

# IMPERIAL MAG Data Release Report 2408



16 December 2024 (report covers data release for 1 August– 31 August 2024)

|                    |  |  |         |
|--------------------|--|--|---------|
| Report Version     | 1  | L2 ground processing software version: | V2.27.1 |
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| Report prepared by | Jean Morris <a href="mailto:j.morris23@imperial.ac.uk">j.morris23@imperial.ac.uk</a> |  |         |

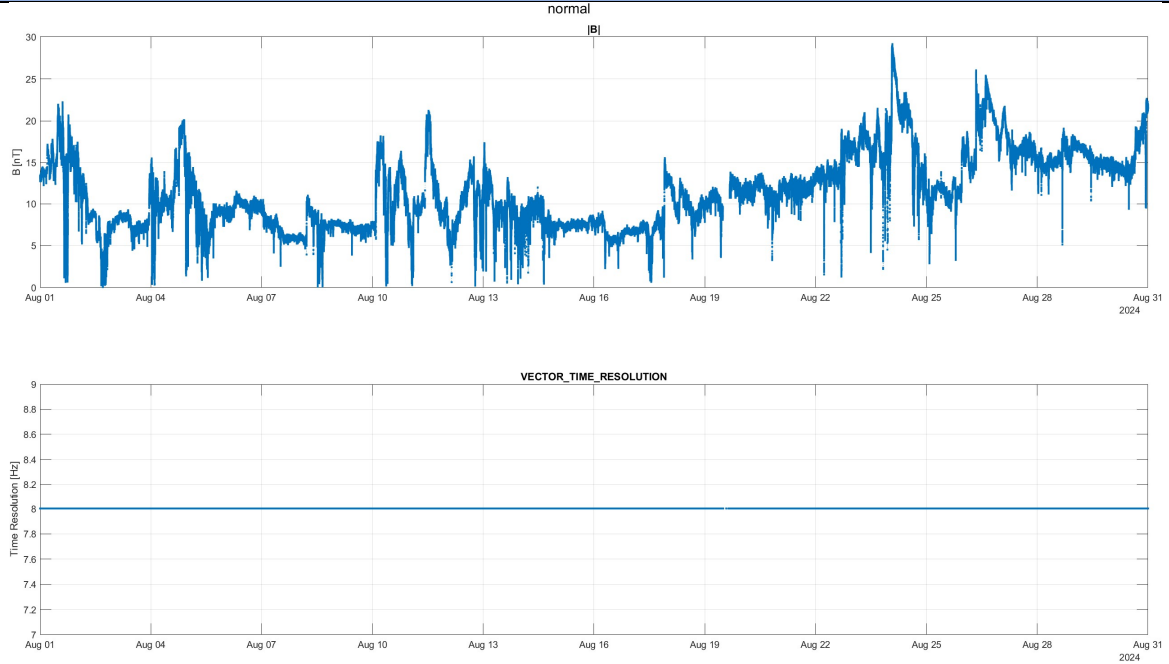
## Data Summary

MAG was powered on for August. Burst Mode (BM) was available at 64 vectors/s for 4 hours per day between 1-12 August, and then at 64 vectors/s for 24 hours per day for the remainder of the month.

Due to rain at the NNO station there is a period of approximately 4 hours of data missing on the 19<sup>th</sup> of August.

