20240222 LEP Meeting Notes

1. **LEP activities (program upload etc.)**

* MSA HV operation 29 September 2023
* Cruising Phase Observation 7 October – 11 October 2023

7 October – 9 October MEA+MIA+MSA+HEP-ele+ENA

9 October – 11 October MEA+HEP-ele

* Cruise C/O 06 November 2023
* MSA software test @ ISAS 29 January – 2 February 2024
* OCL test before next Mercury Flyby. -> already requested to Mio project

1. **Sharing MPPE data?**

User registration for AMDA/CL:

1. Make Google form to collect registration information
2. The registration information includes sub-team LEP ENA HEP
3. Sae-san made the Google form

Current status and future plan?

End of this month: VF1,2 MF1, Cruise Phase data for MEA will become available

Description of the data set: each sub-team should check the description

It will take some more time.

Webinar MPPE Team: to be planned in mid-February ->　mid-March

1200 or 1300 O’clock CEST -> 2000 -2100JST ~0600 USA?

Nicolas-san will send the information of the Webinar in the future.

Presentation about data and how we can use it

AI-20230918-1

MEA MIA MSA teams will send Nicolas-san differential energy flux of the data that each team wants to open to public from AMDA and CL. CDF format data are better.

-🡪 close

**Earth Flyby Data** MEA and MIA data. -> to be open to MPPE team

**Venus Flyby #1 Data** MEA and MIA data are ready (no MSA data)

-> to be open to MPPE team

**Venus Flyby #2 Data** all data were delivered to IRAP

-> should be open to public -> to be open to MPPE team

MSA cdf data will be ready in the near future

(Moa-san’s paper has been accepted)

To be open to public after the decision is made for Lina-san’s paper.

**Mercury Flyby #1 Data** all data were delivered to IRAP

-> open to public from Zenodo -> to be open to MPPE team

(Sae-san’s paper has been accepted)

**Mercury Flyby #2 Data** to be considered in the future

**Mercury Flyby #3 Data** to be considered in the future

* Cruising phase data

to be open to BC team using AMDA/CL

At present, only MEA data are available. MEA density will also be included after publishing related technical paper. Other teams will send the data to IRAP.

-> to be open to MPPE team

AI-20221125−5

MIA, MSA, HEP and ENA teams will send the cruising phase data to IRAP.

MIA has already sent CDF to IRAP

Zenode: data at the time of publish of the paper: Not renewed

MEA electron moment data will be on AMDA soon.

MSA: Venus flyby data are on AMDA.

1st Mercury data (Solar Wind) maybe

2nd Venus data -> Zenodo (Nature Astronomy is in press)

1. **Who is Analyzing What List**

https://docs.google.com/spreadsheets/d/1GG0g2hLNC6WDl70tiBeNmaCzBMkhtYITgxUENbxJhPM/edit?usp=sharing

1. **Publication list page**

Heliospheric Science Center provides HP which has MPPE page. Mio publication list page will be made in the Heliospheric Science Center HP.

Current Status: System is ready but the page is not ready. To be ready in the near future.

1. **Special Guest**

Short presentation by Dr. Emanuele Cazzola

“On simulations of Mercury's environment in different solar wind conditions”

1. **Initial Results**

**Mercury Flyby #3**

Sae-san

MF2 MF3 comparison between MEA, SIX, HEP-e data

Just started : check Manuel-san’s status

Yuki-san

MIA + simulation

Circulate draft in the near future

Update?

Lina-san (MSA + MIA + ..)

MSA: Ion moments from observed counts to be compared with MIA

PhD student: numerical simulation & data analysis

LLBL signature FIPS :similar data

Mathias-san (MEA + other instruments + PSP etc.)

Yuki-san (MIA compare 3Flybys + other instruments)

Papers

Lina-san submitted to Nature Communication in December

**Mercury Flyby#2 (Low Energy Ion #3 = Mercury Flyby #2)**

Update?

Papers

MEA+MIA Sae-san Inverted-V.

submitted in January

-> Nature Communication (wating for editor decision)

MSA

Austin-san GRL under preparation Fore-shock

to be submitted soon

paper is ready waiting for MGF team’s approval

ENA Futaana-san ENA+MIA T.B.D. journal

under preparation to circulate the 1st draft to co-authors

MEA

**Mercury Flyby#1**

Update?

Papers

MEA + MIA Sae-san’s paper submitted to Nature Communications < Published >

Press release: JAXA , Europlanet and ESA (trying)

Yuki-san’s GRL paper <Published>

Interviewed by AGU EOS

MSA

HEP

ENA

OTHERS

Fouad Sahraoui (LPP) To be confirmed

Collaboration with PWI DBSC (search coil) fore shock waves

**Venus Flyby#2**

Update?

Papers

MEA Moa-san’s　Nature Communications paper < Published >

web released @ ISAS Web. & Europlanet

MIA

MSA Lina-san →

Nature Astronomy accepted waiting for editorial issues

to be published soon

ISAS press release (after paper is officially published)

ESA communication is slow…

Accelerometer: interested in MSA data

Outbound bow shock crossing

Acceleration <-> out gassing : relation?

Strofio : joint observation possibility

Solar wind Alpha particles

Compare Strofio Phebus MSA data

HEP

ENA

**Low Energy Ion #1 observation (Mercury Flyby#1)**

**Low Energy Ion #2 observation (March 2022)**

MSA Markus-san JGR accepted&published

Outgassing

**CME event 12 March 2022**

Solar Orbiter and BepiColombo & STEREO A

* Lina-san is analyzing
* published in Solar Physics

using BERM data, MEA data

SO data heavy ions: no data for this event….

