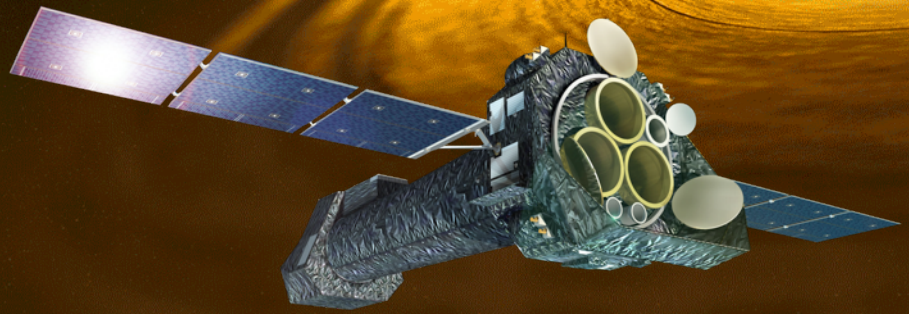
XMM-Newton
Overall Mission Status



Peter Kretschmar, Mission Manager

XUG Meeting #21

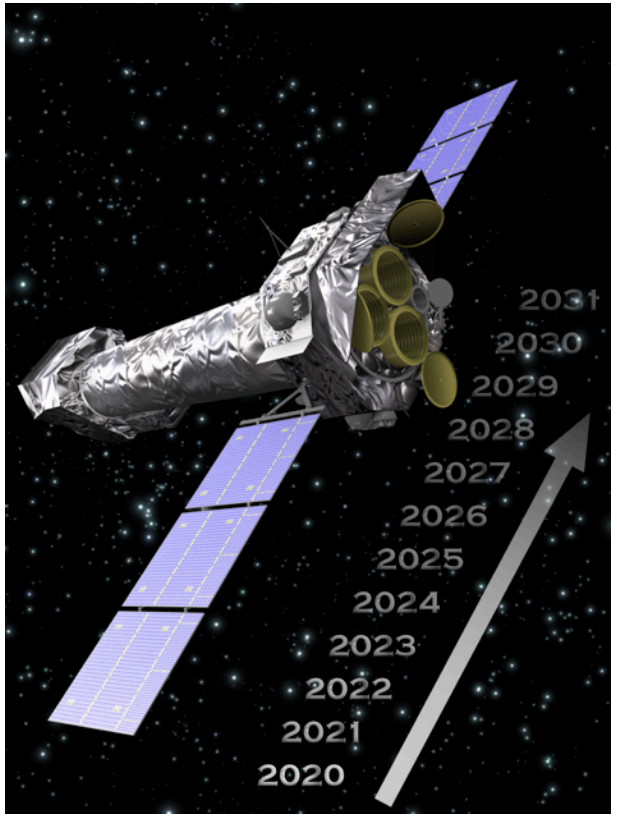
17–18 June 2020, Virtual Meeting

The mission is in very good shape, …

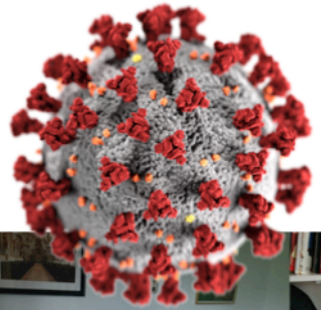
- All instruments in same general shape as last year. No major incidents.
- Thanks to great team efforts, very little impact of COVID-19 crisis on science operations. But some activities (including SAS) slowed down.
- Fuel replenishment activities are ongoing **this week.**

➥ XMM-Newton looking ahead to more than another decade of scientific operations.

➥ Ground Segment systems have evolved and adapted over the years. But long-term perspective brings new push for "rejuvenation" in order to serve for another decade.