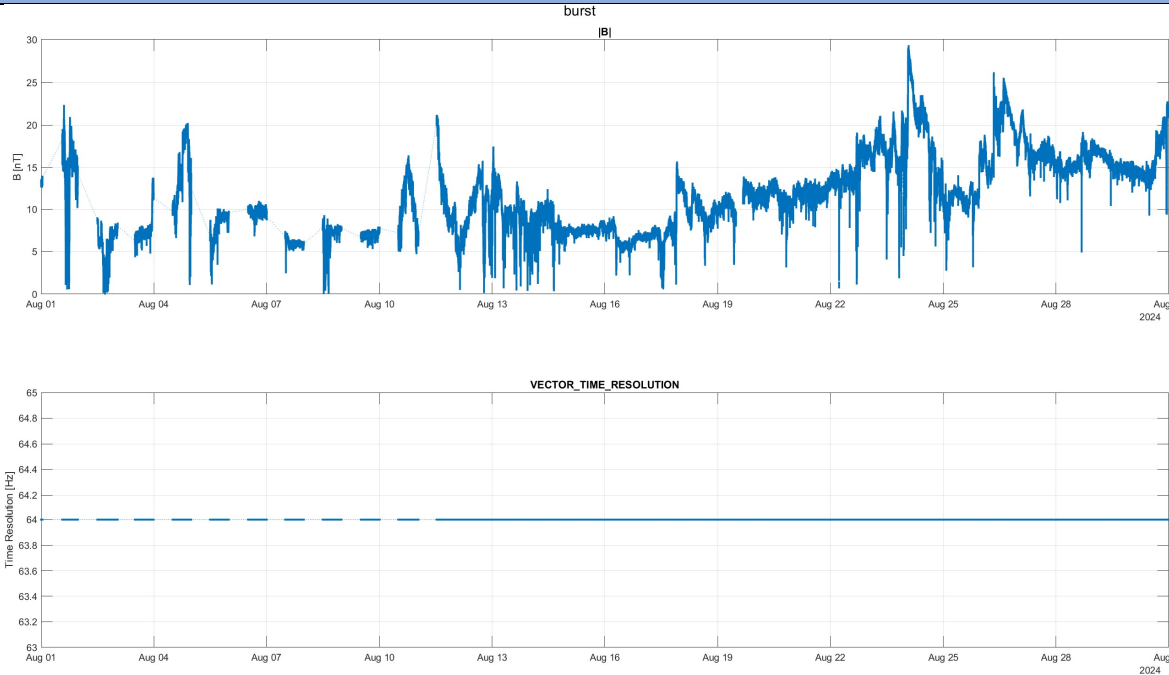
The spacecraft started the month at 0.88AU on the 1st of August and at the end of the month it was at 0.63AU.

**Normal Mode**



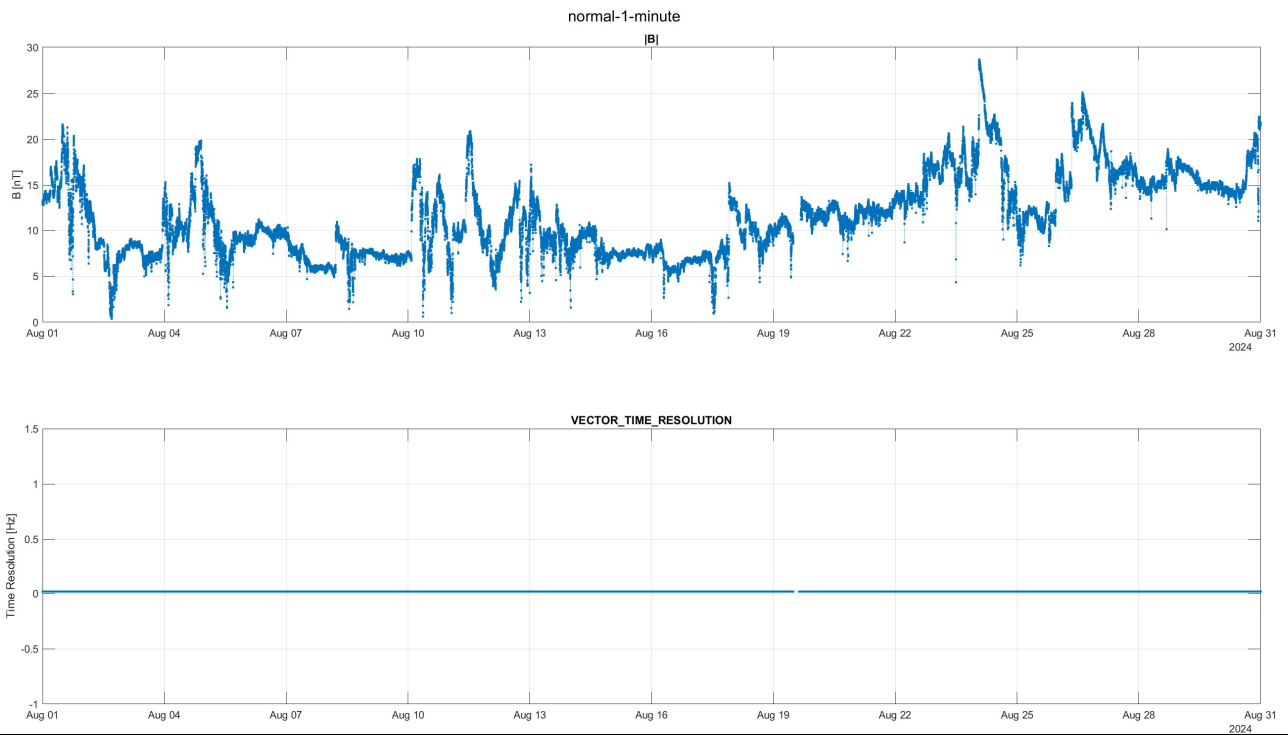
|                            |                      |  |
|----------------------------|----------------------|--|
| Operations                 | 1 August – 31 August | Science phase throughout period, normal data produced. |
| Operational Events of Note |                      |  |

