



24 April 2024 (report covers data release for 1 January – 31 January 2024)

Report Version	1	L2 ground processing software version:	V2.26.1
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MAG IM	Helen O'Brien h.obrien@imperial.ac.uk		
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Data Summary

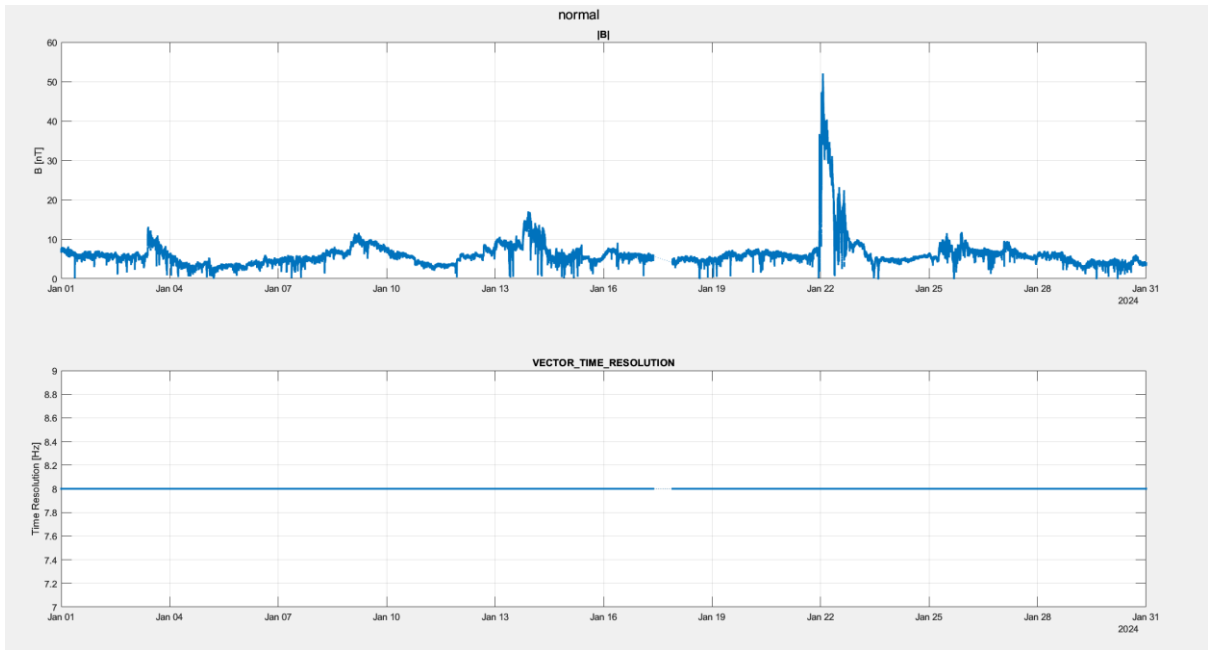
MAG was powered on for January. Burst Mode (BM) was available at 64 vectors/s for 24 hours per day for the whole month.

There was a CME on the 22nd of January. In addition to this, there was a MAG calibration roll on 25/01 which was used to validate the offsets applied to the data. The solar arrays (SAs) were characterised and lubricated on the 5th, and there was a large (~30 deg) change in the position of the SAs on the 30th that resulted in the thermal environment cooling down and therefore the duty cycle of our heaters increasing.

On the 17th there was a gap in the L2 data due to lost telemetry as a result of a power test on the platform.

