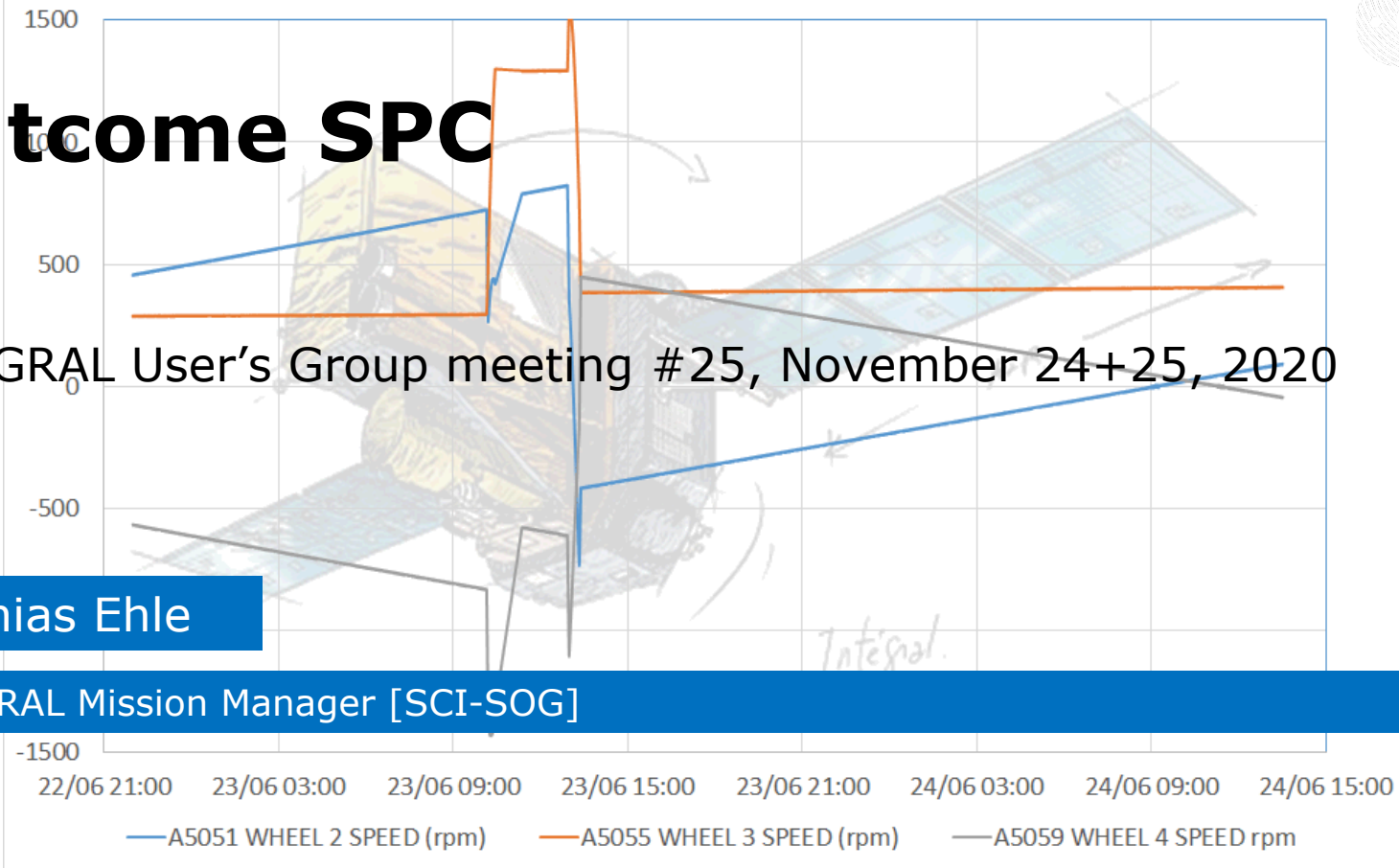


Outcome SPC

INTEGRAL User's Group meeting #25, November 24+25, 2020

Matthias Ehle

INTEGRAL Mission Manager [SCI-SOG]



REMINDER: Mission Extension: 4th Step: SPC



Science Programme Committee (SPC#163): 7-8 July 2020

SPC (= one of the Council subordinate bodies; Council = organ representing the ESA Member States) is the only committee, the creation of which is explicitly provided for by the ESA Convention itself. The Council shall refer to SPC for any matter relating to the mandatory scientific programme. The SPC is following scientific projects from their selection to their execution, as well as forward-looking studies with a view to the preparation and selection of future projects.

