



18 Nov 2022 (report covers data release for 1-31 August 2022)

Report Version	1	L2 ground processing software version:	V2.21
MAG PI	Tim Horbury t.horbury@imperial.ac.uk		
MAG IM	Helen O'Brien h.obrien@imperial.ac.uk		

**Data Summary**

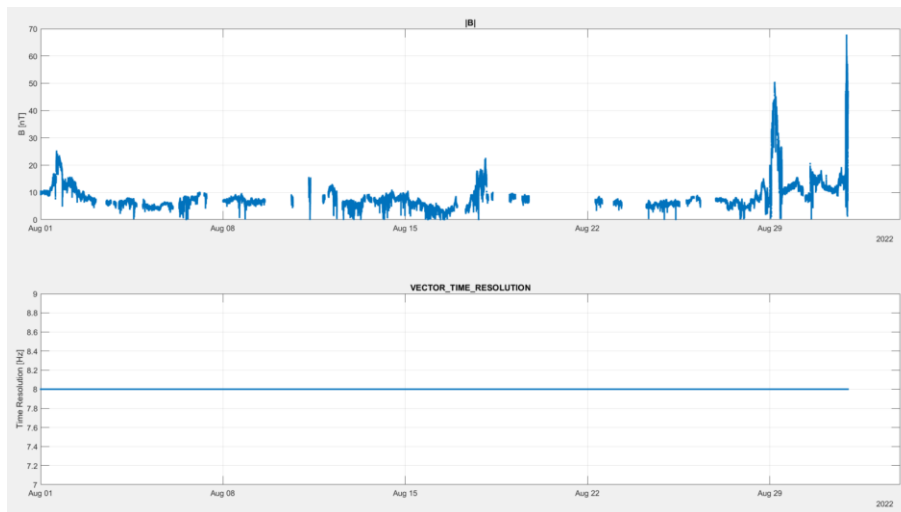
MAG was on for the period 1-31 August 2022. The BM data was available only from the 26<sup>th</sup> to the 27<sup>th</sup> of August.

**Spacecraft noise** was observed particularly in IBS data for several periods (there was significant noise for a total of 274 hours in the period 1-31 Aug 2022). This noise is very clear in IBS, the source has not been identified. We can see evidence for it being there in OBS as well, and have not got algorithms to clean this from the data. The magnetic field data have been converted to NaNs when the noise in the data was particularly high. The full period of missing data is listed in the appendix of this report. If you have particular need for any data during these periods, please contact the MAG team and we see if the data maybe suitable for release for certain applications.

The 20<sup>th</sup> and 21<sup>st</sup> of Aug 2022 cannot be released: SC noise was high for the whole day.

The spacecraft started the month at 0.96AU and at the end it was at 0.76AU from the Sun.

**Normal Mode**



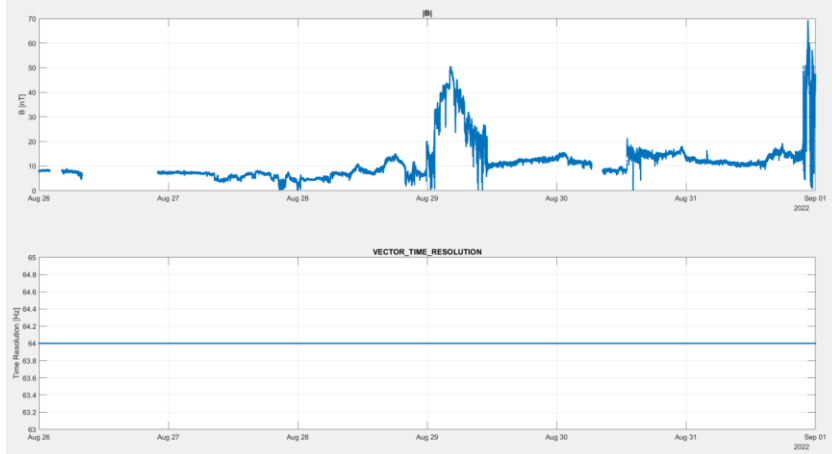
MAG was on with 8Hz cadence normal mode data returned, for exceptions see below.

