



OCO-2/3 Quarterly Calibration Update

OCO-TROPOMI-GOSAT Calibration Team Meeting #10
Friday, April 26, 2024, 05:00 AM PDT

Robert Rosenberg for OCO Calibration Teams

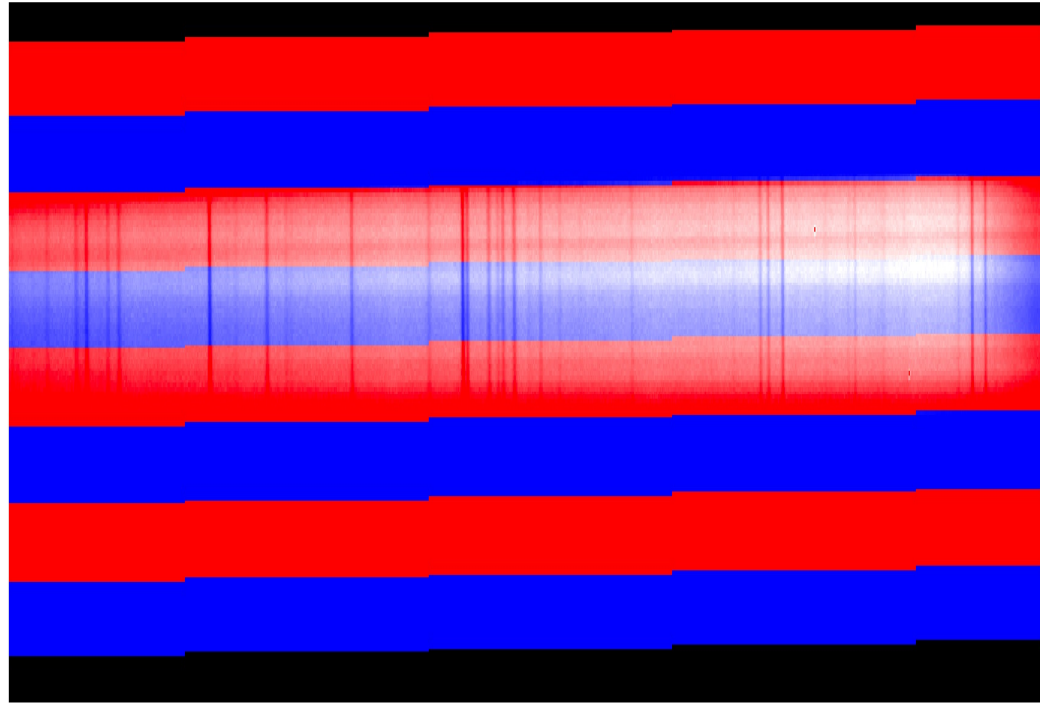


Jet Propulsion Laboratory
California Institute of Technology

Overview

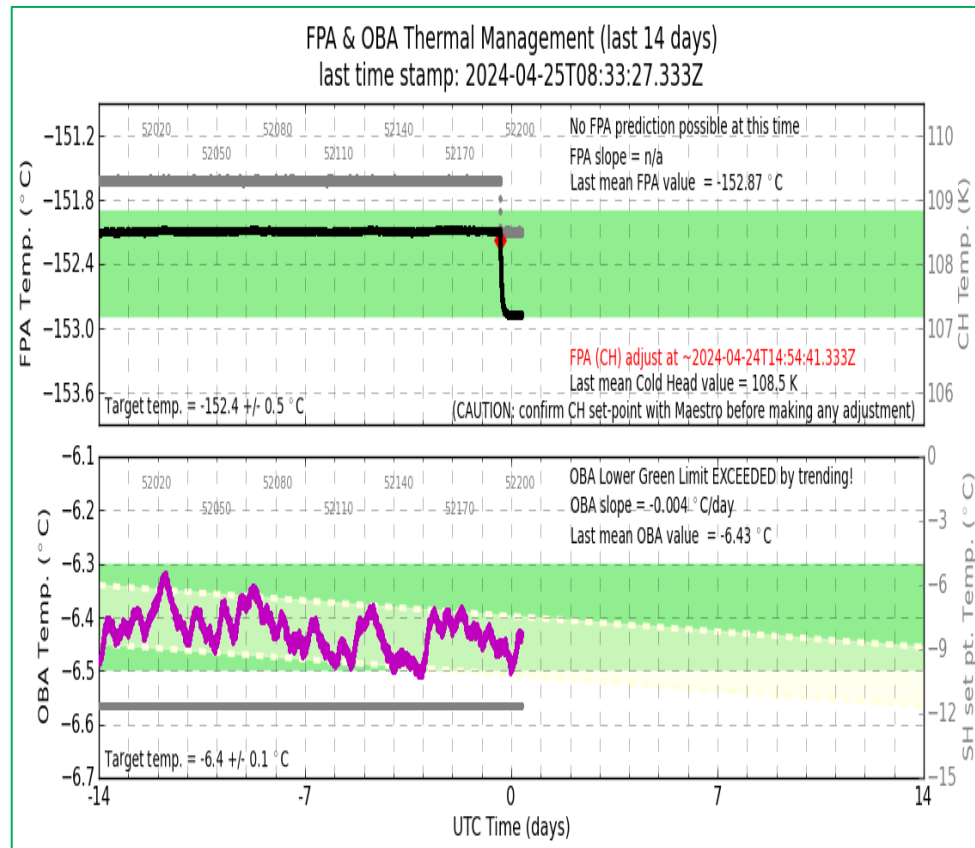
- Mission Operations
- 2024 RRV Campaigns
- Science Data Processing
- OCO-2 Radiometric Trending

OCO-2 Orbit 47818 26 Jun 2023 Lunar (Pixel Mode)



Mission Operations

- OCO-2 focal plane temperature adjust this week
- Adjusting forward calibration schedule to minimize impact
- Next OCO-2 decon Feb 2025
- OCO-3 Storage for ILLUMA-T EXTENDED through June
- In-orbit checkout #2 90 days, starting in July

