

# SOOP Coordinators Feedback meeting (LTP15)

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Miho Janvier

27/08/2023

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# Schedule of the meeting



14:00	Start of Meeting	
15 min (14:00-14:15)	Welcome & scope of meeting	M. Janvier
60 min (14:15-15:15)	SOOP Presentations (see below) + short questions	SOOP Coordinators
15 min	coffee break	
50 min (15:30-16:20)	SOOP Presentations (see below)	SOOP Coordinators
10 min (16:20-16:30)	Sun's activity during LTP15	All
30 min	Q/A, discussions	
17:00	End of Day	

## SOOP Presentations

### Part 1:

- J. Schou: Full Disk Helioseismology
- A. Giunta, D. Berghmans: Full Disk Mosaic
- C. Sasso: Eruption Watch
- A. Giunta, T. Grundy: Composition vs Height
- A. To: Composition Mosaic
- A. Zuhov: PSP Quadrature
- V. Andretta: Density Fluctuations
- R. Susino: CH Boundary expansion

### Part 2:

- L. Franci, S. Mzerguat, C. Froment: Fast wind connection
- D. Ryan, A. Inglis: Major flare
- D. Ryan, A. Tapia: RS Bursts
- C. Sasso, K. Barczynski: Solar Eclipse
- A. Fludra: Sunspot oscillations



# WHY this meeting?

## SCIENCE

- Are the observations made adequate to address a given SOOP science objectives?
- What are the first/preliminary science outcomes from the SOOPs?
- What worked? What didn't?



## SCIENCE

- Are the observations made adequate to address a given SOOP's science objectives?
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- What worked? What didn't?
- **Expected feedback from this meeting:**
  - ❖ Make sure future SOOP instances have the right support to run for best outcome
  - ❖ What to expect for the next round of RSWs? (Some SOOPs repeated in future LTPs)
  - ❖ Decision to be made by the SWT in 2 weeks for LTP-21: inputs will help decisions (e.g. necessary time intervals, orbit placements to run SOOPs, supports required between instruments + other assets, ...)



# WHY this meeting?

## OPERATIONAL

SOOP coordination means **different degrees of involvement:**

- What SOOP to be run / what science data are we getting?
- What instruments to use / how to use them?
- Attending different meetings, e.g. SOWG, pointing decision meeting, ...

What worked & what didn't from an operational perspective?

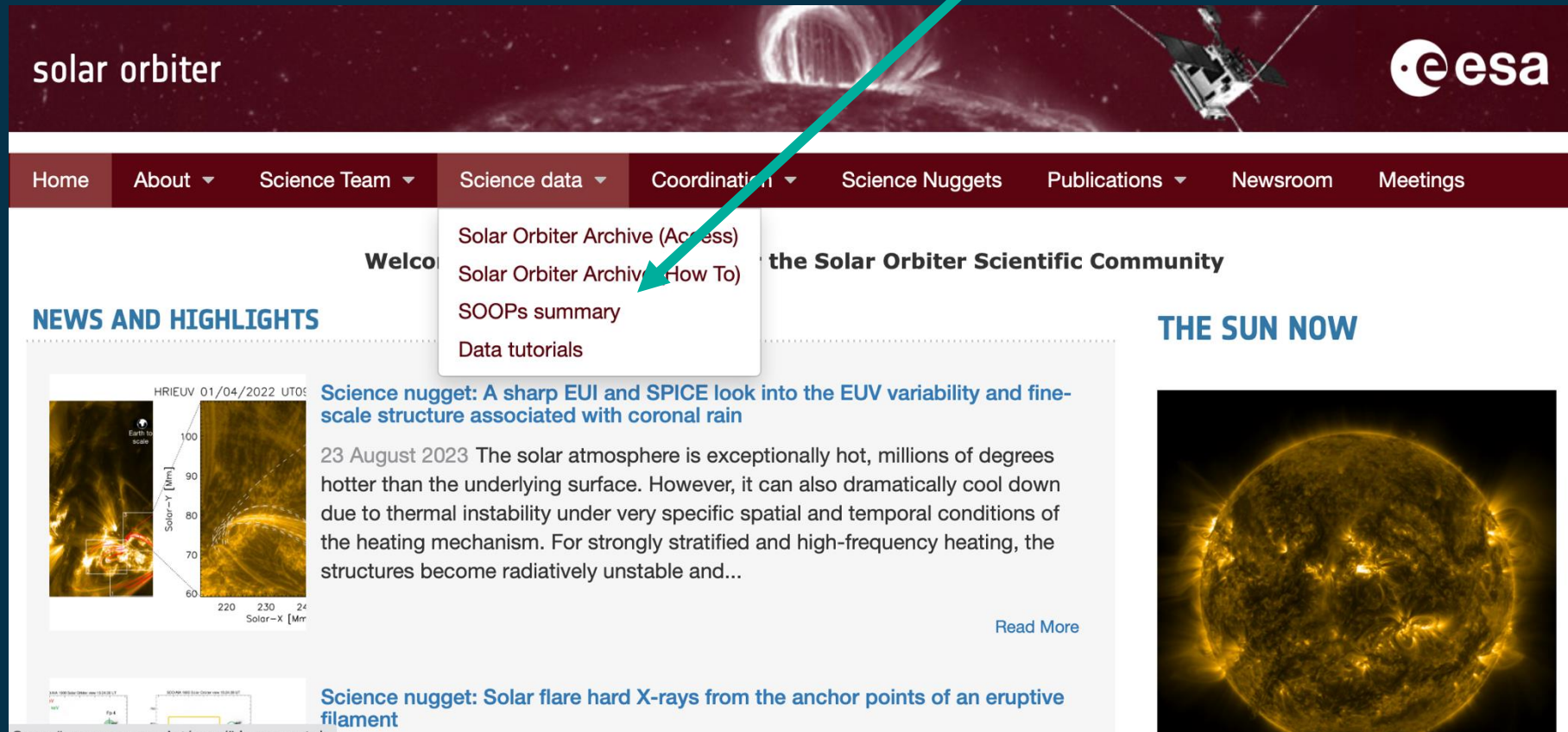
Google Forms with links sent to SOOP coordinators: will be used to fill the SOOP summary page + SOOP description pages



# SOOP summary page description

## SOOP summary page

- SO Cosmos "community" page:



The screenshot shows the Solar Orbiter website with a dark blue header. The main navigation bar includes links for Home, About, Science Team, Science data, Coordination, Science Nuggets, Publications, Newsroom, and Meetings. A dropdown menu for 'Science data' is open, showing links to Solar Orbiter Archive (Access), Solar Orbiter Archive (How To), SOOPs summary, and Data tutorials. A red arrow points to the 'SOOPs summary' link. The page content includes a 'Welcome to the Solar Orbiter Scientific Community' message, a 'NEWS AND HIGHLIGHTS' section with a science nugget about EUV variability and coronal rain, and a 'THE SUN NOW' section with a large image of the Sun.

solar orbiter

esa

Home About Science Team Science data Coordination Science Nuggets Publications Newsroom Meetings

Welcome to the Solar Orbiter Scientific Community

**NEWS AND HIGHLIGHTS**

**Science nugget: A sharp EUV and SPICE look into the EUV variability and fine-scale structure associated with coronal rain**

23 August 2023 The solar atmosphere is exceptionally hot, millions of degrees hotter than the underlying surface. However, it can also dramatically cool down due to thermal instability under very specific spatial and temporal conditions of the heating mechanism. For strongly stratified and high-frequency heating, the structures become radiatively unstable and...

