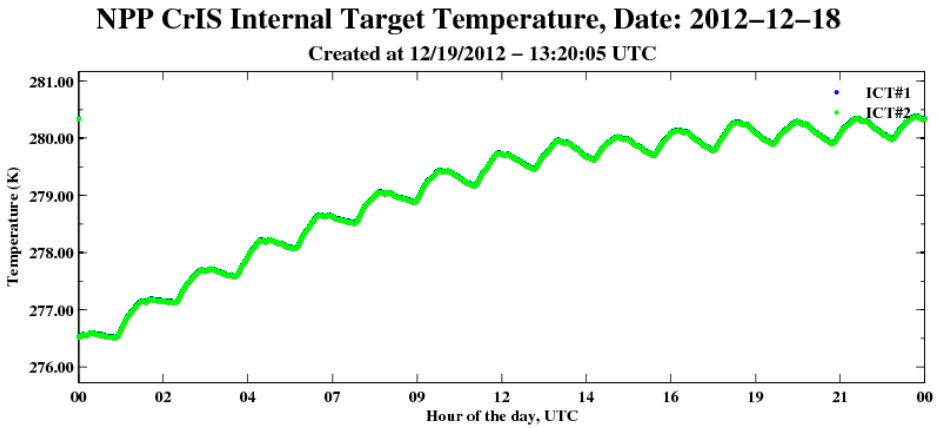
- STAR ICVS team will be working with each SDR team to generate and archive J1 proxy data for test.

S-NPP Anomaly for J1 Proxy Data

CrIS ICT temperature anomaly

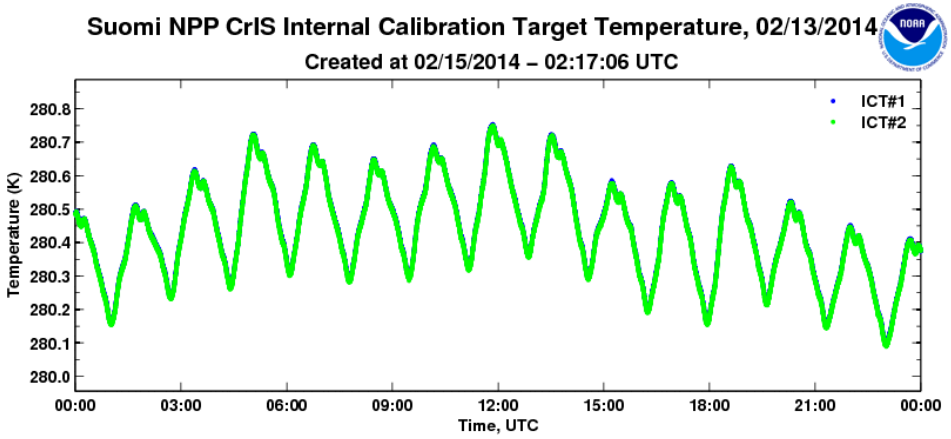
- ICT temperature quickly increased more than 4K on Dec 18, 2012 after CrIS was switched to safe mode, and the nominal daily variation is less than 0.8K