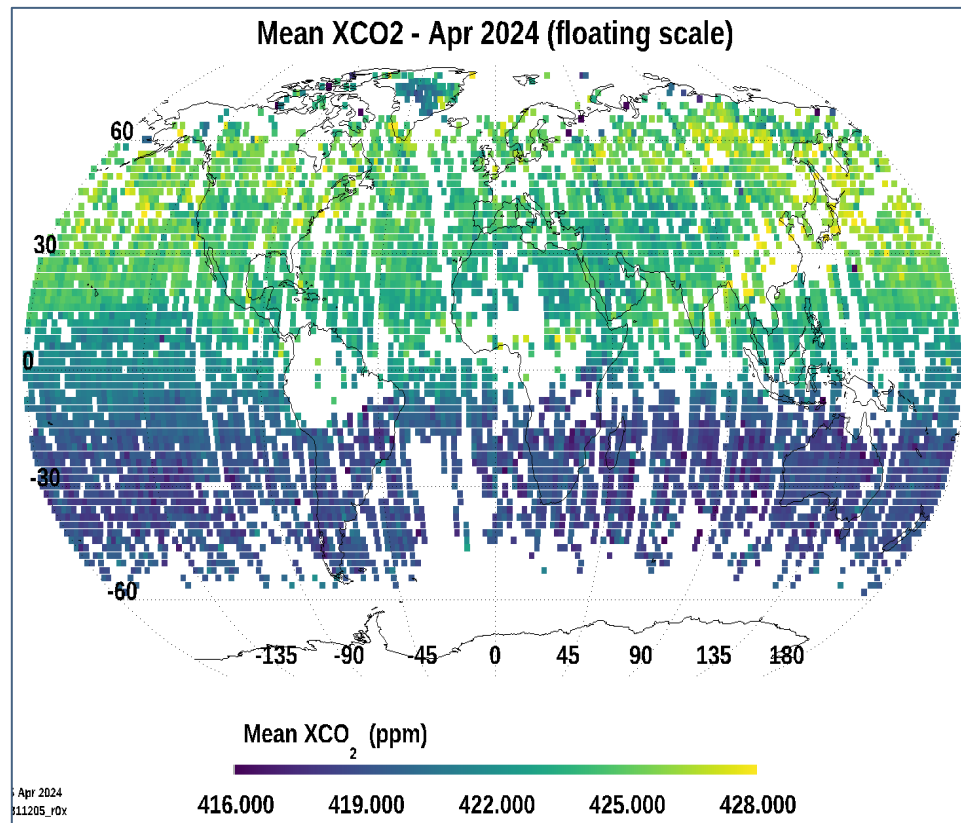


2024 RRV Campaigns

- No spring campaign due to OCO-3 storage & OCO-2 budget cuts
- 1st partly-cloudy target (no field data) on March 26, 48-day repeat plan
- Looking forward to welcoming colleagues from JAXA, NIES, RESTEC, and AIST from June 8-24 for RRV campaign June 12-18 and additional validation studies in Pasadena & Tulare
- OCO-2 2x, GOSAT 4x, GOSAT-2 4x, TROPOMI $\leq 8^\circ$ 2x & $\geq 28^\circ$ 5x
- 'Fall' campaign will be scheduled after OCO-3 reinstall, more important than usual due to concerns about radiometric stability through storage
- Difficult to predict ISS several months ahead, historically more targets August/October due to 63-day orbit precession

Science Data Processing Status

- OCO-2 has completed V11.2 transition to Goddard Earth Observing System for Instrument Teams (GEOS-IT) with different aerosol types among other [non-calibration] changes than GEOS-FPIT
- OCO-3 will return from storage using GEOS-IT & Version 11



OCO-3 11R Campaign Update

B11 Reprocessing High-Level Status, Updated 25 Apr 2024

OCO-3 B11 Reprocessing Status for 52 months: August 6, 2019 to Nov 12, 2023 (solar days 01456-25617)