[Read More](#)

**THE SUN NOW**



SOOP summary page

SOOP science objectives

Coordinated observations

SOOP names

Any relevant information

Show / HideShow allExport

Search:

SOOP name (+ click for operation description)	SOOP description	RSW	LTP	Start date*	End date*	SOOP coordinators	Coordinated observations	Status	Data link	Quicklooks	Notes
<a href="#">R_FULL_LRES_HCAD_Full-Disk-Helioseismology</a>	Full disk helioseismology	(outside RSWs)	6	2022-01-20T00:00:00	2022-02-03T03:15:00	T. Appourchaux J. Schou					The resolution was too low for the intended purpose, about 5.8 arcmin.
<a href="#">L_SMALL_MRES_MCAD_Connection-Mosaic</a>	Offpointing mosaic to find connection points (3 pointings along E-S line)	RSW1	6	2022-03-01T18:00:00	2022-03-03T03:21:52	A. Giunta N. Prado D. Hassler		Fully run			
<a href="#">L_SMALL_HRES_HCAD_Slow-Wind-Connection</a>	Coordinated campaign to point to the source region of the slow solar wind, that will be measured by IS payload at time of arrival at SC	RSW1	6	2022-03-03T06:00:00	2022-03-06T18:30:00	S. Yardley	Hinode and IRIS through IHOPs 433 and 434.	Fully run			Target: NOAA active region complex including ARs 12955, 12957, 12961
<a href="#">R_SMALL_HRES_MCAD_Polar-Observations</a>	Pointing to polar coronal hole close to Sun-Earth line crossing	RSW1	6	2022-03-06T16:45:00	2022-03-06T21:50:00	A. Zhukov					
<a href="#">R_BOTH_HRES_HCAD_Nanoflares</a>	Pointing to Active Region, chosen at pVSTP, for high-cadence nanoflare observations close to Sun-Earth line crossing	RSW1	6	2022-03-06T21:50:00	2022-03-07T03:00:00	S. Parenti D. Berghmans					
<a href="#">R_SMALL_HRES_MCAD_Full-Disk-Mosaic</a>	Full Disk Mosaic for connection science close to Sun-Earth line crossing	RSW1	6	2022-03-07T03:05:00	2022-03-07T06:30:10	D. Berghmans F. Auchère					•EUI/HRIEUV: successful •EUI/HRILYA: successful but remnants •SPICE: successful but corners •PHI/HRT: no data due to internal problem



# Feedback needed if you use these pages (esp. new coordinators)



## Roadmap for SOOP coordinators

 Solar Orbiter SOC Public

PAGE TREE

› Acronyms and Definitions

› Getting started

› MOC Applicable Documents

› SOC Public Documents

▼ Science Activity Plan (SAP)

› Solar Orbiter detailed science objectives

› SOOP pages

› General Planning strategy for first version SAP v0

▼ Science Planning

• Roadmap for SOOP coordinators work

› Roadmap for Planning Activities & Related Work

• Trajectory Overview - 10 February 2020 Launch

• Solar Orbiter / Bepi Colombo Opportunities for Coordination

› Cruise Phase

› NMP Segment 1: Jan-Dec 2022

› NMP Segment 2: Jan-Dec 2023

› NMP Segment 3: Jan-Dec 2024

• NMP Segment 4: Jan-Dec 2025

• Early STPs Debriefing - 21 July 2020

• Solar Orbiter Science Planning Overview

› Solar Orbiter Planning - for coordination with external parties

› SOWG

• Orbit Plots

› Solar Orbiter SPICE Kernels

› Planning Exercises

› Modelling and Data Analysis Working Group

› Low Latency Pipeline Engineering

› EMC

› Contamination Monitoring System (CMS)

› Instrument modes and models (to be updated)

• In Situ Working Group




• Remote Sensing Working Group

• SO-PSP Coordination WG

• Software Development Collaborations

› Space tools

Pages / ... / Science Planning



Roadmap for SOOP coordinators work

Created by Miho Janvier, last modified on 18 Apr, 2023

**This page provides you with the general information you need to know to as a SOOP coordinator**

You have been assigned as a SOOP coordinator in the next RSWs. What's next?

- Your name + email address should have been collected and distributed via the SOOPs Coordinators + POCs mailing list. If you have not heard from the ESA Solar Orbiter team, [please reach out](#).
- A meeting will be organised after the executive SWT for a placement of your SOOP timeline. **It is necessary to attend this meeting** as decisions on the timings of your SOOP and placement on the orbit are made then. In order to prepare this meeting, have in mind the constraints necessary to effectively run your SOOP. You can also review the [SOOP pages](#) for further information.
- Following the meeting, you can request access to the [SOOP Kitchen planning tool](#). Please contact the [SOC team](#).
- This is the tool that is used to place your RS instruments observation blocks with details on the operations of each instrument to generate an estimation on the telemetry. You will be given a few months to:
  1. rethink/redesign your SOOP if the timeline given to your SOOP differs from your original plan (e.g. due to operational constraints)
  2. provide further information on the SOOP page related to your SOOP
  3. contact the instrument POCs (see the SOOPs Coordinators + POCs mailing list) to discuss the details of the instrument operations (cadence, FOVs, lines for spectroscopy, ...). This is also a good time to start thinking about any other coordinated observations you would want to have (e.g. IRIS, Hinode, ground-based observations).
- ~2 months before the LTP start, you will need to attend the Science Operations Working Group (SOWG). This is a crucial meeting where your role will be to guard the consistency of the SOOP and the coordination between each of the instrument contributions, while the instrument timelines are being filled by the instrument teams.

Are you requesting support from other observatories?

- Following the SOWG, you will have ~2 weeks to prepare your request for the Hinode Observing Plan (HOP) if you are requesting support from the Hinode teams. Send your proposal ([link to the form](#)) to [Miho](#) who will collate all the propositions and get back to you (e.g. if telemetry constraints do not allow for your HOP to be run to your expectations).
- Please send as early as possible your suggestions for the IRIS team in case you are requesting support from the IRIS mission.
- Currently, ground-based observatories (DKIST, Canary Islands observatories (Themis, Greggor, SST), ALMA, ...) are happy to support Solar Orbiter whenever possible, but this is a case-by-case situation. You are welcome to reach out directly to the observatories via [the list of contacts](#) and let Miho know.