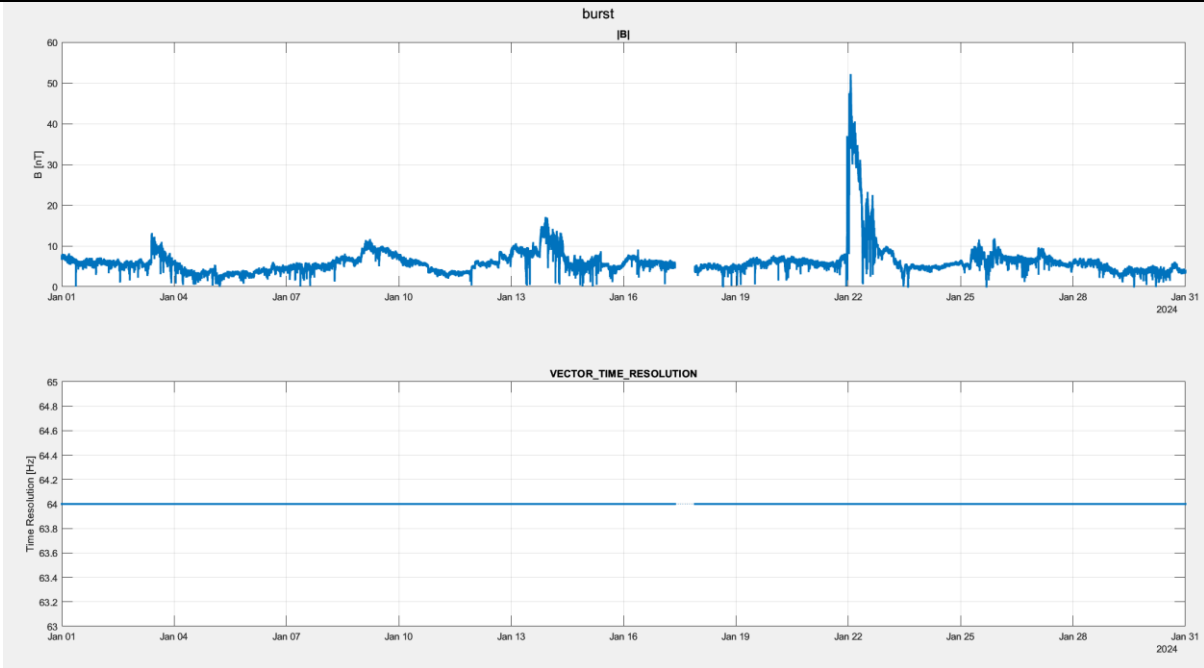
The spacecraft started the month at 0.95AU on the 1st of January and at the end of the month it was at 0.89AU.

Normal Mode



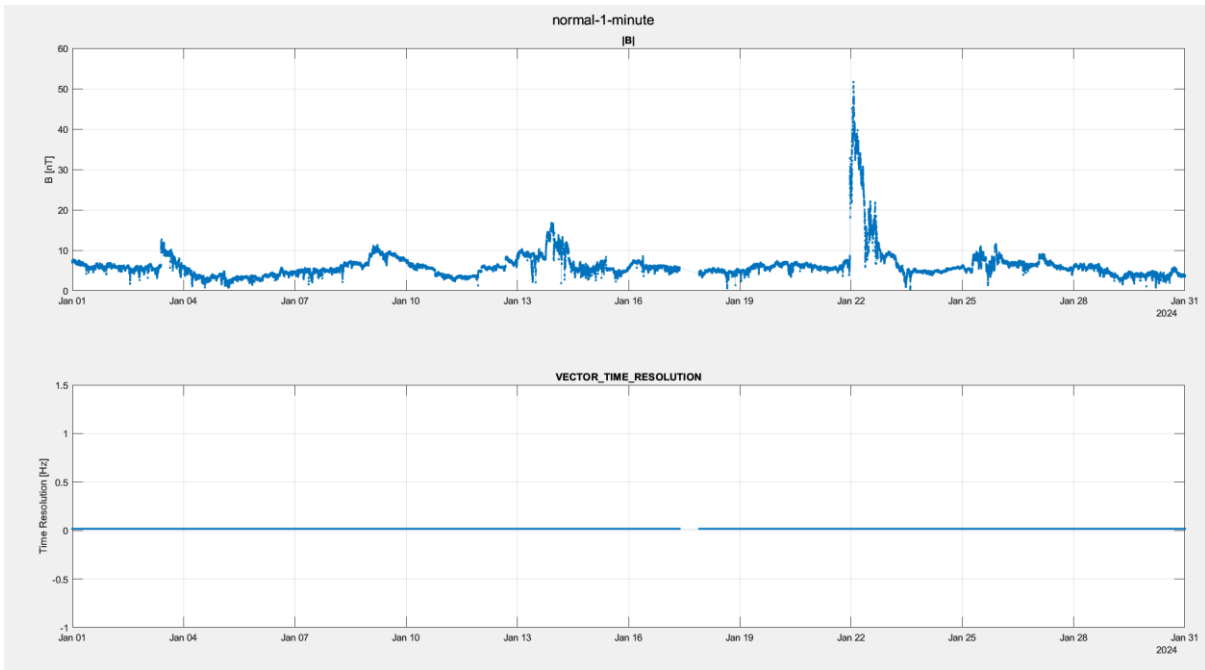
Operations	1 January – 31 January	Science phase throughout period, normal data produced.
Operational Events of Note		

