

# Science Operations Status

**EPIC Ops-Cal Meeting**

**March 31- April 1, 2009, Mallorca**

**María Santos-Lleó**

**(XMM-Newton Science Support Manager)**



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# SOC changes

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## ❖ Science Support Team

**Jan-Uwe Ness:** started in the Users Support Team and OM instrument team, 1<sup>st</sup> Dec 2009

## ❖ Instrument Operations Team

**Guillermo Buenadicha:** in SMOS, 1 June 2008

**Last Inscon:** up to 31 March 2008 (thanks to all of them!)

**Blanca Juarez:** part time as data-aid

## ❖ SOC keeps Real Time link: point of contact for Instrument Teams and allows for RT monitoring of special instrument operations

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# Science Program

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- ❖ **A07, May 2008 - April 2009: status as of March 25:**
    - **A+B** performed: 11,600 ks: **94%**
    - **C**: 1700 ks: **21%** of recommended C time (**27-31%** in last two AOs)
  
  - ❖ **A08, May 2009 – April 2010**
    - **Oversubscription 7.4** & 555 proposals
    - Second phase finished February 8, enhancement ~ finished
  
  - ❖ **A09 milestones:**
    - Call open on August 25, 2009
    - **Closure on October 9 (12UT) 2009**
    - Approved program: late December 2009
    - Second phase: 11 January – 5 February 2010
    - Start observations: May 2010
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# Impact of Anomalies in October 2008

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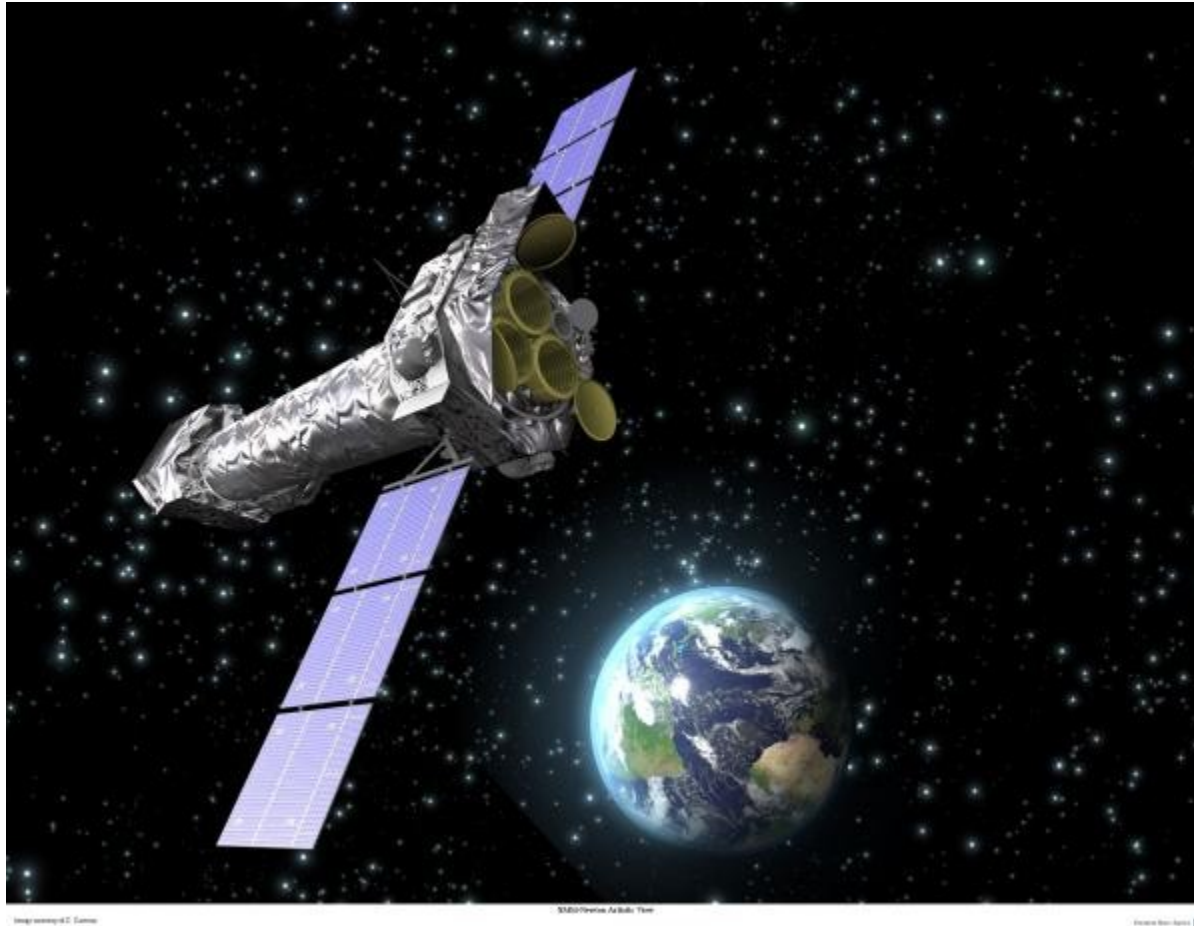
- ❖ **ESAM: 1.3 revolutions (~160 ks)**
  - 7-9 October 2008,
  - rev. 1617-1618
- ❖ **Loss of contact: 7 revolutions 1623-1629, ~ 820 ks of science**
- ❖ **One-antenna operations in November: 350 ks lost (20% of the available time in that period)**