Up to ~2 weeks before your SOOP runs: close discussions with the instruments teams

- Two weeks before your SOOP is run during the so-called "Short-term planning", instrument teams will send their instrument commanding to SOC and MOC to be uploaded to the spacecraft.
- Instruments teams may contact you prior to this cut-off line in case some tweaks are necessary. No changes (e.g. on timings) can be made after the operation requests are sent.

Your SOOP is ready to be run! Are you following a specific target?

- Depending on the SOOP you have proposed, your science target may need a specific pointing (e.g. slow solar wind source, active region). In such a case, as a SOOP coordinator, you will need to attend the pointing decision meetings. In general, these meetings are held 2 days prior to your target being observed. You will need to follow the procedures described [here](#) to use the JHelioviewer tool and provide the coordinates of your science target. If your science target includes a connection to a specific point in the heliosphere (e.g. Earth, Solar Orbiter, PSP), then a member of the Modelling and Data Analysis Working Group ([MADAWG](#)) will be present to provide you with information on the connectivity at the time of the pointing decision meeting.

A note on data latency

- The data latency may be quite high on this mission, depending on the location in the orbit the SOOP was scheduled. As a rule of thumb, data taken when we are close to earth will come down in a few days max, while data taken at the far side of the sun may take up to 2-3 months to be retrieved.

Your SOOP was run, and you are now working on the science results: what's next?

- As courtesy for future SOOP coordinators, and for the community at large, you will be requested to update the SOOP pages with the outcomes of your SOOP. This can be a link to the papers, science

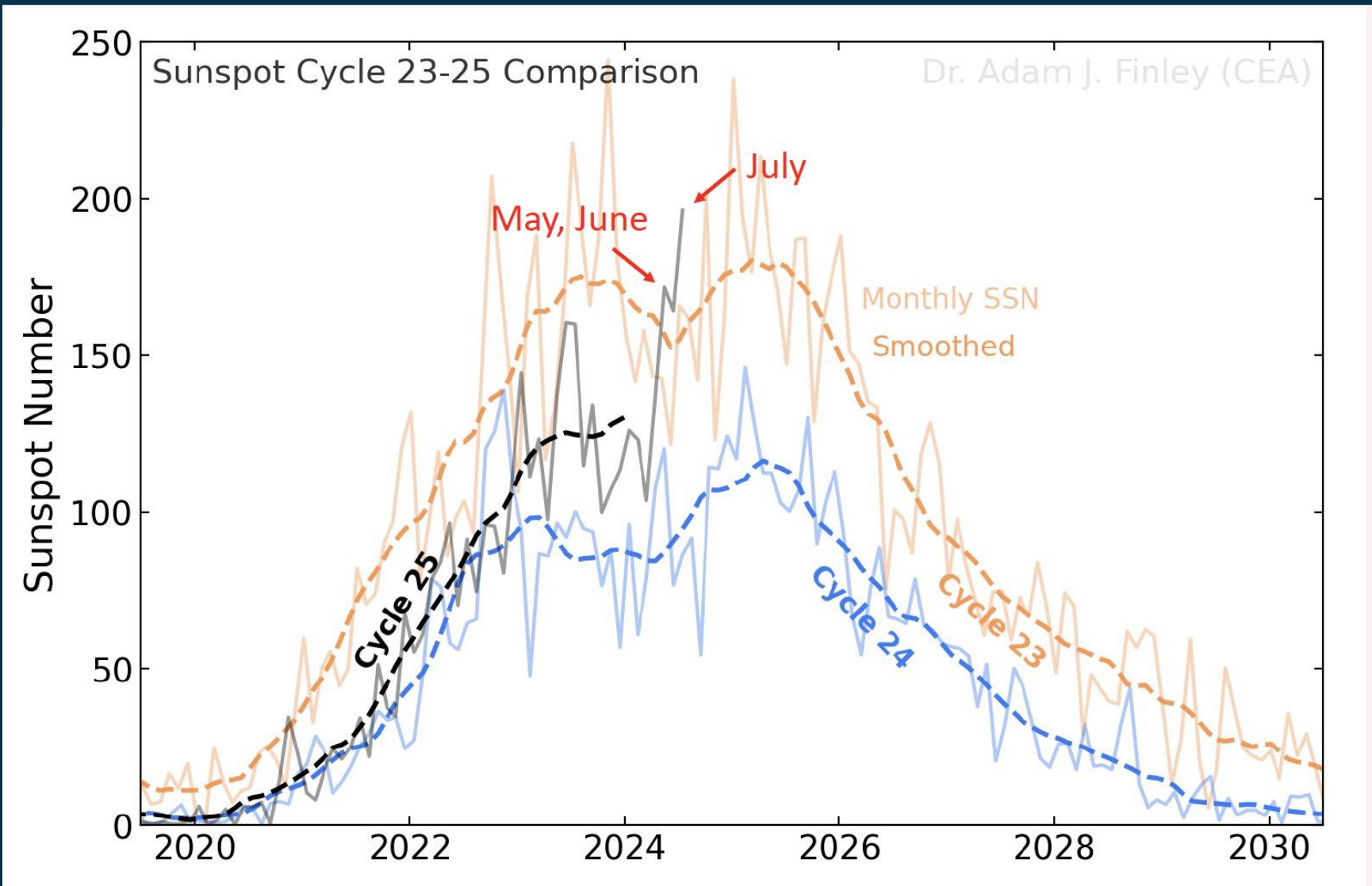
Implemented from LTP-13

8

→ THE EUROPEAN SPACE AGENCY



# SOLAR ACTIVITY DURING LTP15



SOLAR ORBITER BULLETIN

ACTIVITY UPDATE

Contact: [adam.finley@cea.fr](mailto:adam.finley@cea.fr)