Burst Mode

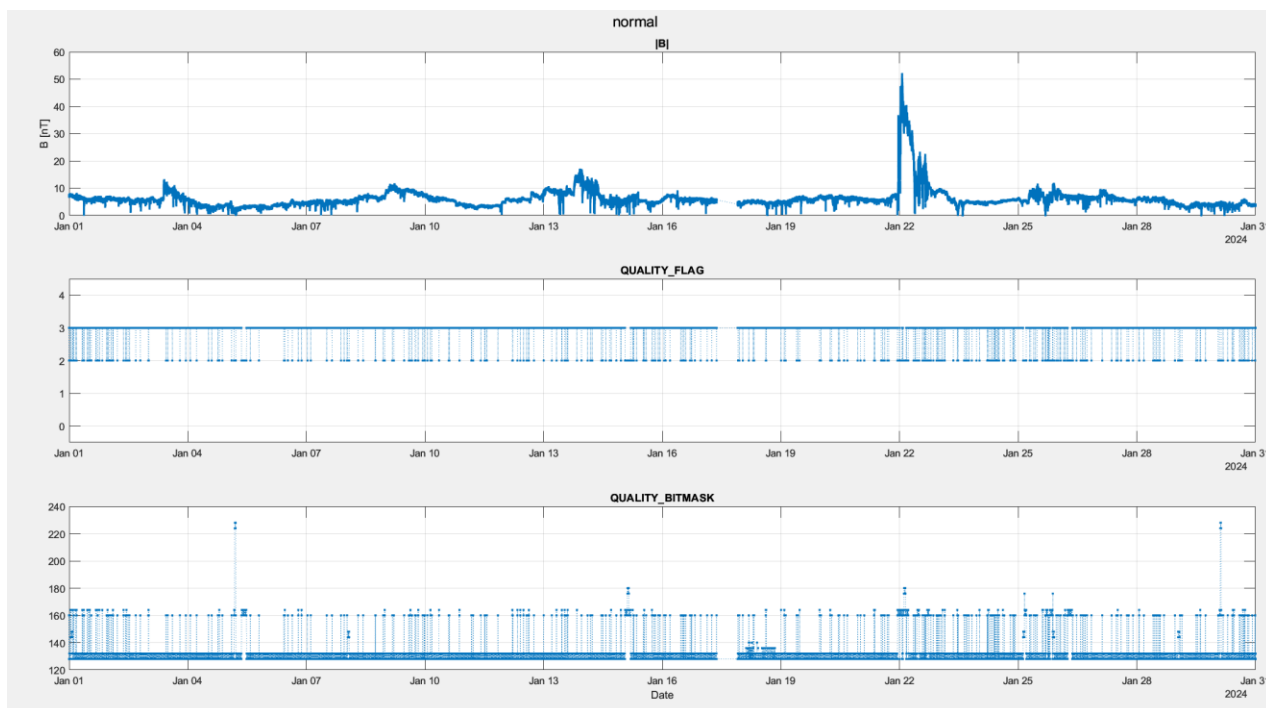


Coverage	From	To	Coverage
	01/01	31/01	24h per day of 64 vectors/s

Normal – 1min

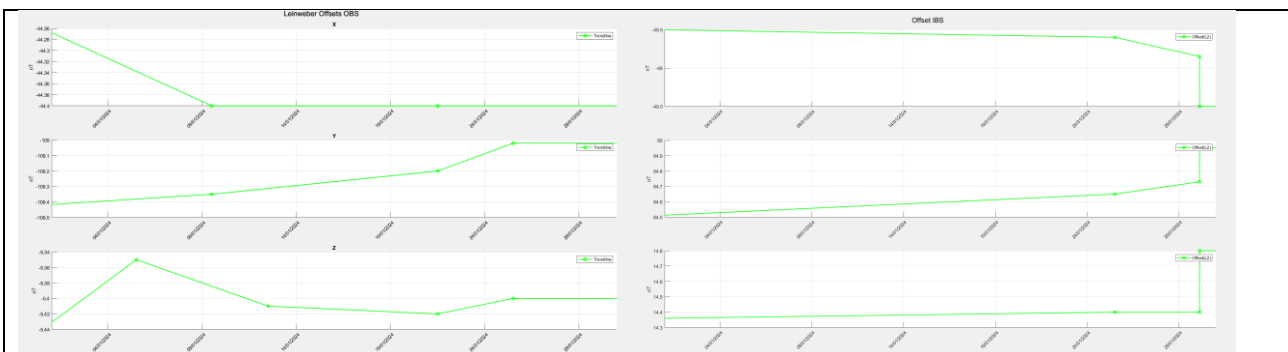


Quality bitmask



Quality bit mask events		
SC events which disturb the field	<ol style="list-style-type: none"> 1. Solar array movements (solar array angle is changed, and then remains at new angle due to sun-SC distance thermal constraints) 2. High gain antenna movements 3. Battery Top Up 	
SC related issues	05/01/2024 10:04 – 11:03	05/01/2024 11:03 – 11:09 event interference affecting IBS.
	15/01/2024 01:52 – 04:50	Battery top up event interference affecting IBS.

Offsets



1 Jan– 31 Jan

IBS offset was primarily disturbed by the SA event on the 30th of January. The X and Z OBS offsets remained stable throughout the month, changing by only +/- 0.2nT. The OBS Y offset displayed the expected recovery behaviour.

OffsetNumber	Date	OBSX	OBSY	OBSZ	IBSX	IBSY	IBSZ	Comment
221025	31/12/2023 12:00	-44.26	-109.42	-5.44	-48.5	84.51	14.36	End of month
