
Montly Report on EUI Operations 202404

Review of performed activities, MOC/SOC interactions and acquired datasets.

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EUI-ROB-RP-MonthlyReport-202404-v1.0 2024-05-08T10:34:25Z

Contents

1 Introduction **2**

2 Current Status **2**

3 Health monitoring & non-nominal events **2**

4 Observation progress **3**

5 Data remaining onboard **4**

 5.1 EDDS performance 4

6 Data received on the ground **5**

7 Past and upcoming noteworthy instrument/team events **5**

8 Past Month MOC/SOC interactions **6**

9 Pending Anomaly Reports **6**

1 Introduction

This document presents a brief report of the operations of the EUI instrument onboard Solar Orbiter during the calendar month 202404.

Written by the EUI team. Approved by the EUI PI.

2 Current Status

At the time of writing (2024-05-07), EUI is nominal and executing R_FULL_LRES_LCAD_RS-Synoptic-Low.

3 Health monitoring & non-nominal events

- 2024-04-04: the EUI team noticed a bunch of unusual events such as EUI_Ev_M_023_HICI_ERROR and EUI_Ev_M_287_EUV_RTEMS_TIME suggesting a operating system time-conflict. As in previous cases (2023-10-10) nothing serious resulted, the EUI team choose not to react.
- 2024-04-15: We reached a new record for the temperature of the HRIEUV Door Lid (the label entrance filter in the graph below is a misnomer): 100C. The previous record was 92C in October last year, qualification limit OP is 82C, NOP is 156C. The sharp drops occur whenever the door is opened and the solar flux does not fall on the door but on the front filter (of which the temperature is not measured).

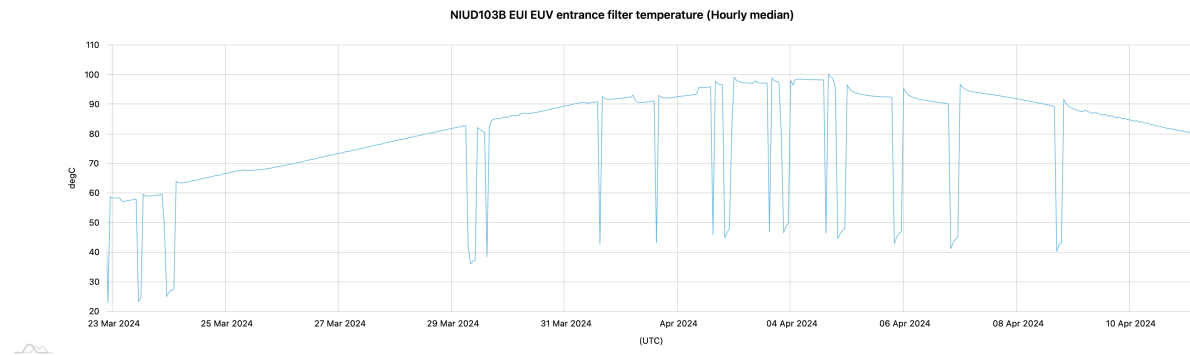


Figure 1: NIUD103B_EUI_EUV_entrance_filter_temperature_Hourly_median

4 Observation progress

- observations of RSW13,RSW14 and RSW15 have been completed as of April 16, since then mostly FSI synoptics have been taken.
- due to too careful planning and a few compression setting errors (below), we are underproducing data (about 1600 MiB below the SPK trajectory). To be discussed with SOC, we can consider
 - later in the LTP to switch temporarily back from low to moderate synoptics to compensate.
 - carry over the spare TM to LTP16