Operations	1-31 August	Science phase throughout period, normal data returned
Operational Events of Note	None	

**Data Gaps greater than one minute:**

NaNs have been introduced during the noisiest periods because the data was highly disturbed. See Appendix for details.

### Burst Mode



No BM available in June

Coverage	From	To	Coverage
	26/08	31/08	24h of 64Hz

### Quality bitmask

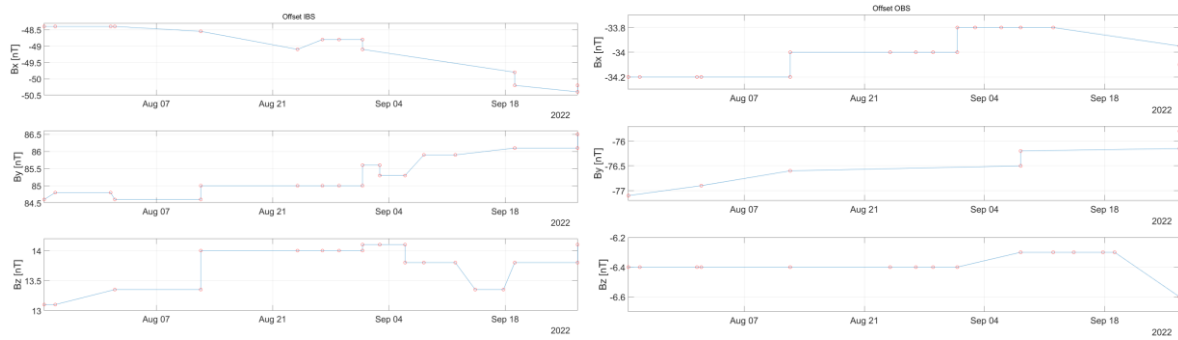


#### Quality bit mask events

SC events which disturb the field	<ol style="list-style-type: none"> <li>1. Thruster firings</li> <li>2. Solar array lubrications (solar array is moved 15 degrees, then returned to original position)</li> <li>3. Solar array movements (solar array angle is changed, and then remains at new angle due to sun-SC distance thermal constraints)</li> <li>4. High gain antenna movements</li> </ol>
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SC related issues	Time	Reason
	12/08/2022 8:30	SA movement from 0 to 30 deg
	22/08/2022 21:34- 23/08/2022 04:39	HGA movement
	31/08/2022 19:44	SA movement from 30 to 56 deg

### Offset



**1-31 Aug:**

OBS and IBS offsets changed after the SA movement on the 12<sup>th</sup> and 31<sup>st</sup> of Aug. Between these events, the offset linearly changed and the trend has been chosen accordingly.

OffsetNumber	Date	OBSX	OBSY	OBSZ	IBSX	IBSY	IBSZ	Comment
220801	24/07/2022 12:00	-34.20	-77.1	-6.4	-48.4	84.6	13.1	Start linear trend OBS and IBS
220802	25/07/2022 20:00	-34.20		-6.4	-48.4	84.8	13.1	End linear trend IBS
220803	01/08/2022 12:00	-34.20		-6.4	-48.4	84.8		Start linear trend IBS
220804	02/08/2022 00:00	-34.20	-76.9	-6.4	-48.4	84.6	13.35	End linear trend OBS and IBS
220805	12/08/2022 08:30	-34.20		-6.4	-48.55	84.6	13.35	Pre SA movement from 0 to 30 deg
220806	12/08/2022 08:36	-34.00	-76.6	-6.4	-48.55	85	14	Post SA movement from 30 to 56 deg
220807	24/08/2022 00:00	-34.00		-6.4	-49.1	85	14	Change in IBS offset
220901	31/08/2022 19:44	-34.00		-6.4	-48.8	85	14	Pre SA movement from 30 to 56 deg
220902	31/08/2022 19:49	-33.80			-49.1	85.6	14.1	Post SA movement from 30 to 56 deg
220903	02/09/2022 21:35	-33.80				85.6	14.1	Pre HGA movement
220904	02/09/2022 21:39	-33.80				85.3	14.1	Post HGA movement
220905	05/09/2022 22:45	-33.80				85.3	14.1	Pre SA movement from 56 to 60 deg
220906	05/09/2022 22:45	-33.80				85.3	13.8	Post SA movement from 56 to 60 deg
220907	08/09/2022 04:59	-33.80	-76.5				13.8	Pre HGA movement
220908	08/09/2022 05:02	-33.80	-76.2	-6.3		85.9	13.8	Post HGA movement

## Appendix

### Appendix A: NaNs periods of the month

This table shows the NaN periods which have been introduced in the data due to SC interference. The disturbance observed in the IBS-OBS data set is large that we cannot quantify the impact on OBS, therefore we have set this data to NaN. If you have a need to see this data, please get in contact with the MAG team and we can discuss this with you.

