XMM-Newton Overall Mission Status

Peter Kretschmar, Mission Manager

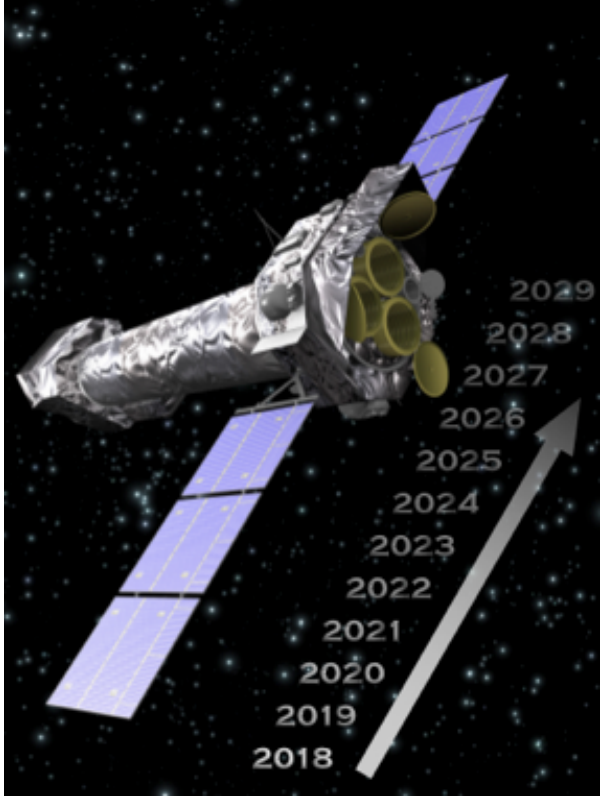
XUG Meeting #20

7–8 May 2019, ESAC

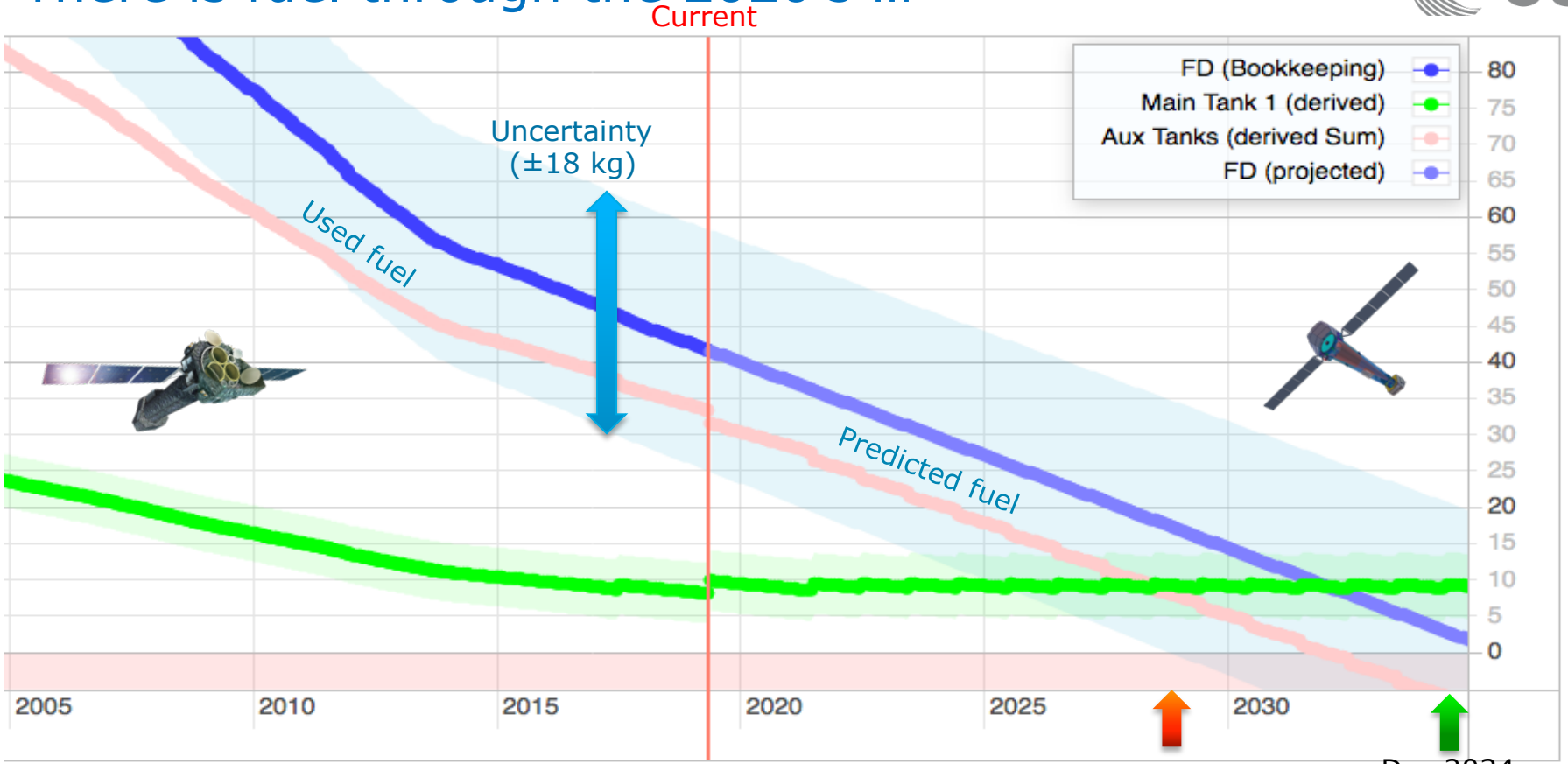
The mission remains in very good shape

- All instruments in same general shape as for UG #19. No major incidents.