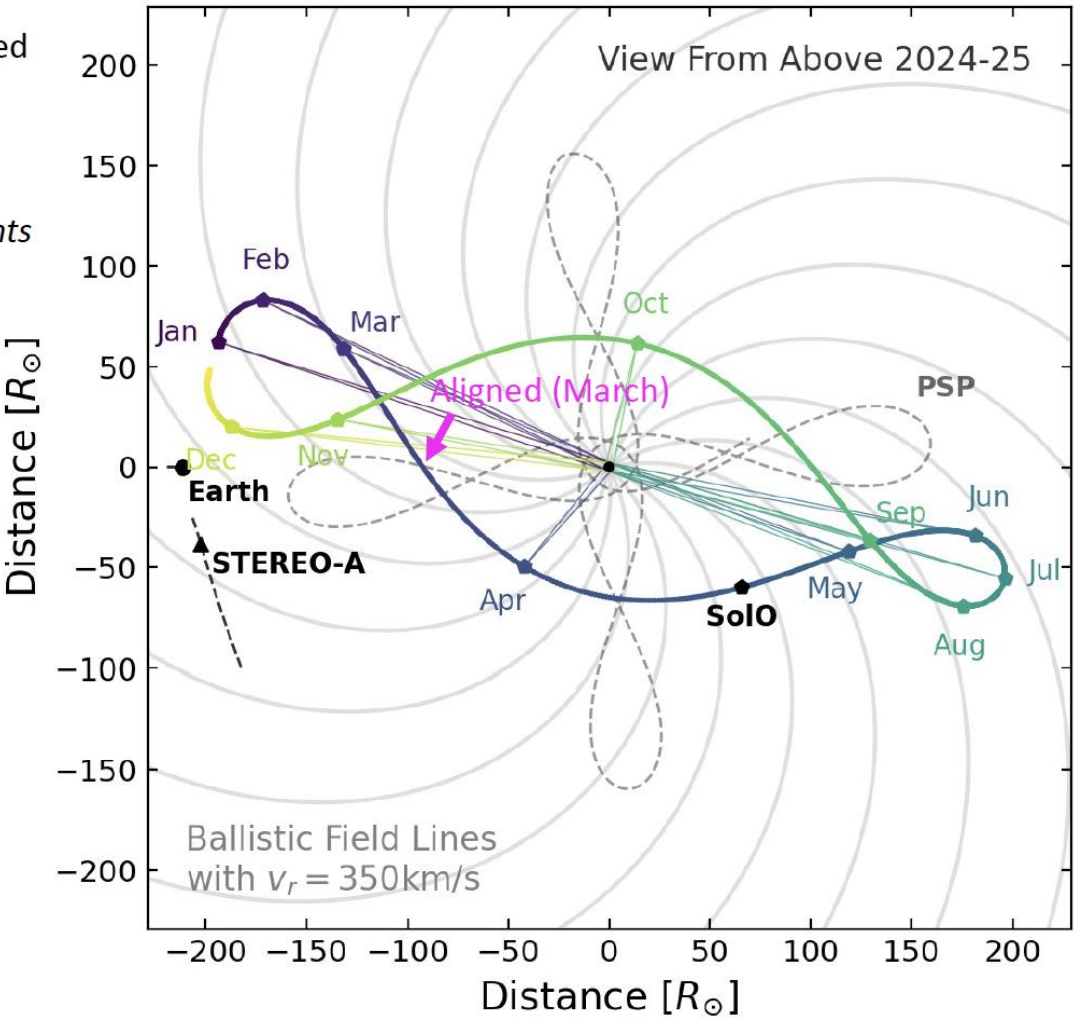




# SOLAR ACTIVITY DURING LTP15

Spring 2024 – Earth-SolO Aligned

A couple of strong M-class events  
One X1 flare.



SOLAR ORBITER BULLETIN

ACTIVITY UPDATE

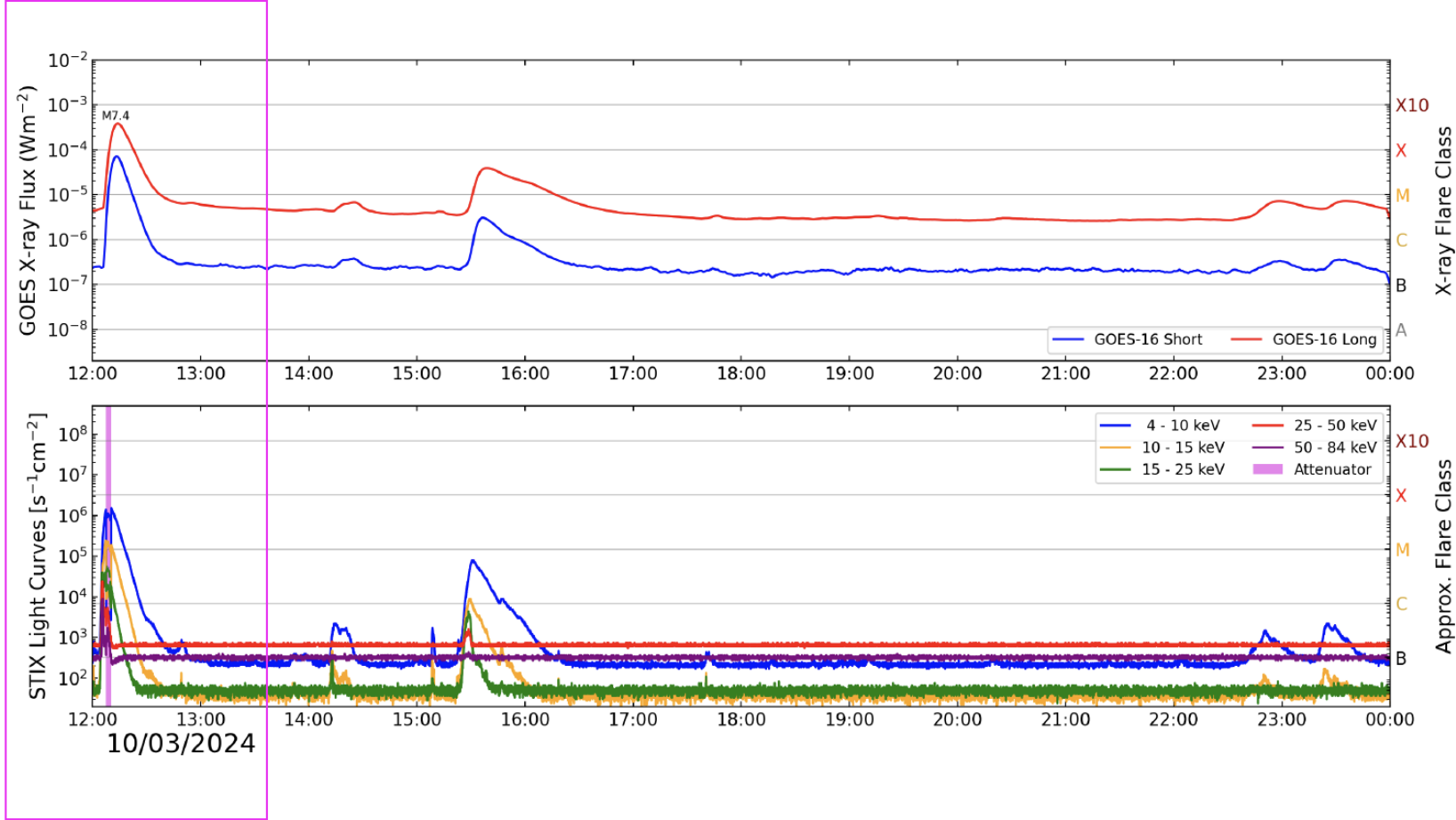
Contact: [adam.finley@cea.fr](mailto:adam.finley@cea.fr)