ICT anomaly

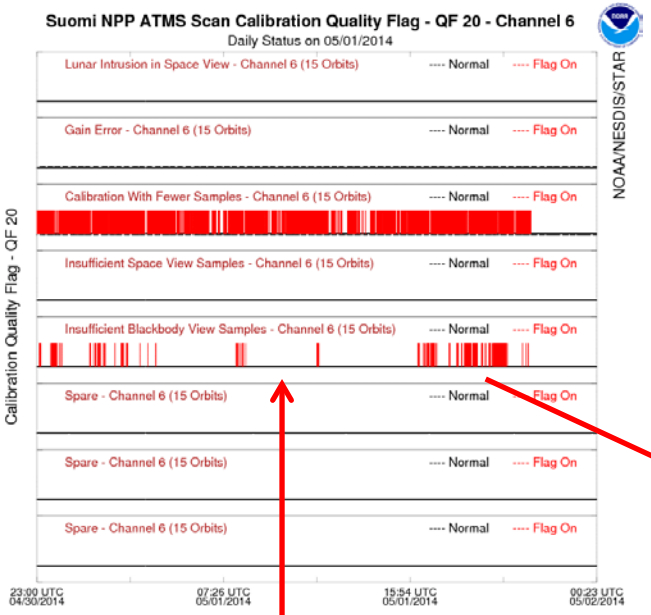


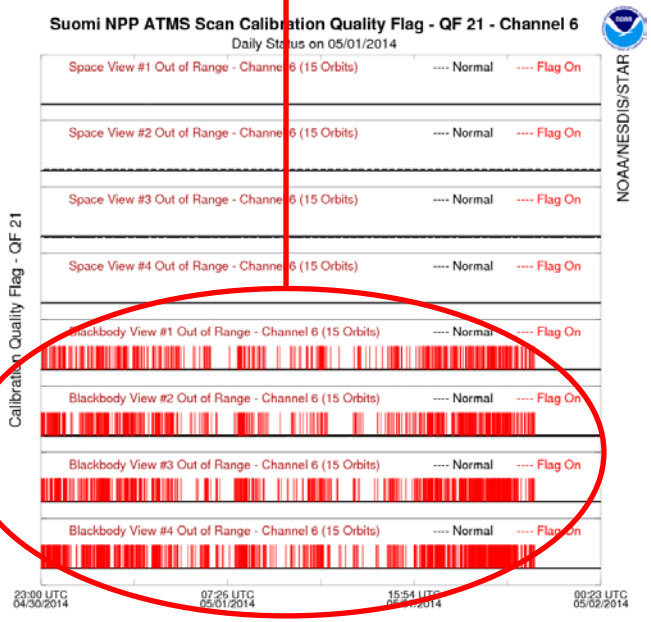
This case will be used to test the program response to dramatic ICT drifting. Some quality flags should be triggered.