COVID-19 changed the world, XMM-Newton operations continued

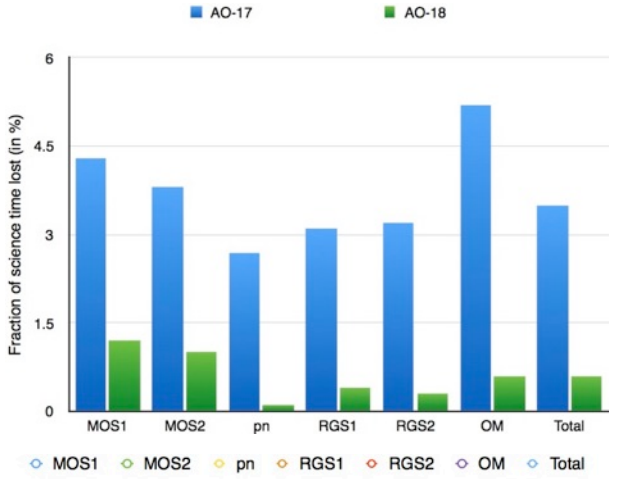


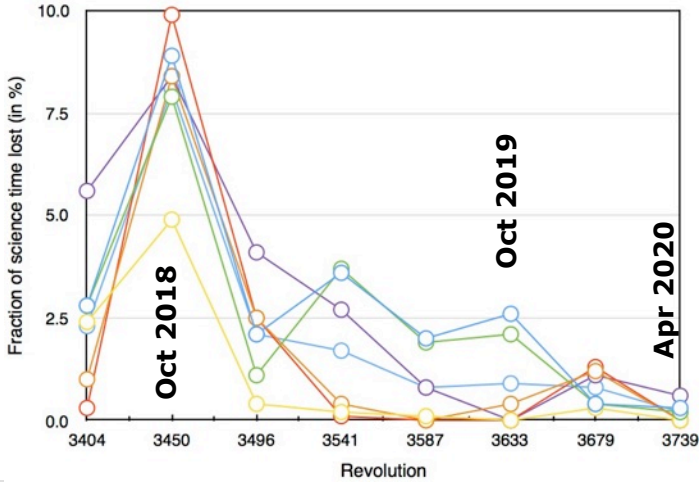
- End February: emergency plans being developed.
- 11/12 March: ESAC/ESOC tested teleworking with minimal teams on site.
- 14 March: “estado de alarma” in Spain,
  16 March: ESOC mainly teleworking.
  We are still essentially in this scheme.
- TOO’s very limited for week of 16-22 March, since then essentially normal. Teams have organised themselves very efficiently.
- Less critical, or longer-term activities (e.g., system updates) **are** being delayed.