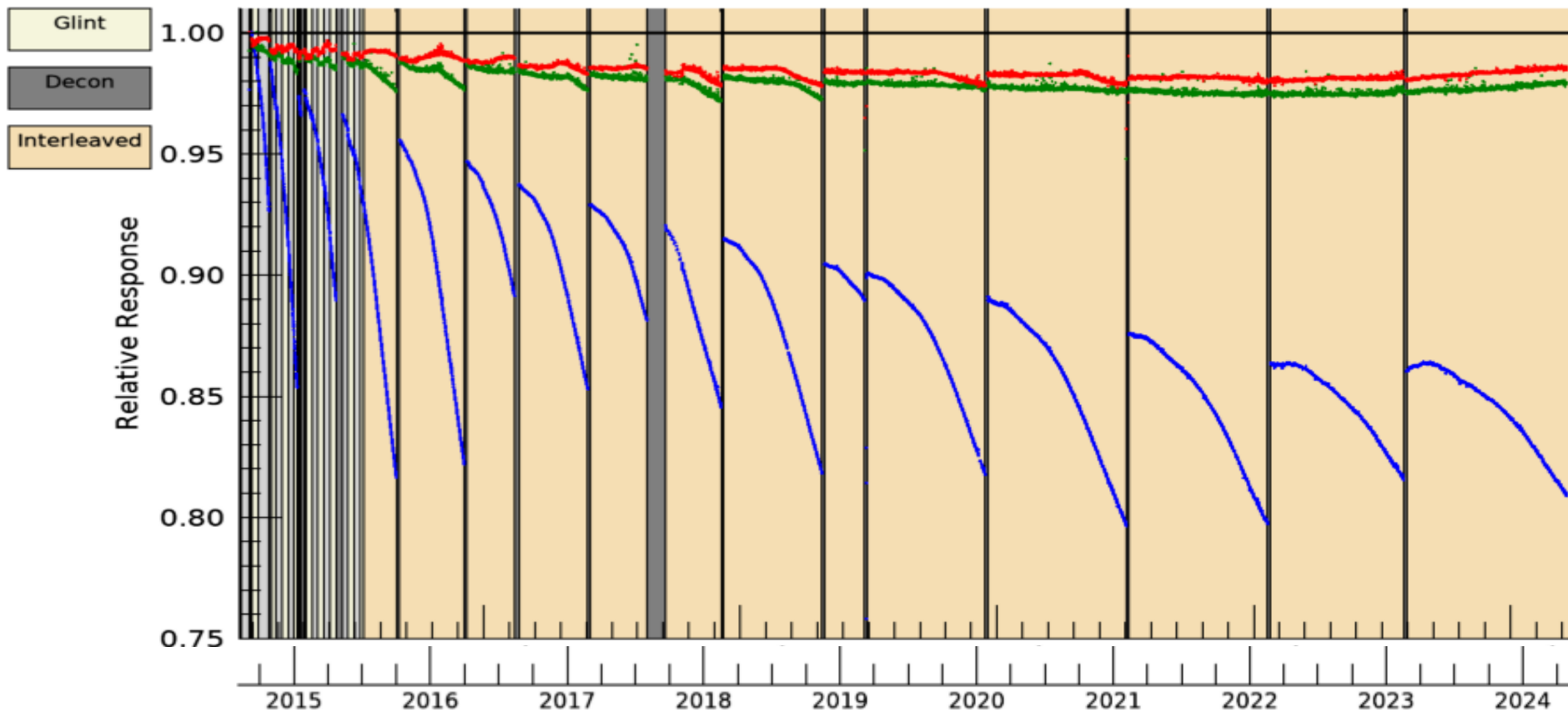
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
|------|----|----|----|----|----|----|----|----|----|----|----|----|
| 2019 | | | | | | | | | | | | |
| 2020 | | | | | | | * | | | | | |
| 2021 | | | | | | | | | | | | |