# SOLAR ACTIVITY DURING LTP15



Spring 2024 – Earth-Solo Aligned



SOLAR ORBITER BULLETIN  
ACTIVITY UPDATE  
Contact: adam.finley@cea.fr

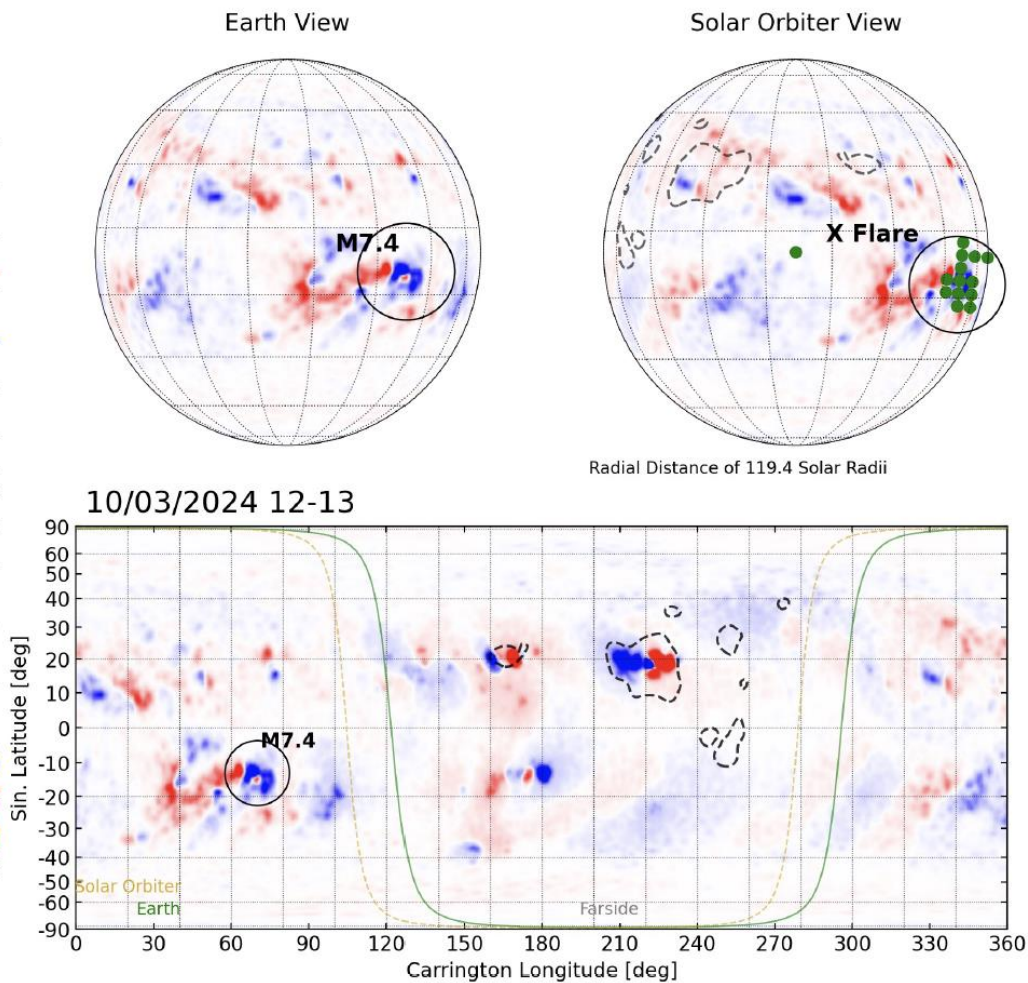
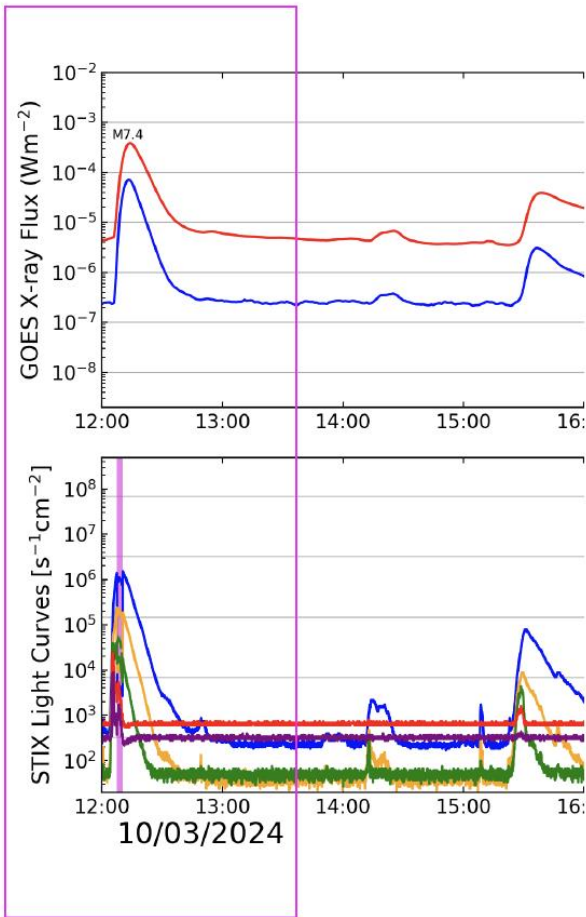