Inputs by ESA Executive: Confirmation of the operations of seven missions (ExoMars-TGO, Gaia, Hinode, HST, IRIS, SOHO and XMM-Newton) for 2021–2022 is proposed, as well as indicative extension of the operations of the same seven missions for 2023–2025. In light of the **need to resolve the cash flow issues** the Programme is facing, the Executive is **postponing a proposal on the extension of the operations of Cluster, INTEGRAL and Mars Express to the next SPC meeting.**

SPC Decision:

Pending the resolution of the short-term financial issues of the Scientific Programme, it was decided **to postpone the decision on mission extensions** (for all ten missions) **to a future meeting** of the Committee.

REMINDER: Mission Extension: Steps towards the following SPC



Extra-ordinary Meetings:

AWG/SSEWG (14 Sep 2020), SSAC (15 Sep 2020), SPC (1 Oct 2020)

Inputs: For INTEGRAL: SOM, PS, MM prepared a **delta report to the MEOR2020 status** by early Sep 2020.

"INTEGRAL confirmation and extension (2021-2025) - Update after Emergence Safe Attitude Mode (ESAM) #8"

This report addresses specifically the main changes, i.e.

- Z-flip strategy implementation,
- Status of the associated failure investigation,
- Improved estimate of the remaining life time of the mission,
- Orbit control approach,
- Impact on science wrt to the original extension science case.

Conclusion: INTEGRAL operations are foreseen to **proceed successfully** with the new Z-flip observing strategy. The Ground Segment is **able to maintain a scientifically interesting programme** while keeping net angular momentum close to zero. **No further issues are identified** that could affect the scientific performance during the confirmation and extension intervals.

...

Mission Extension



Current Status: 1 Oct 2020 SPC#164:

The SPC was invited to:

1. approve the operations of Cluster, ExoMars-TGO*, Gaia, Hinode*, HST* , **INTEGRAL**, IRIS*, Mars Express, SOHO* and XMM-Newton **from 1 January 2021 to 31 December 2022**, as foreseen by SPC in 2018 (ESA/SPC(2018)22 and ESA/SPC/MIN/158, rev.1 (Final)) ✓
2. approve **indicative extensions** to the operations of Gaia, Hinode*, HST*, IRIS*, SOHO* and XMM-Newton from 1 January 2023 to 31 December 2025, subject to a mid-term review and subsequent SPC confirmation in 2022 ✓

An `*' indicates an ESA Science Programme contribution to a mission operated by a partner

Decision for INTEGRAL: extension for **2021-22 confirmed** & **no further indicative extension**

Way forward after SPC decision



For the three missions led by the ESA Science Programme (Cluster, **INTEGRAL**, Mars Express), Mission Managers will **prepare throughout 2021-2022 the end of operations by Dec 2022, and the start of post-operations in January 2023.**

(Note: 2 years of INTEGRAL post-operations are assumed and in the budget)

In parallel: *"ESA would like to engage in a creative process for these (3) missions and develop **innovative** concepts that could be presented, e.g., at the June 2021 SPC meeting and would make it attractive for the SPC to re-evaluate their decision."*

I.e. use Jun 2021 SPC to prepare re-consideration, such that Nov 2021 SPC can be used for 1st phase of extension process (Science!; 2nd step: Programmatic).

Constraints?



- Although ESA Science Directorate (D/Sci) has a (temporary) cash flow issue, there is currently **no request to look into cost savings** on INTEGRAL operations (although, yes, there is in general pressure to look into increased efficiency / reduced costs of ESA science operations).
- D/Sci budget is being closely monitored to check that it stays on track
- If so - financially speaking - there **could be room to reconsider** 1-3 of the not indicative extended missions
- **Need for your ideas**; if convincing, they might be presented to SPC to invite re-considering INTEGRAL for further extension

QUESTIONS:

- * What will be lost, if INTEGRAL operations are finishing end 2022?
- * Is there anything important that needs to be finished by INTEGRAL, beyond 2022?
- * Are there any important goals that need (limited) time after 2022?