- Fuel migration and replenishment activities are ongoing. Migration Phase 1B imminent on 13+14 May.
- Ground Segment evolving and modernising. Dealing globally well with changes.
- Reprocessing of archive data going forward.

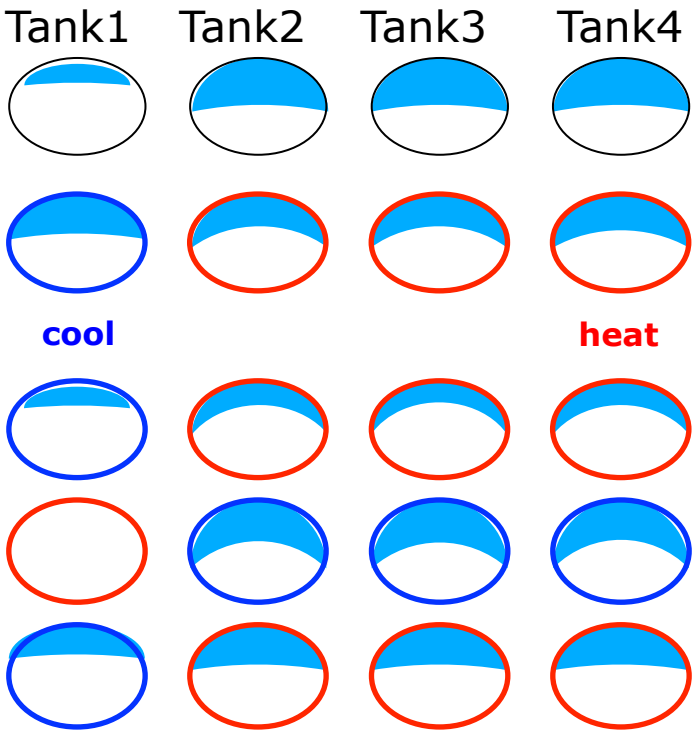
➥ XMM-Newton well set to celebrate 20th launch anniversary on 10 December 2019!