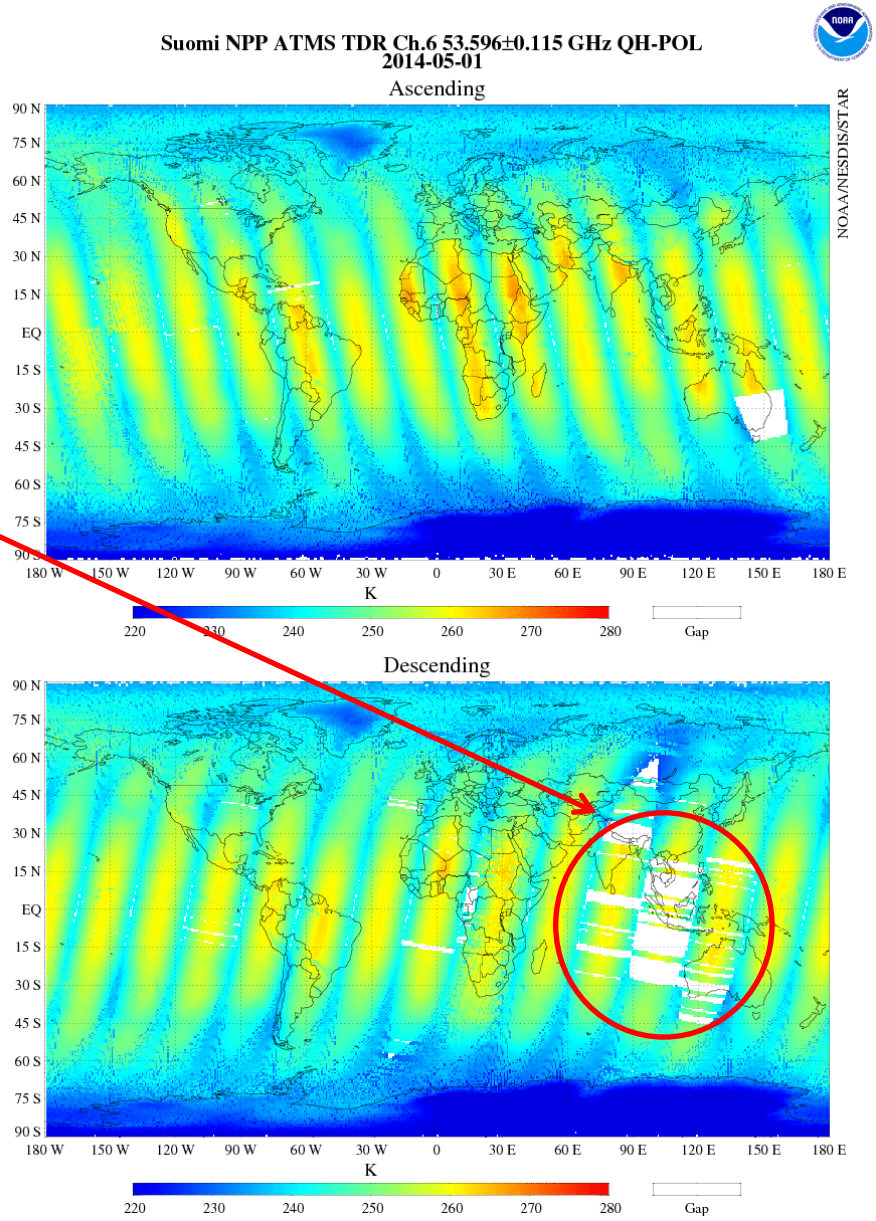
Nominal ICT



S-NPP Anomaly for J1 Proxy Data







Future Plan – EDR LTM Prototype

- STAR ICVS website hosts a number of ozone product monitoring web pages
- ICVS team will be working with STAR ozone EDR group to build a EDR LTM prototype in STAR ICVS

Search STAR websit Go

- OMPS Product Demonstration Site
  - Operational
    - SBUV/2
    - GOME-2 (MetOp-A)
    - GOME-2 (MetOp-B)
  - Released
    - SBUV/2
    - SBUV/2 - Rel.- 2
  - O_3 Product Comparison
  - Provisional
    - OMPS Product
    - OMPS Product TOZ V8 >>
    - OMPS Product TOZ INCTO
    - OMPS Product TOZ OOTCO
    - OMPS Product O_3PRO V8
    - OMPS Product O_3PRO IMOPO
  - MICROS
- New STAR ICVS Site

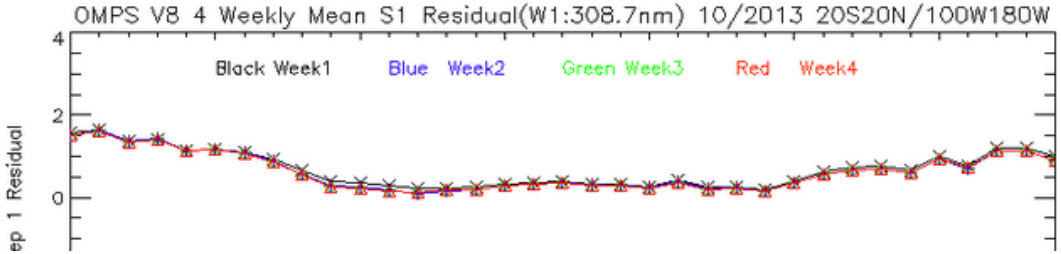
Data and images displayed on STAR sites are provided for experimental use only and are not official operational NOAA products. More information>>

Temporary Product Demonstration Site for OMPS

NOAA OMPS Total Column V8 Products - Provisional

Please select the product index & press 'Display' Button

Daily Zonal Mean Total O_3 October 2014 Display	Daily Zonal Mean Aerosol Index October 2014 Display
Daily Zonal Mean Reflectivity October 2014 Display	Daily Zonal 1 Percentile Refle. October 2014 Display
Daily Zonal Mean Step 1 Residual October 2014 Display	4 Weekly Mean Total O_3 October 2014 Display
4 Weekly Mean Aerosol Index October 2014 Display	4 Weekly Mean Reflectivity October 2014 Display
4 Weekly Mean Step 1 Residual October 2014 Display	4 Weekly Mean 1 Percentile Reflec. October 2014 Display
OMPS V8 Antarctic Total Ozone October 2012 Display	