# SOLAR ACTIVITY DURING LTP15



Spring 2024 – Earth-SolO Aligned



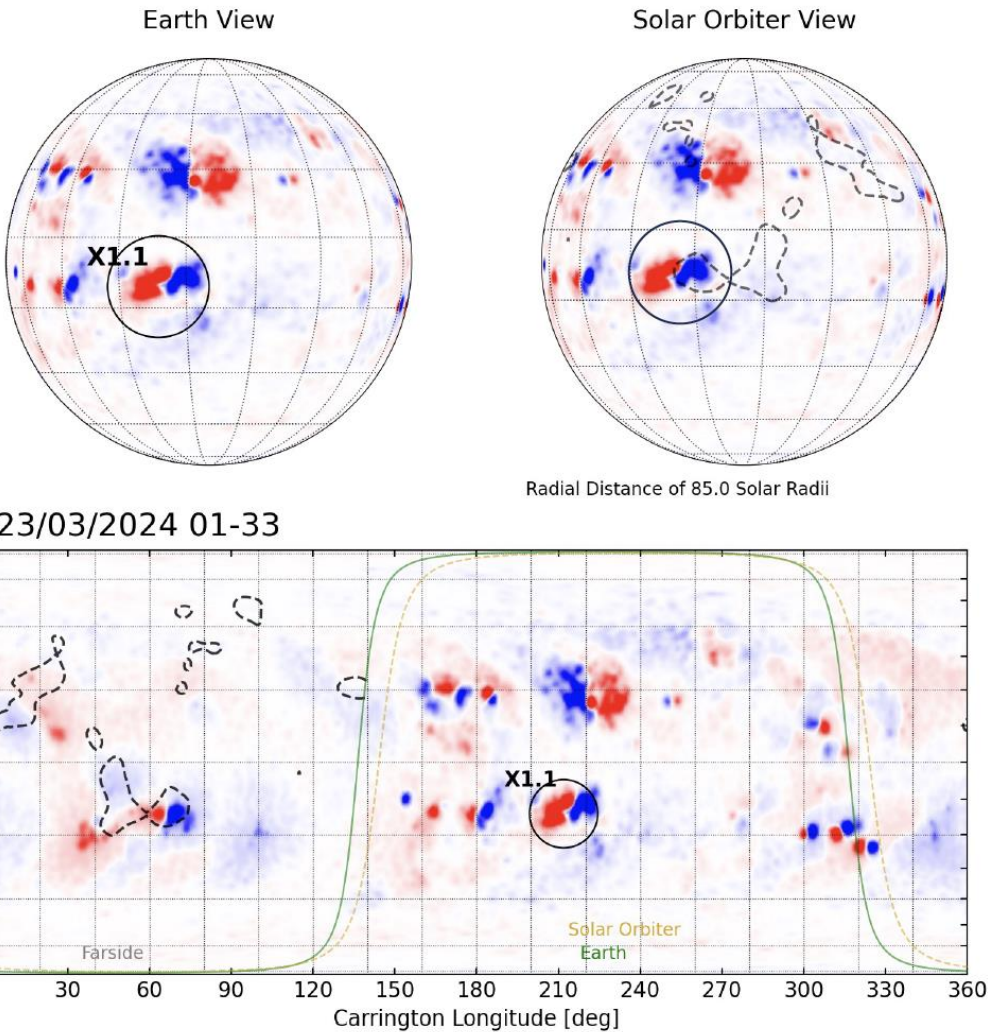
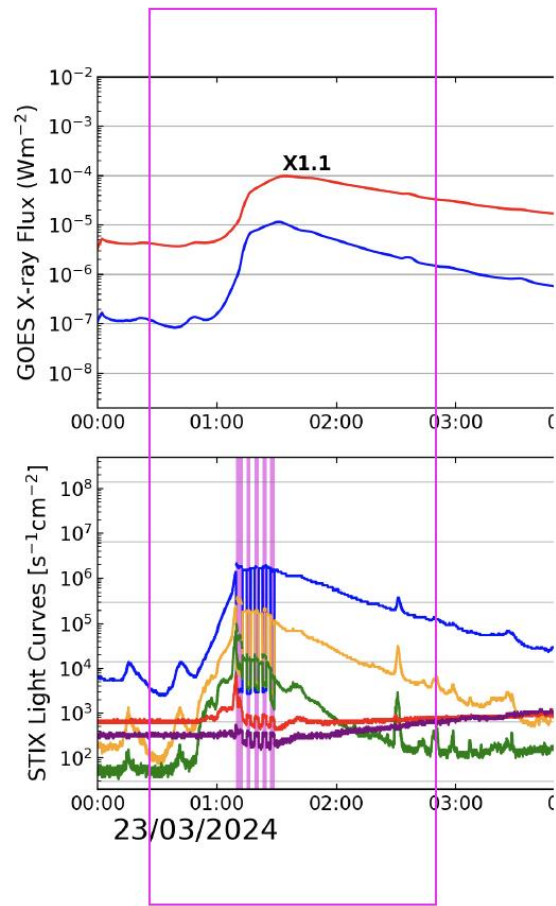
SOLAR ORBITER BULLETIN  
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Spring 2024 – Earth-SolO Aligned



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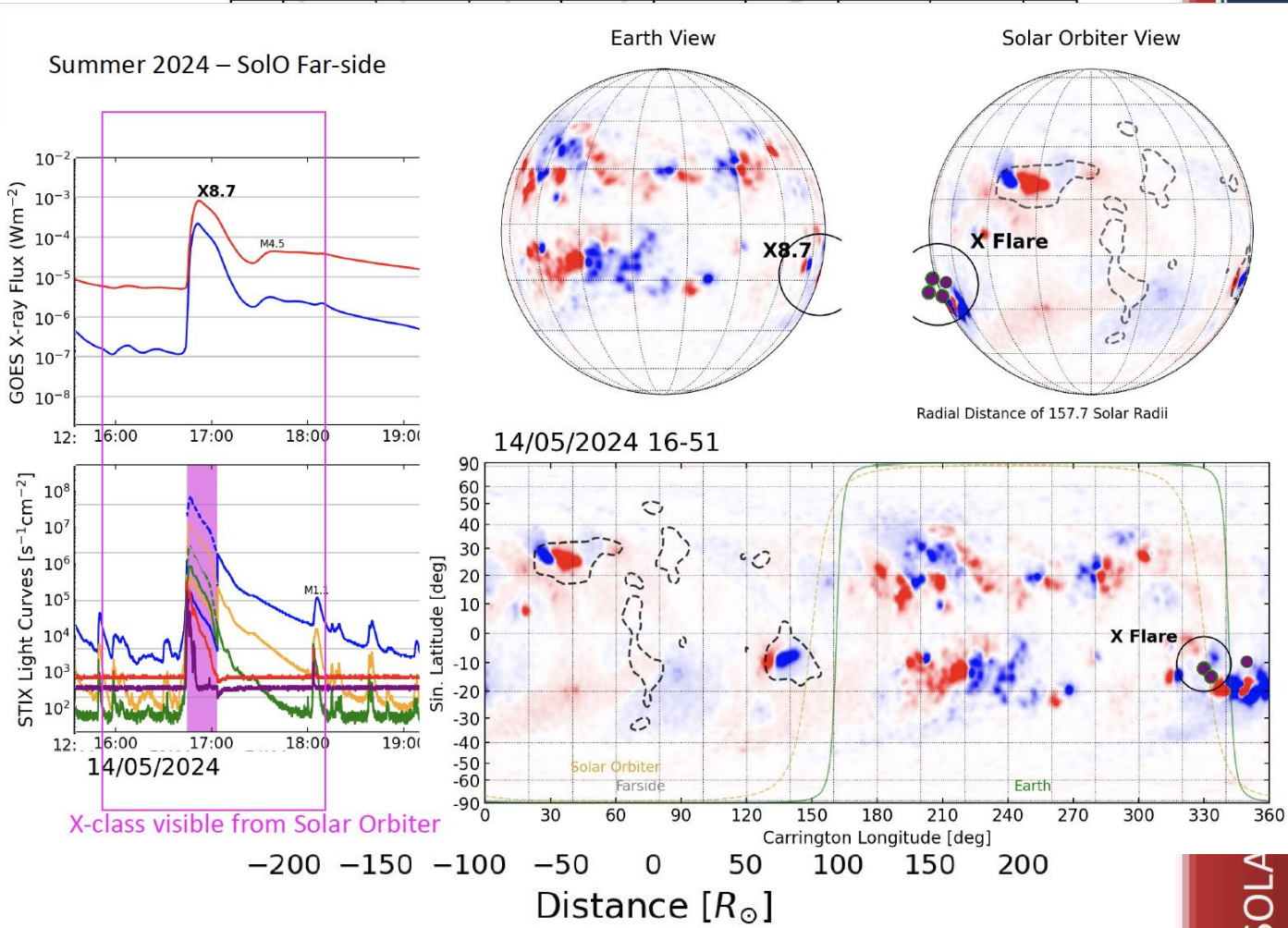


Summer 2024 – SoLO Far-side

Northern X-flare, could be partially visible by Solar Orbiter (May).