The SPACON merger has been dealt with

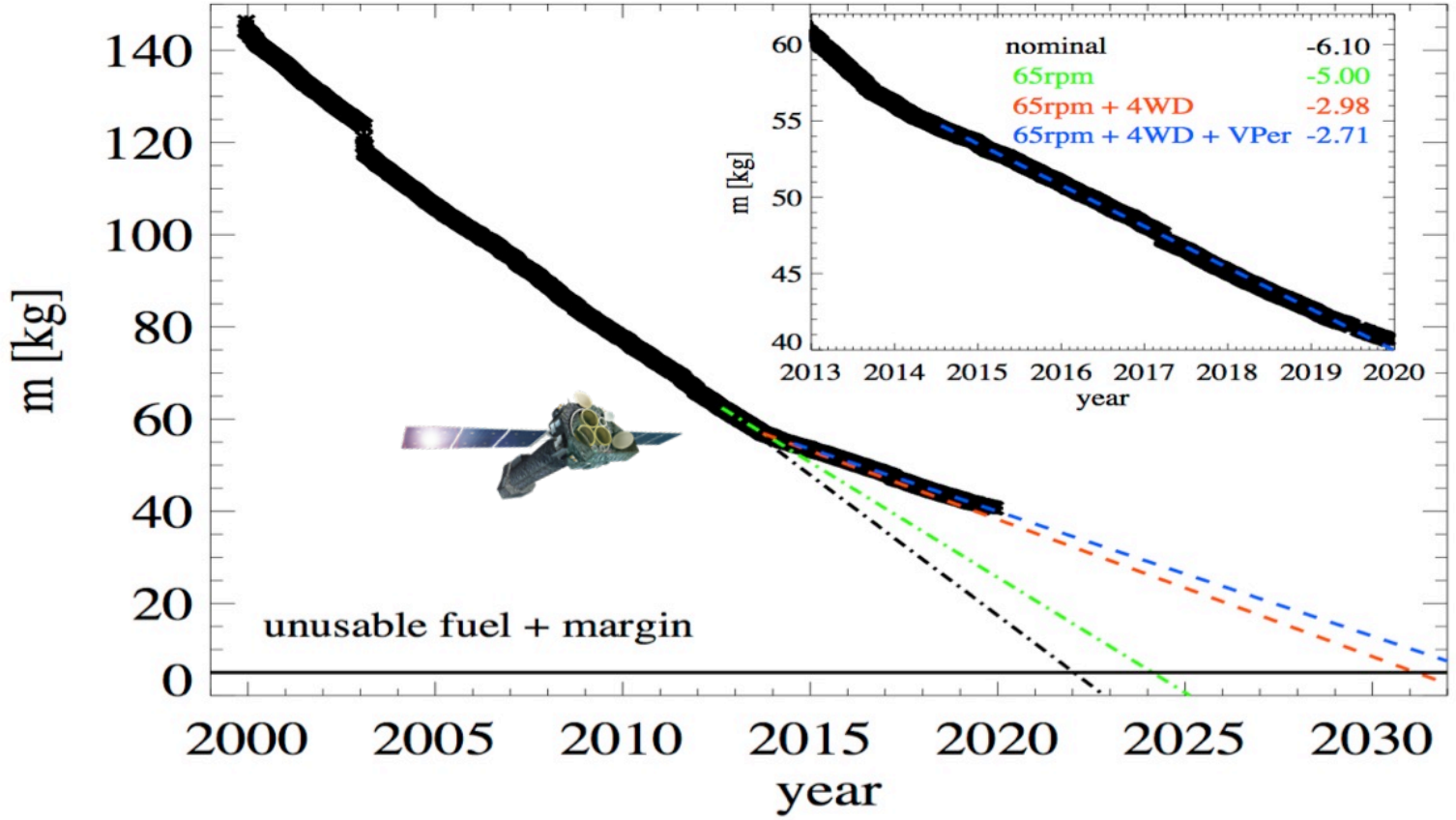
- Common Gaia/XMM-Newton/INTEGRAL SPACON team since 2018.
- Losses in science performance, reported last year mitigated by temporary extra support at SOC and MOC, automation of instrument recovery, build-up of instrument operations knowledge at MOC and tight MOC-SOC interaction in joint team.
  This was a major effort.

➥ Essentially back to normal science performance, continuing effort for improving automation and further training across sites.