Benoit-san is analyzing SO magnetic field data now, not using BC data…

**Large CME Event 28, 30th March 2022**

MSA detected the signature of SEP event

MEA detected

MIA maybe detected

under investigation

**Gamma ray event 9 October 2022**

MEA detected

under investigation : lead by SIXS team

**Others**

* Simulation paper: Sae-san PSS < Published >
* Region identification paper: BepiColombo - Solar Orbiter comparison

Moa-san Lina-san Sae-san to be submitted to T.B.D.

It will take some more time.

* Velocity moment calc. method paper: Mathias-san

submitted to Astronomy and Astrophysics -> published

density & temperature are available MEA

1. **Meetings**

EPSC+DPS 1st week of October (1-6 October)

6 July: paper submission due

Lina-san 2nd Venus Flyby

Nicolas-san review MEA

Anna-san review BepiColombo

ESWW End of November (20-24 November), Toulouse

AGU 2023 fall meeting 11-15 December @ San Francisco

Lina-san MSA 2nd 3re flybys

Sae-san MEA Flybys

Yuki-san MIA All Mercury Flyby

Austin-san Fore shock ionpopu. 2nd Mercury Flyby

Go-san Mio talk

PNST (Programme National Soleil Terr) Meeting (2nd week January)

Lina-san 3rd Mercury Flyby maybe

Nicolas-san

Mathias-san

EGU 2024 (14-19 April)

Lina-san 3rd Mercury Flyby Mercury session

Online meeting on Mercury (Organized by W. Ip) (4/20-4/21)

[TSU BepiColombo Pre-MOI Workshop - Taiwan Space Union (twspaceunion.org)]

<https://twspaceunion.org/tsu-bepicolombo-pre-moi-workshop/>

“I would like to tell you that we are organizing an online meeting with the title of Regional BepiColombo Pre-MOI Workshop on 4/20 (-4/21). The idea is to get together Asian-Pacific researchers in Mercury's magnetosphere and exosphere to exchange information. We also hope that there will be a significant participation by colleagues in Europe and the USA despite the time differences.”

Stas-san

Yoshifumi(S)

JpGU2024 (26-31 May) (Mercury Session: 31 May)

Makuhari Messe, Chiba, Japan

  Abstract due: 15 February 17:00JST

Mercury 2024 (4-7 June)

Obaku Plaza, Kyoto University (Uji Campus), Uji, Kyoto, Japan

“If some teams request to have a dedicated meeting (e.g., on Monday June 3), please ask Go Murakami ( [[go@stp.isas.jaxa.jp](mailto:go@stp.isas.jaxa.jp)] ( <mailto:go@stp.isas.jaxa.jp> )).”

MSA

ENA

Only Monday is a possibility

BepiColombo SWT (9-13 June)

Kyushu University Nishijin Plaza, Fukuoka, Japan

“Team meetings (e.g., Mio SWG/MPO SOWG) can be held on June 13 (Thu).If some teams request to have a dedicated meeting, please ask Go Murakami ( [[go@stp.isas.jaxa.jp](mailto:go@stp.isas.jaxa.jp)] ( <mailto:go@stp.isas.jaxa.jp> )).”

MEA

MSA

ENA

Friday is a possibility

We may have Data Center related meetings.

MSA: next will be in March

AOGS2024 (23-28 June)　Korea

Yuki-san

Sae-san

Yoshifumi(S)

COSPAR 2024 (5-19 July)　Korea

Busan, South Korea

Abstract due:  16 February 2024.

EPSC @ Berlin (8-13 September)

HEWG

* + SERENA team meeting. In March 2024 @ Graz

18-21 March. HEWG 20,21 March

Hybrid

* After 4th Mercury Flyby (Lina-san Sae-san Anna-san will coordinate)

In-person meeting in Paris

21-24 October 2024

~40 people

1. **Any other businesses**

* Send Rule of the Road document to all the MPPE members（by the time when data are open to MPPE team）

Send document link to MPPC

AI-20230308-2

Saito will send Rule of the Road document to all the MPPE members

* Instrument context product

AI-20230421-2

Y. Saito will prepare Instrument context product of MPPE by 30 April.

20230421: Saito is now inquiring the detailed contents to Mio Project

* Macro Command Revision request

Planned: ENA , MIA

To be considered: HEP

No: MEA, MSA

(New Macro Command can be submitted after 31 May)

If we have to check new macro command before separation during cruising phase, we have to be in a hurry. (send request: contents can be later)

1. **MPPE Open Action Items**

AI-221125-8

Saito will ask Takashima-san and Hirahara-san if HEP will accept to open L1 data

Saito 31-Mar-23 open -> ask Takashima-san (AI Saito)

AI-20240118-1

Consider to hold SERENA – MPPE joint team meeting @ Paris HEWG meeting in October 2024 ISAS 31-Oct-24 open -> close

SIXS-SERENA-MPPE joint meeting will be useful. To be confirmed to Emilia-san.

Possibly to be held during Paris HEWG meeting

* We have decided to hold SIXS-SERENA-MPPE during Paris HEWG meeting

HEP participation is good

AI-20230918-4

Manuel-san will confirm Emilia-san if SIXS-SERENA-MPPE joint meeting will be useful (considered to be held in the future).

AI-20231129-2

Consider special issue (T.B.D. journal) just after orbit insertion (coordination should be made before insertion). To be discussed with project scientist.

France:

CNES

Funding for BC and MPPE was secured until 2030.

Science Operation Archiving

1. **Next online LEP meeting**

28 March 2024 1000- CEST 1800- JST

Mio SWG Meeting on 7 March