May 11th auroral storm active region, multiple X flares. Maybe the largest flare of the solar cycle seen on the far-side (only visible by Solar Orbiter).

Current active complex spanning 180-240 degree Carrington longitude, producing some X-class activity for Orbiter.





LDE3

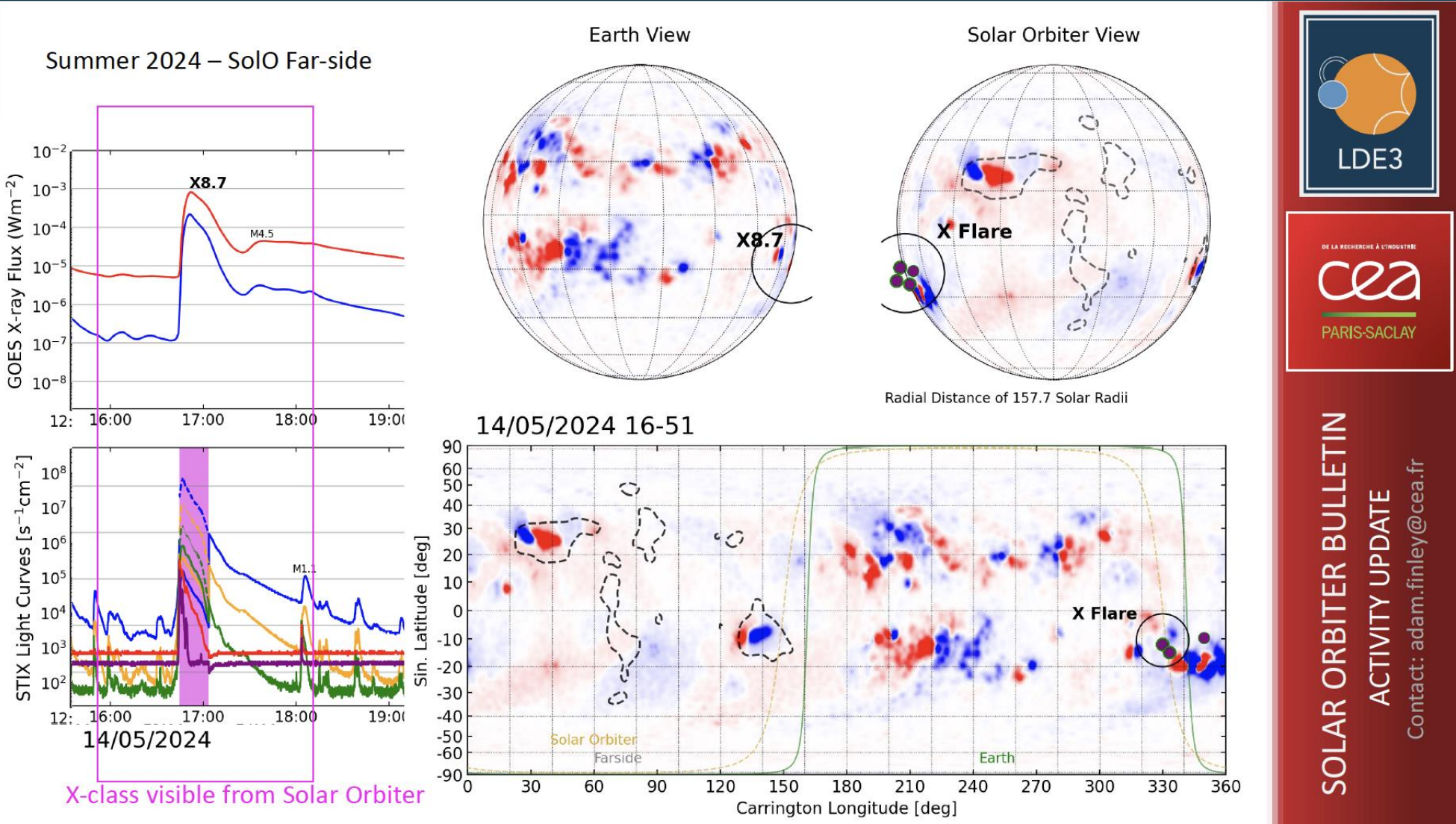


cea  
PARIS-SACLAY

SOLAR ORBITER BULLETIN  
ACTIVITY UPDATE  
Contact: adam.finley@cea.fr



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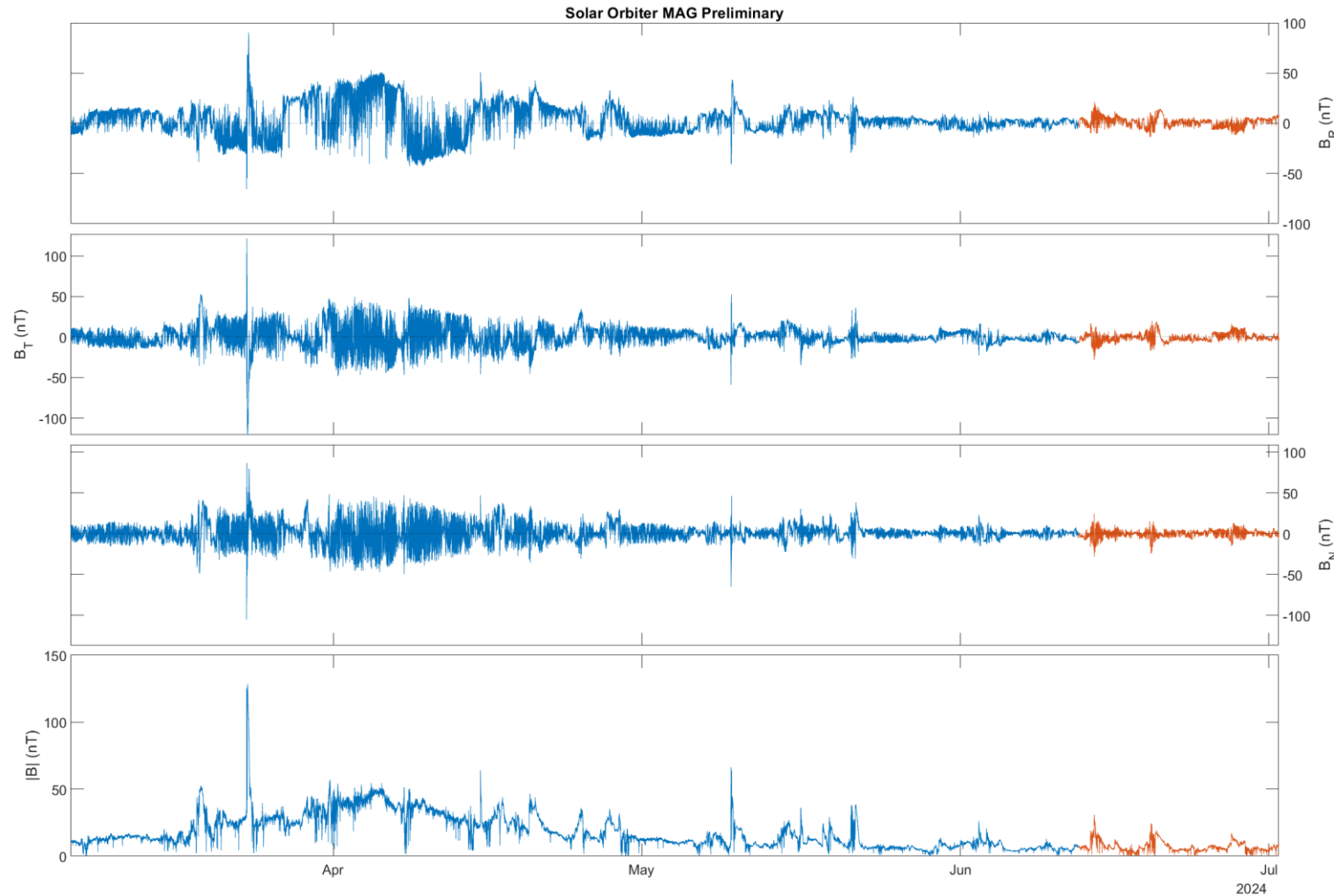