Telemetry Corridor LTP15 version 02

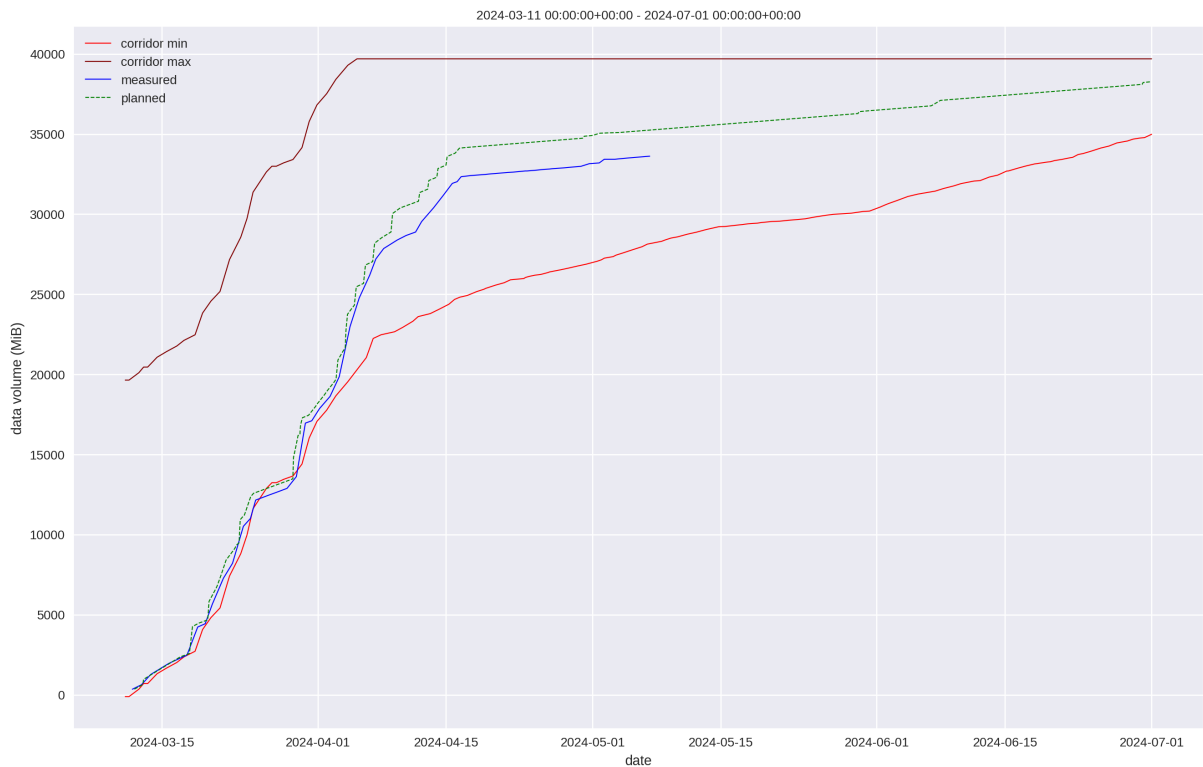


Figure 2: Telemetry corridor

5 Data remaining onboard

- The latest (May 7 04:27) filesystem list report shows that 1102 FSI images for in total 123.16 MiB remain in the SOB.
- Data in SSMM: the EUI Packet Store 12 in the SSMM was non-empty throughout the period and contains >5500 MiB at the time of writing.
- After April 9, only low latency images have been received so far.

5.1 EDDS performance

Maximum daily delay for small requests seems to be getting worse. More difficult to say for large requests. Average speed (MiB/min) for large requests is going down.