There is fuel through the 2020's …



… but it requires regular activities



Migration

Replenishment

On-going for step 2 (May 14th)

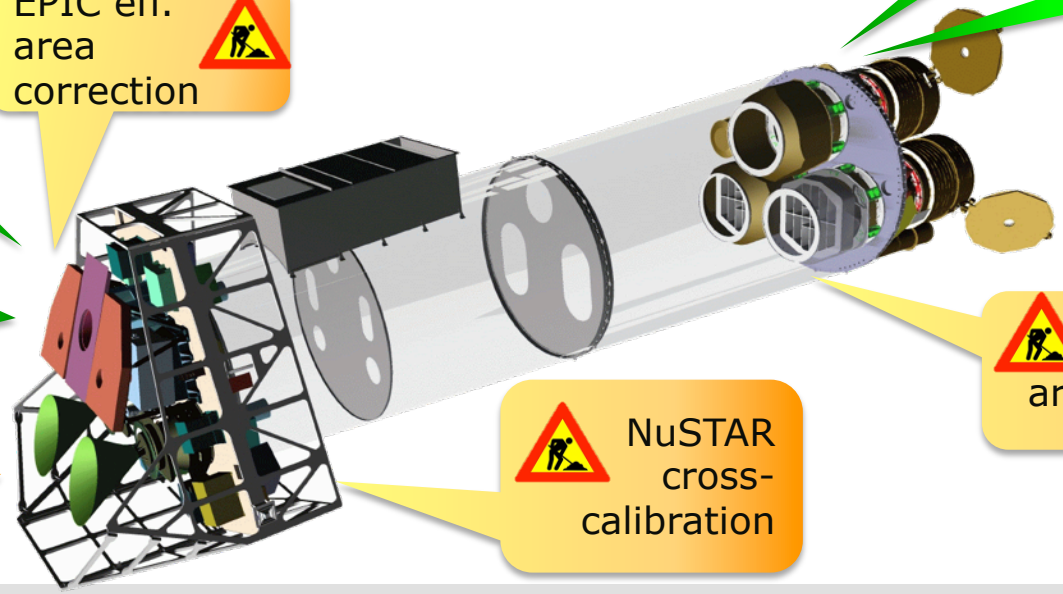
May need to start in 2020 already

Payload calibration remains a lot of work

UG recommendations are being addressed, as possible, and there is progress on various areas.

Other areas, especially also for cross-calibration remain

☛ see presentations by M. Smith, R. Gonzalez and S. Rosen



PN gain correction

EPIC eff. area correction

OM time dep. sensitivity corr. updated

Updated OM bad pixel map

PN Timing rate depend. corr.

PN Burst Mode rate dep. corr.

NuSTAR cross-calibration

RGS eff. area change

The SOC has evolved strongly

- Ramón Muñoz & Antonio Talavera have retired. Carlos Gabriel is preparing to.
- New team members: Simon Rosen, Anthony Marston, Felix Fürst, Celia Sanchez (will become 50%). Amy Joyce working as Irish National Trainee in XMM-Team.
- Jacobo Ebrero will move for 50% to INTEGRAL, increasing team overlap.
- Eva Verdugo & Ivan Valtchanov have increased their XMM-Newton share.

➥ Hand-over and knowledge transfer far in SOC far from trivial. At the same time handling SPACON merger mitigation.