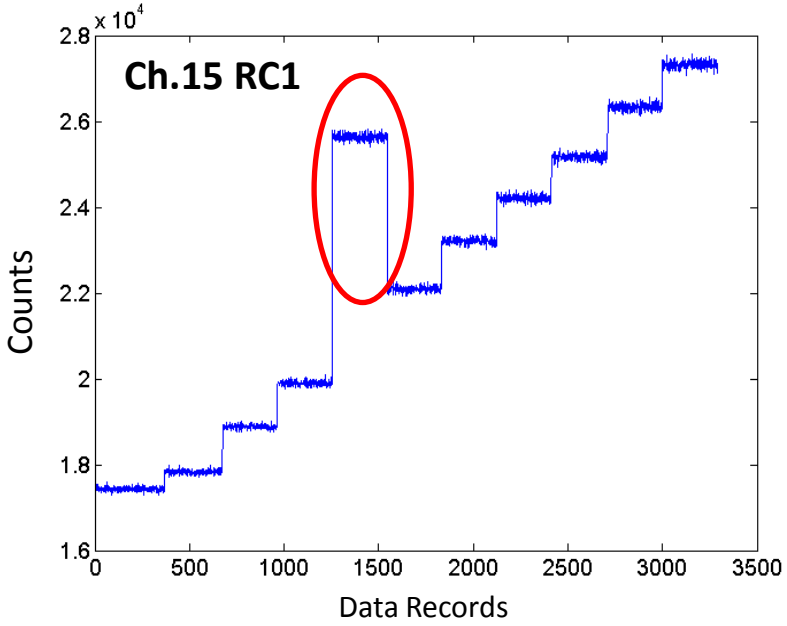


Future Plan – J1 TVAC Support

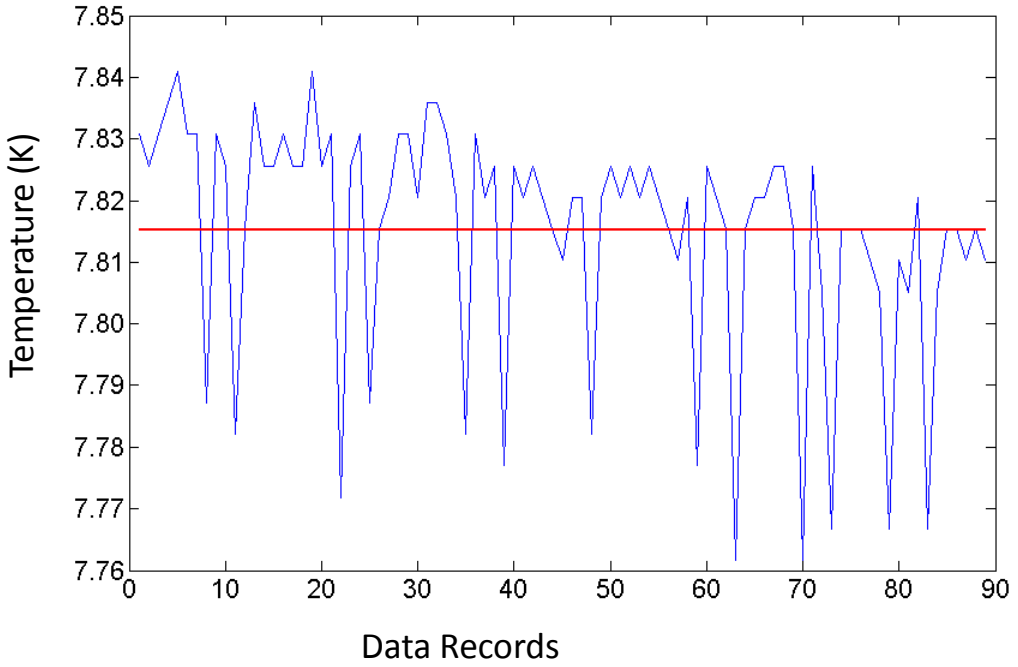
- STAR ICVS will be archiving J1 instrument thermal vacuum (TVAC) raw data

- ICVS team will be providing TVAC data decoding and key parameter trending monitoring service for each SDR team during TVAC test

J1 ATMS TVAC CP_Mid Scene Count



J1 ATMS TVAC Cold Plate Temperature at CP_Mid ST-300



Future Plan – Improved SDR Bias Characterization

- Current SDR bias characterization package needs to be improved
  - Global RTM simulation is not stable
  - Lack of long-term trending products over different surface conditions or geophysical locations
  - RTM needs to be improved for more accurate simulations
- Reprocess S-NPP data to build SDR bias characterization LTM