**Burst Mode**

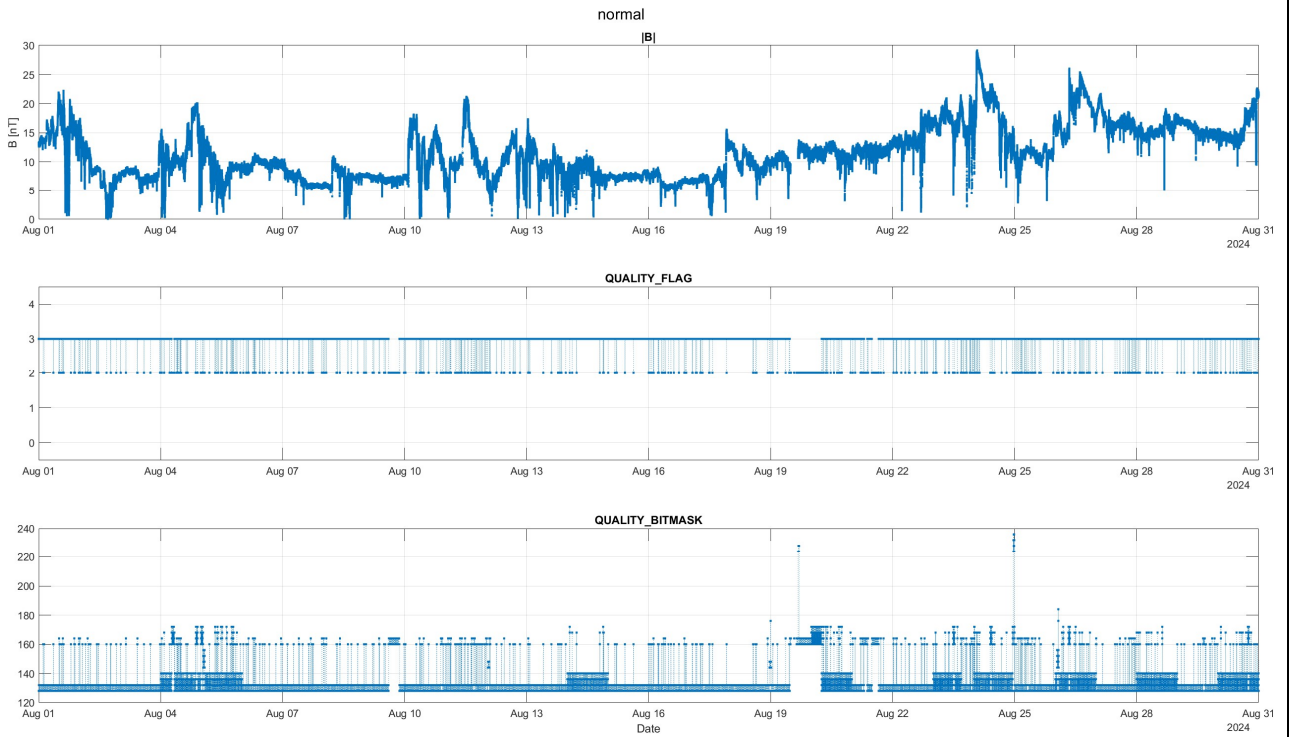


|          |       |       |                             |
|----------|-------|-------|-----------------------------|
| Coverage | From  | To    | Coverage                    |
|          | 01/08 | 12/08 | 4h per day of 64 vectors/s  |
|          | 13/07 | 31/08 | 24h per day of 64 vectors/s |

## Normal – 1min

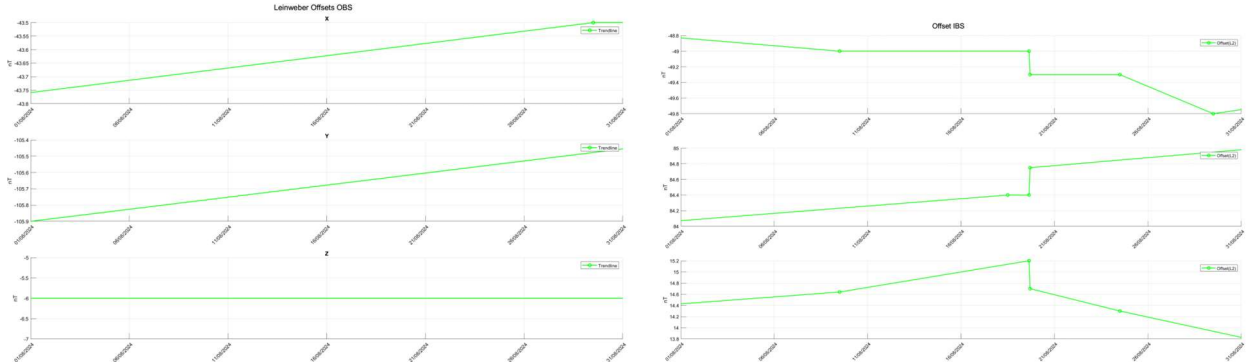


## Quality bitmask



| Quality bit mask events           |  |                  |   |
|-----------------------------------|--|------------------|---|
| SC events which disturb the field | <ol style="list-style-type: none"> <li>1. Solar array movements (solar array angle is changed, and then remains at new angle due to sun-SC distance thermal constraints)</li> <li>2. High gain antenna movements</li> <li>3. Battery Top Up</li> </ol> |                  |   |
| SC related issues                 | StartTime  | EndTime          | Comment   |
|                                   | 12/08/2023 00:05   | 12/08/2023 03:02 | Battery top up event interference affecting IBS |

## Offsets



### 1 August – 31 August

The OBS offsets were relatively stable over the course of the month, with the Z offset remaining unchanged and X & Y exhibiting the expected recovery behaviour, decreasing by  $\sim 0.5nT$ . The IBS offsets were disturbed by the SA movement on the 19<sup>th</sup>.

| OffsetNumber | Date             | OBSX   | OBSY    | OBSZ  | IBSX   | IBSY  | IBSZ  | Comment     |
|--------------|------------------|--------|---------|-------|--------|-------|-------|-------------|
| 221007       | 01/08/2024 00:00 | -43.78 | -106.39 | -5.93 | -49.1  | 84.35 | 14.47 |             |
| 221008       | 09/08/2024 12:00 |        |         |       | -49    |       | 14.64 |             |
| 221009       | 18/08/2024 12:00 |        |         |       |        | 84.4  |       |             |
| 221010       | 19/08/2024 15:23 |        |         |       | -49    | 84.4  | 15.2  | SA movement |
| 221011       | 19/08/2024 16:35 |        |         |       | -49.3  | 84.75 | 14.7  | SA movement |
| 221012       | 22/08/2024 12:00 |        |         |       |        |       |       |             |
| 221013       | 24/08/2024 12:00 |        |         |       | -49.3  |       | 14.3  |             |
| 221014       | 29/08/2024 12:00 | -43.5  |         |       | -49.8  |       |       |             |
| 221015       | 01/09/2024 00:00 | -43.5  | -105.44 | -6    | -49.75 | 85    | 13.8  |             |