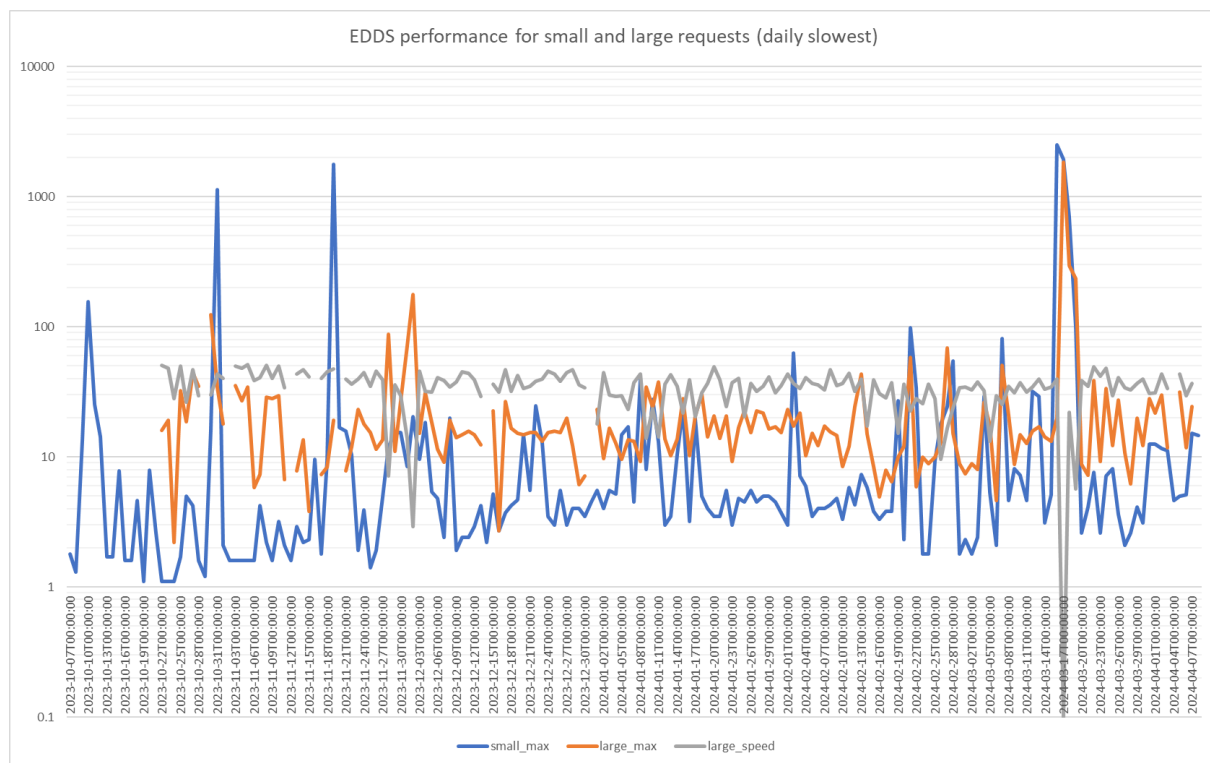


Figure 3: EDDS performance

6 Data received on the ground

- Selected observation movies
 - Daily synoptic Movies
 - March 23 Major Flare watch: [regular](#), [wow-processed](#)
 - 2024-04-05 Major Flare watch showing [strong coronal rain](#)
- Known issues
 - the images of the April 2 Fast Wind slot are (near) fully saturated due to an inappropriate decision at PDM to switch to HG only instead of combined gain.
 - major Flare Watch April 2: the short exposure HRIEUV images have the wrong (FSI) compression applied but they are still useful.
 - Eclipse support on April 8 has HRI EUV with regulars with COMBITPP14 instead of COMBITPP50; I count 1104 of them. recode high is wrong (32767 instead of 25600). You'll see more compression artifacts, and we underproduces about 795. Shorts with wrong recode low (327 instead of 256). Shorts should be mostly useable still.

7 Past and upcoming noteworthy instrument/team events

- An update of the flight software is being considered in July. This software update will correct all known & fixed bugs in particular for event triggering, sequence and timing performance. The EUI team will evaluate the state of the software release candidate early June and, if satisfactory, schedule a upload date with MOC.
- The target date for Data Release 7 is 2024 June.

8 Past Month MOC/SOC interactions

- 2024-04-02: MOC (Serenalla) warned that unverified TCs were received. The EUI team (Koen) confirmed this did not seem a problem given we already got LL images taken that day.

9 Pending Anomaly Reports

- SOL_SC-84 (TM flush from OHQ to SOB blocked. EUI filled linear&circular CEL. Reboot needed., created 2021-08-31): There is no definite resolution to this problem in sight yet but we operate with the work-around that when the number of SOB uncorrectable errors rises quickly, we reboot. This works perfectly but could potentially lead to data loss if it happens in a RSW. This anomaly report remains open while the EUI team further studies possible, exceptional issues with the filesystem.