| 2022 | | | | | | | | | | | | |
| 2023 | | | | | | | | | | | | |

All calibration coefficients accepted in February (revisions made for 5 months)

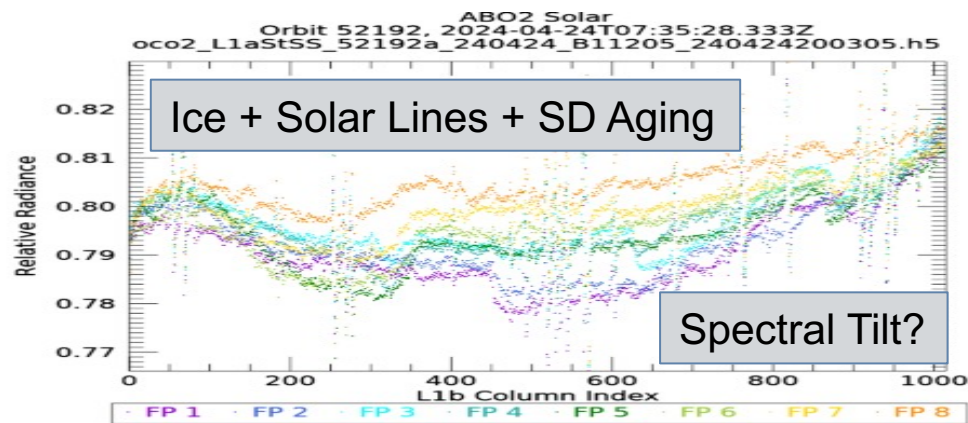
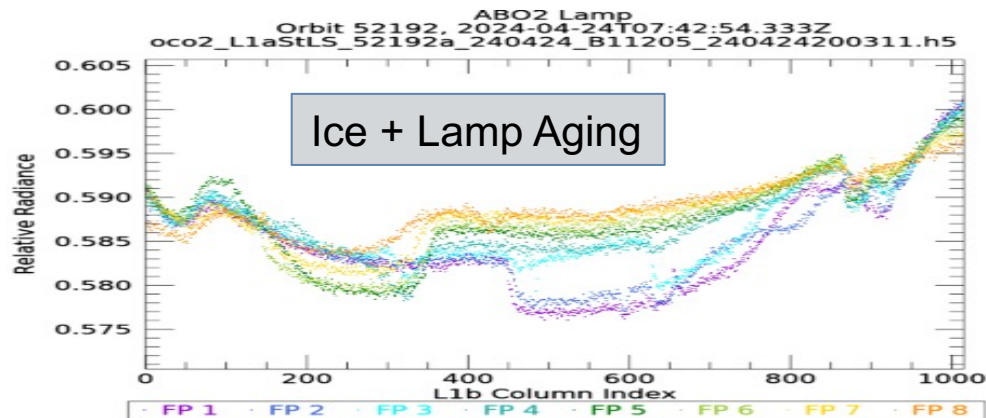
Legend:

| Pipeline Complete | Collection Label | Products in Pipeline | Status |
|---------------------|------------------|---|-------------|
| L0 | Version6 | L0Ins, L0EHS | Complete |
| L1a | Ops_B11036_r02 | L1CSV, L1aHS, L1aIn, L1aSt | Complete |
| Pre-L1b thru Pre-L2 | Ops_B11064_r02 | Pre-L1b: L0AEP, L1aAE, GeoSc, GeoCl, L2Met, L2CPr Pre-L2: L1bSc, L1bCl, L1bSt, L2ABP, L2IDP, L2SeI | In progress |

OCO-2 Solar Trend (Uncorrected) Through Orbit 52192

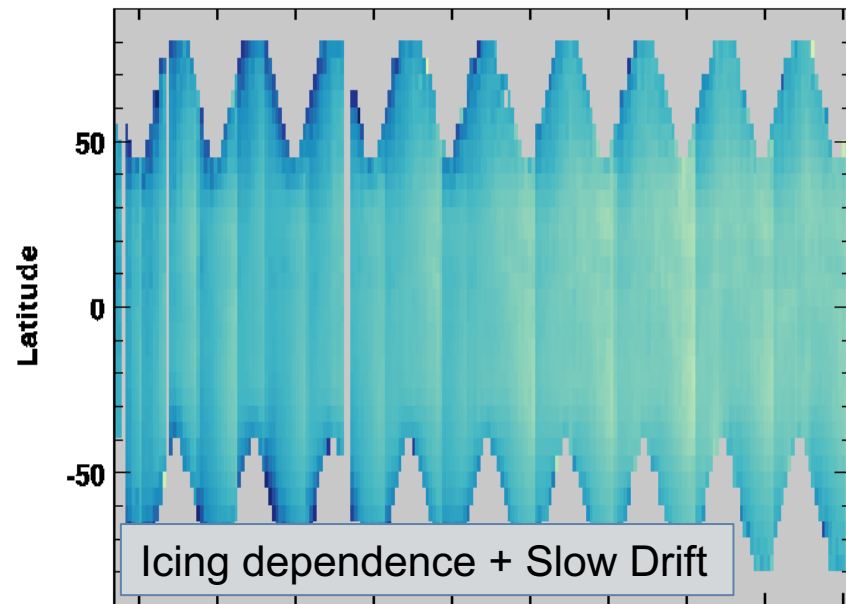


OCO-2 In-Band Spectral Shape



Far less severe than OCO-3 Version 10

Glint/water O2 Albedo Slope, All FP(-6.00e-06-- 7.00e-06)



Jan 15 Jan 16 Jan 17 Jan 18 Jan 19 Jan 20 Jan 21 Jan 22 Jan 23 Jan 24