## Appendix

Appendix A: Files within this release

| Filename                               |
|--|
| solo_L2_mag-rtn-burst_20240801_V01.cdf |
| solo_L2_mag-rtn-burst_20240802_V01.cdf |
| solo_L2_mag-rtn-burst_20240803_V01.cdf |
| solo_L2_mag-rtn-burst_20240804_V01.cdf |
| solo_L2_mag-rtn-burst_20240805_V01.cdf |
| solo_L2_mag-rtn-burst_20240806_V01.cdf |
| solo_L2_mag-rtn-burst_20240807_V01.cdf |
| solo_L2_mag-rtn-burst_20240808_V01.cdf |

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| solo_L2_mag-rtn-burst_20240809_V01.cdf           |
| solo_L2_mag-rtn-burst_20240810_V01.cdf           |
| solo_L2_mag-rtn-burst_20240811_V01.cdf           |
| solo_L2_mag-rtn-burst_20240812_V01.cdf           |
| solo_L2_mag-rtn-burst_20240813_V01.cdf           |
| solo_L2_mag-rtn-burst_20240814_V01.cdf           |
| solo_L2_mag-rtn-burst_20240815_V01.cdf           |
| solo_L2_mag-rtn-burst_20240816_V01.cdf           |
| solo_L2_mag-rtn-burst_20240817_V01.cdf           |
| solo_L2_mag-rtn-burst_20240818_V01.cdf           |
| solo_L2_mag-rtn-burst_20240819_V01.cdf           |
| solo_L2_mag-rtn-burst_20240820_V01.cdf           |
| solo_L2_mag-rtn-burst_20240821_V01.cdf           |
| solo_L2_mag-rtn-burst_20240822_V01.cdf           |
| solo_L2_mag-rtn-burst_20240823_V01.cdf           |
| solo_L2_mag-rtn-burst_20240824_V01.cdf           |
| solo_L2_mag-rtn-burst_20240825_V01.cdf           |
| solo_L2_mag-rtn-burst_20240826_V01.cdf           |
| solo_L2_mag-rtn-burst_20240827_V01.cdf           |
| solo_L2_mag-rtn-burst_20240828_V01.cdf           |
| solo_L2_mag-rtn-burst_20240829_V01.cdf           |
| solo_L2_mag-rtn-burst_20240830_V01.cdf           |
| solo_L2_mag-rtn-burst_20240831_V01.cdf           |
| solo_L2_mag-rtn-normal-1-minute_20240801_V01.cdf |
| solo_L2_mag-rtn-normal-1-minute_20240802_V01.cdf |
| solo_L2_mag-rtn-normal-1-minute_20240803_V01.cdf |
| solo_L2_mag-rtn-normal-1-minute_20240804_V01.cdf |
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| solo_L2_mag-rtn-normal-1-minute_20240812_V01.cdf |
| solo_L2_mag-rtn-normal-1-minute_20240813_V01.cdf |
| solo_L2_mag-rtn-normal-1-minute_20240814_V01.cdf |
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| solo_L2_mag-rtn-normal-1-minute_20240820_V01.cdf |
| solo_L2_mag-rtn-normal-1-minute_20240821_V01.cdf |
| solo_L2_mag-rtn-normal-1-minute_20240822_V01.cdf |
| solo_L2_mag-rtn-normal-1-minute_20240823_V01.cdf |

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| solo_L2_mag-rtn-normal-1-minute_20240829_V01.cdf |
| solo_L2_mag-rtn-normal-1-minute_20240830_V01.cdf |
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