221026	05/01/2024 12:00			-5.35				OBS Z trend
221027	09/01/2024 12:00	-44.4	-109.35					OBS X,Y trend
221028	12/01/2024 12:00			-5.41				OBS Z trend
221029	21/01/2024 12:00	-44.4	-109.2	-5.42				OBS X,Y,Z trend
221030	25/01/2024 12:00		-109.02	-5.4	-48.6	84.65	14.4	OBS & IBS trend
221031	30/01/2024 02:39				-48.85	84.73	14.4	SA event
221032	30/01/2024 02:44				-49.5	84.95	14.8	SA event
221033	31/01/2024 12:00	-44.4	-109.02	-5.4	-49.5	84.95	14.8	End of month

Appendix

Appendix A: Files within this release

Filename
solo_L2_mag-rtn-burst_20240101_V01.cdf
solo_L2_mag-rtn-burst_20240102_V01.cdf
solo_L2_mag-rtn-burst_20240103_V01.cdf
solo_L2_mag-rtn-burst_20240104_V01.cdf
solo_L2_mag-rtn-burst_20240105_V01.cdf
solo_L2_mag-rtn-burst_20240106_V01.cdf
solo_L2_mag-rtn-burst_20240107_V01.cdf
solo_L2_mag-rtn-burst_20240108_V01.cdf
solo_L2_mag-rtn-burst_20240109_V01.cdf
solo_L2_mag-rtn-burst_20240110_V01.cdf
solo_L2_mag-rtn-burst_20240111_V01.cdf
solo_L2_mag-rtn-burst_20240112_V01.cdf

solo_L2_mag-rtn-burst_20240113_V01.cdf
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