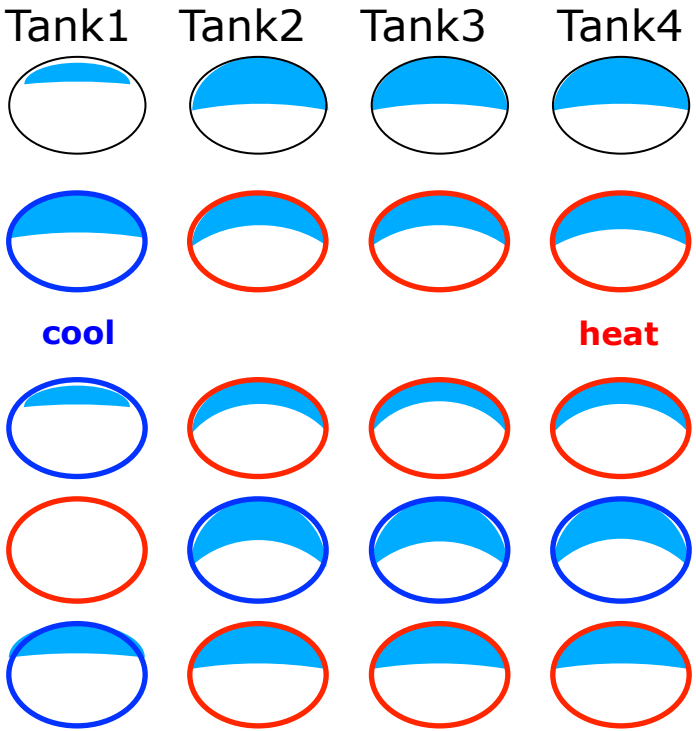




Current fuel estimates give **life time > 2030** …



… but this requires tank replenishment happening **just these days**



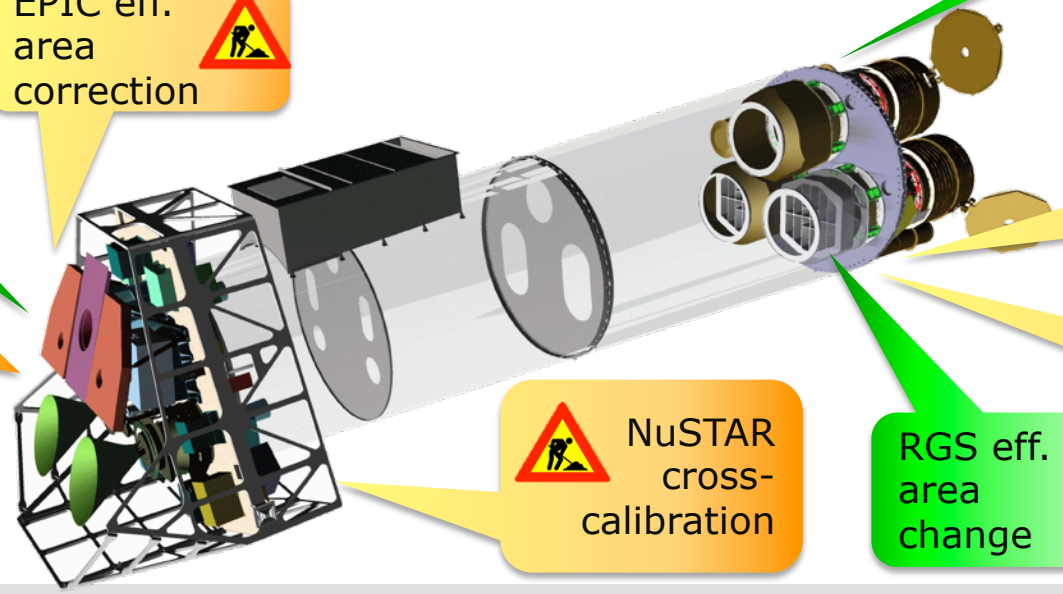
This took place last year

Main gas transfer happening **tonight**

Payload calibration making good progress

UG recommendations are being addressed and there is clear progress in various areas. But calibration never stops and especially cross-calibration remains a long-term effort.

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



PN LW mode energy scale correction

EPIC eff. area correction

OM time dep. sensitivity corr. updated

Potential systematic errors wave-length scale

PN fast modes rate dependency refinement

Origin of RGS eff. area change

NuSTAR cross-calibration

RGS eff. area change

SOC staff changes

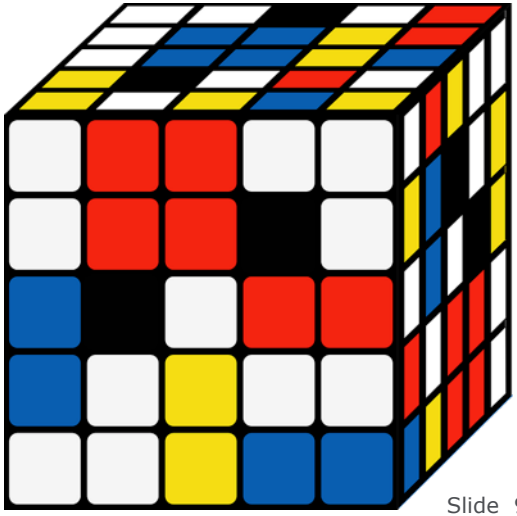
- Jan-Uwe Ness is leaving XMM-Newton at the end of the year. Working for INTEGRAL, XRISM, Research Fellows, …
- John Hoar, Euclid Science Operations Development Manager, will start from summer at 25% to support the XMM-Newton SOC as System Engineer, to support the planned rejuvenation of the SOC systems.

Framework puzzles

- ESA Frame Contracts for contractor support are being renewed. The current target date for new contracts in Science is mid next year.
- For various reasons, the contract structure in subareas is being changed significantly. Emphasis on functional areas across missions at ESAC.

➥ The change will affect SOC organisation, although the basic idea is to neither change people nor work to be done.

➥ Significant effort at management level for ESA and for companies.



In summary

Stable community interest and productivity

Spacecraft & instruments remain in good shape; fuel replenishment ongoing

SPACON merge impact mitigated

Clear progress on calibration, but a lot of work remains

SOC systems will need to be adapted for the long-term future

Major changes in contractual framework