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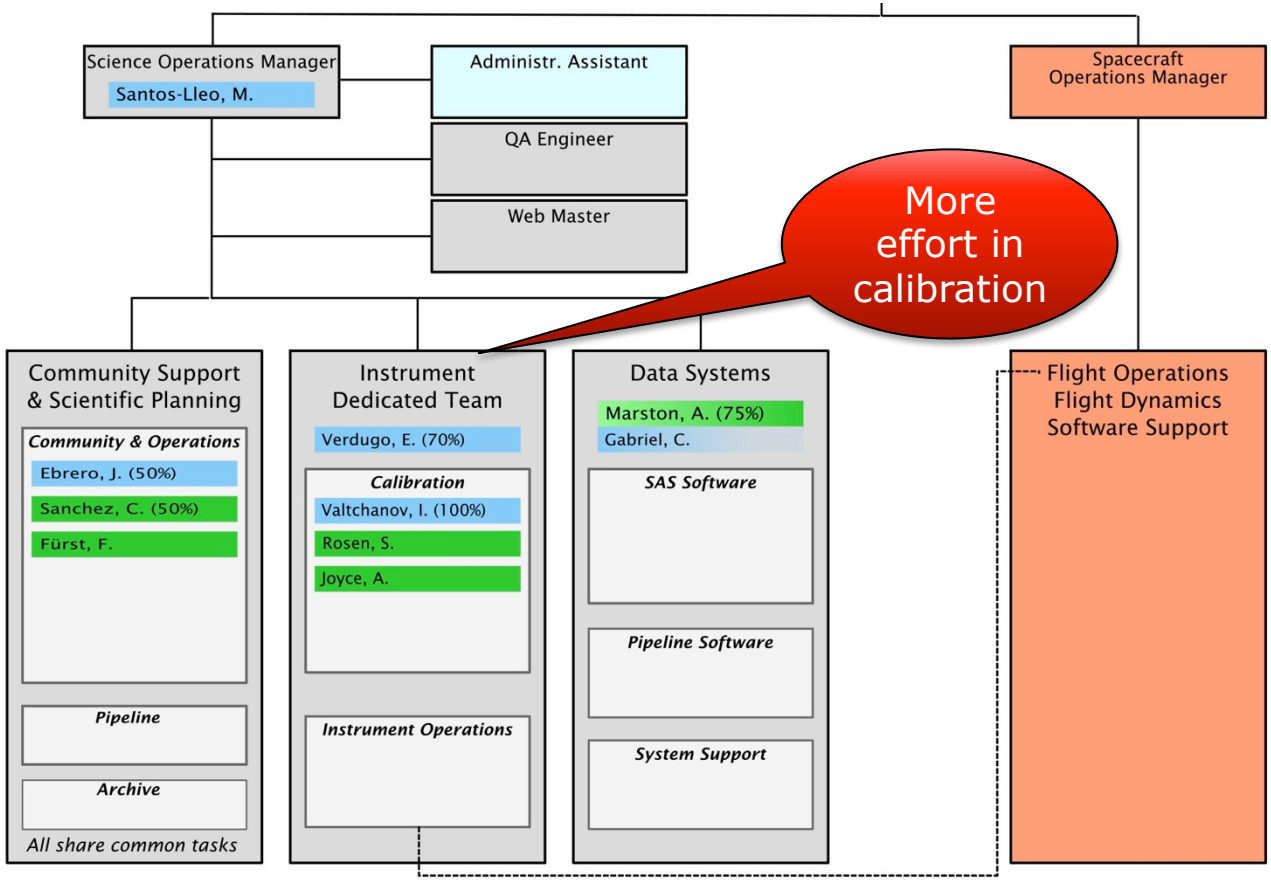

Dealing with the SPACON merger

- Common Gaia/XMM-Newton/INTEGRAL SPACON team has in operations since 11 April 2018.

➥ Less expertise of SPACONs ➟ delayed recovery from problems, **as predicted**.

➥ Losses in science performance. ☛ see presentation by J. Ebrero

➥ Mitigation through: **automation**, also by some extra engineering effort at SOC; on-call service by Ops Analyst for limited number of days; creation of 2×0.5 FTE Instrument Operations Engineers at MOC (in training). Tight MOC-SOC interaction.
☛ see presentation by E. Verdugo

➥ Automated recovery operational for pn since March. Expected before summer for RGS & MOS. OM in Q3, but workaround for faster recovery in place.

In summary

Stable community interest and productivity

Spacecraft & instruments remain in good shape; fuel prediction is good.

Preparing to celebrate 20 years of successful operations!

Progress on several calibration topics, but a lot of work remains

Progress on modernisation of SOC systems

SPACON merge
➟ impact on science
➟ mitigation effort

SOC still digesting various changes in team