StartTime	EndTime	Comment
02/08/2022 21:10	02/08/2022 21:11	SC interference
03/08/2022 02:57	03/08/2022 12:22	SC interference
03/08/2022 16:50	03/08/2022 19:20	SC interference
03/08/2022 20:00	03/08/2022 20:26	SC interference

03/08/2022 21:30	04/08/2022 00:00	SC interference
04/08/2022 00:28	04/08/2022 00:44	SC interference
04/08/2022 16:30	04/08/2022 20:30	SC interference
04/08/2022 20:30	04/08/2022 22:00	SC interference
05/08/2022 01:26	05/08/2022 01:34	SC interference
06/08/2022 02:00	06/08/2022 07:30	SC interference
06/08/2022 20:55	06/08/2022 21:30	SC interference
07/08/2022 02:50	07/08/2022 06:35	SC interference
07/08/2022 09:00	08/08/2022 00:00	SC interference
09/08/2022 14:39	10/08/2022 14:41	SC interference
09/08/2022 18:00	10/08/2022 00:00	SC interference
10/08/2022 00:45	10/08/2022 01:45	SC interference
10/08/2022 02:50	10/08/2022 03:30	SC interference
10/08/2022 07:00	10/08/2022 11:00	SC interference
10/08/2022 13:45	10/08/2022 15:00	SC interference
10/08/2022 16:30	11/08/2022 00:00	SC interference
11/08/2022 00:00	11/08/2022 07:00	SC interference
11/08/2022 08:40	11/08/2022 20:00	SC interference
11/08/2022 21:50	12/08/2022 01:00	SC interference
12/08/2022 08:30	12/08/2022 08:36	SA movement from 0 to 30 deg
12/08/2022 09:00	12/08/2022 14:00	SC interference
12/08/2022 17:46	12/08/2022 18:04	SC interference
13/08/2022 11:00	13/08/2022 13:00	SC interference
13/08/2022 17:00	13/08/2022 19:00	SC interference
13/08/2022 20:50	13/08/2022 21:20	SC interference
17/08/2022 00:00	17/08/2022 07:30	SC interference
18/08/2022 04:30	18/08/2022 07:30	SC interference
18/08/2022 08:40	19/08/2022 00:02	SC interference
19/08/2022 05:30	19/08/2022 11:40	SC interference
19/08/2022 18:00	22/08/2022 07:00	SC interference
22/08/2022 08:34	22/08/2022 08:36	SC interference
22/08/2022 13:30	23/08/2022 00:00	SC interference
23/08/2022 07:30	24/08/2022 06:00	SC interference
24/08/2022 09:58	24/08/2022 10:18	SC interference
24/08/2022 17:15	24/08/2022 18:15	SC interference
25/08/2022 12:45	25/08/2022 19:00	SC interference
25/08/2022 22:00	25/08/2022 22:30	SC interference
26/08/2022 02:00	26/08/2022 04:15	SC interference
26/08/2022 08:00	26/08/2022 22:00	SC interference
30/08/2022 06:30	30/08/2022 08:30	SC interference
30/08/2022 13:27	30/08/2022 13:31	SC interference
31/08/2022 19:44	31/08/2022 19:48	SA movement from 30 to 56 deg

## Appendix B: Files within this release

Filename
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solo_L2_mag-rtn-burst_20220826_V01.cdf
solo_L2_mag-rtn-burst_20220827_V01.cdf
solo_L2_mag-rtn-burst_20220828_V01.cdf
solo_L2_mag-rtn-burst_20220829_V01.cdf
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solo_L2_mag-rtn-burst_20220831_V01.cdf
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