



Mio operations report

BepiColombo online SWT (26 May 2021)

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Mio operations plan

System, PI level maintenance/investigation				
	MDP middleware update, MDP function check, running test (BC_SC-89)	Upload/dump : 1-2 pass	30 March	Final testing on ground was finished in early Jan. New version of middleware is now ready for upload. We are planning to further reduce the MMO tlm volume, In order to perform the running test before June.
		Function check : 1 pass (8 hrs)	1 April	
		Running test : 4-5 weeks	Completed! 15 April – 10 May	
	MIA, MSA, HEP program update and function check	After MDP update	22-24 June	MSA program testing is ongoing at ISAS
	MSA mission data generation investigation (BC_SC-76)	After MSA program update	22-24 June	
	MSA HV ramp with OCL command investigation (BC_SC-104)	After MSA program update	22-24 June	
	Cruise checkout#5 & Battery maintenance		17-18 June 2021	Battery recharging
	VSB2 dry-run with new MDP middleware	Before VSB2	28 June	
Cruise Observations				
A	MEA1& HEP-e		22 Feb – 8 Mar	Instruments are limited due to the downlink constraints System-HK rate will be reduced to 1/64 Hz.
B			21 – 24 Mar	
C			12 June – 1 July	
	MGF running test		19 June – 1 July	To be arranged in the frame of BC-SO science campaign 2

MDP WDT error investigation - FINISHED!!

Following two issues were completely fixed by the MDP middleware update.

- Non-factor interruption triggered by a burst-SRAM ECC interruption.
 - Temporal work-around was tested and verified onboard in March 2020
 - Final measure is included in the latest MDP middleware.
- ECC error on the area dedicated for the operation system.
 - Temporal work-around was tested and verified during June-August 2020.
 - Final measure is included in the latest MDP middleware.

Long-running test of the latest MDP middleware (15 Apr. 2021 to 10 May 2021)

- While **627** ECC interruptions were detected, no critical error was detected during **595 hrs** test !!
- The results support that the WDT error issue has been fixed.

Schedule

- Aug. 2020 : Long-running test of the test-version of MDP software (Finished)
- Aug. - Nov. 2020 : Prepare the final version of MDP software (by industry) (Finished)
- After 1st Venus flyby : Upload the final-version software & Long-running test. (Finished)

MIO Operation schedule for 2021/June - Oct

2021.5.25

Checkout/maintenance			
	17-18 June	Cruise C/O#5, BAT charging	Distributed to PIs on 18 May
	22-24 June	MIA, MSA, HEP program update and function check	Input from PIs deadline : 31 May
	28 June	VSB2 dry-run with new MDP middleware	
	December?	Cruise C/O#6	
		MSA HV ramp with OCL command investigation (BC_SC-104)	Pending
		MSA mission data generation investigation (BC_SC-76)	Pending
Science observation			
	(12-16 June)	Cruise observation solar-wind mode (MEA1, HEP-e)	Go/cancel decision of this slot will be made on 9 June
	19-21 June 25-27 June 29 June – 1 Jul	Cruise observation solar-wind mode (MEA1, HEP-e) + MGF	
a-1	1 – 15 Jul	Cruise observation solar-wind mode (MEA1, HEP-e) + MGF	
a-2	19 – 30 Jul		In case of TCM on 15 Jul this slot will be cancelled
	10 Aug	Venus flyby#2	
b	14 – 19 Aug	Cruise observation solar-wind mode (MEA1, HEP-e) + MGF	<p>Dates are based on information before SEP6.</p> <p>Please note that the schedule from 1 July onwards may change.</p>
c	7 – 16 Sep	Cruise observation solar-wind mode (MEA1, HEP-e) + MGF	
	2 Oct	Mercury Flyby#1	
d	7 – 8 Oct	Cruise observation solar-wind mode (MEA1, HEP-e) + MGF	
e	16 -28 Oct	Cruise observation solar-wind mode (MEA1, HEP-e) + MGF	

Pass information

DO Y	Week	Date	Ground Station	Start of Track	End of Track	Activity
168	24	Thu 17-06-21	CEB	8:16	18:16	MIO Cruise C/O, BAT charging
169	24	Fri 18-06-21	CEB	8:17	18:17	MIO BAT check
170	24	Sat 19-06-21				
171	24	Sun 20-06-21				
172	25	Mon 21-06-21				
173	25	Tue 22-06-21	CEB	8:22	18:22	MSA update(out of pass) MIA HEP update+dump MSA function check HV ON start MSA running test HV ON
174	25	Wed 23-06-21				continue MSA running test HV ON (out of pass)
175	25	Thu 24-06-21	CEB	8:25	21:00	MIA HEP function check HV ON
176	25	Fri 25-06-21				
177	25	Sat 26-06-21				
178	25	Sun 27-06-21				
179	26	Mon 28-06-21	CEB	9:00	19:00	VSB#2 dryrun HV ON

Thank you!



Stay safe!

Illustration by Masayuki Ishikawa