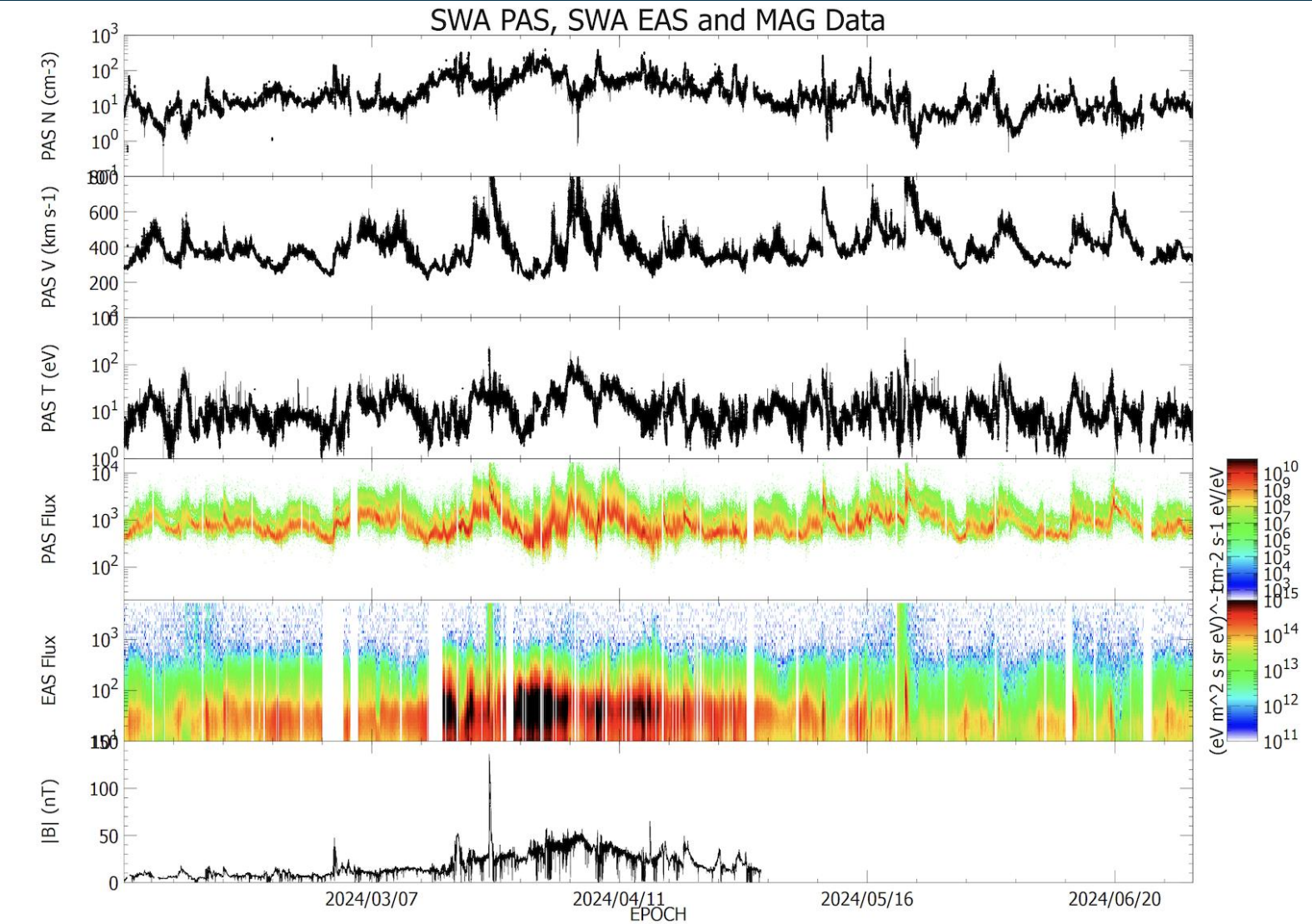
# SOLAR ACTIVITY DURING LTP15



Significant CMEs on 18 and 23 Mar, 15 April and 9 and 21 May,



# SOLAR ACTIVITY DURING LTP15



Significant CMEs on 18 and 23 Mar, 15 April and 9 and 21 May,





# Think about participating in the webinars!



meetings

- Home
- About
- Gallery
- Science Team
- Science data
- Coordination
- Science Nuggets
- Publications
- Newsroom
- Meetings

## SOLAR ORBITER COMMUNITY BUILDING WEBINARS

Solar Orbiter community building webinars are aimed at the solar and space physics communities as a whole. They aim to provide recent news and insights on the Solar Orbiter operations and science. They will be held every 1st Wednesday of every month, at **2:00pm European Central Time**.

INFORMATION ON WEBINAR CONNECTION WILL BE PROVIDED CLOSER TO THE MEETINGS

### FUTURE MEETINGS

- 2nd October 2024 (1h):** Introduction to the Solar Orbiter mission: the science, the data, and the SunPy ecosystem. With Daniel Müller (ESA/ESTEC) and Laura Hayes (ESA/ESTEC)
- 6th November 2024 (30'):** Small-scale heating and relation to the solar wind: a review of past observations of (polar) coronal holes. With Pradeep Chitta (MPS)
- 4th December 2024 (30'):** Solar Wind connectivity with Solar Orbiter. With Stephanie Yardley (Northumbria University)
- 8th January 2025 (30'):** Synergies between in situ and remote-sensing science with Solar Orbiter. With Daniel Verscharen (MSSL/UCL)