Total ~1300 Ks lost (~6% of 1-yr time)
- ❖ **New operations strategy: as of Dec 5, 2008, rev 1647 (and test on Dec 1, rev 1645):**

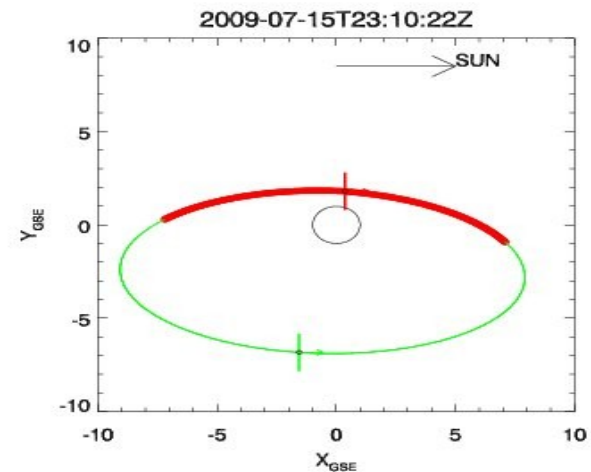
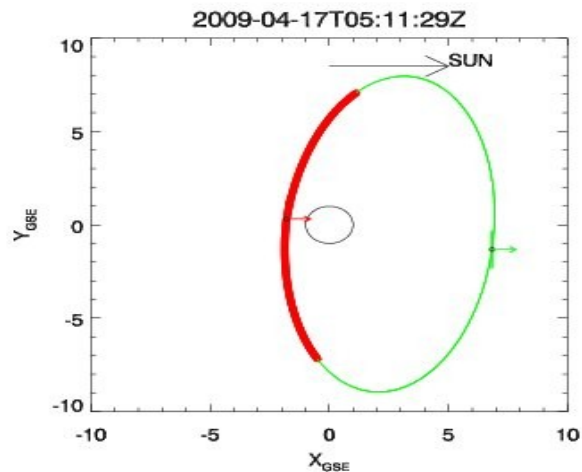
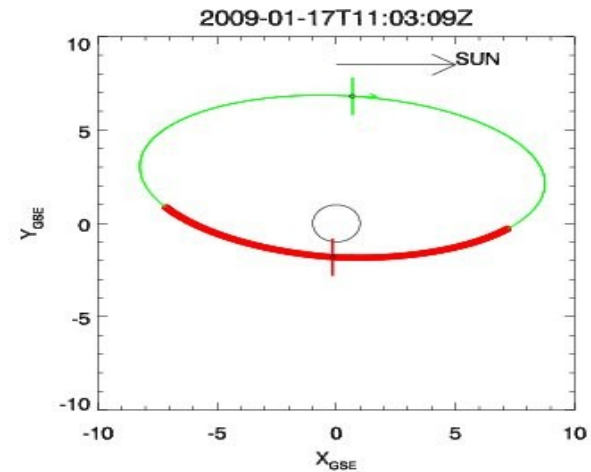
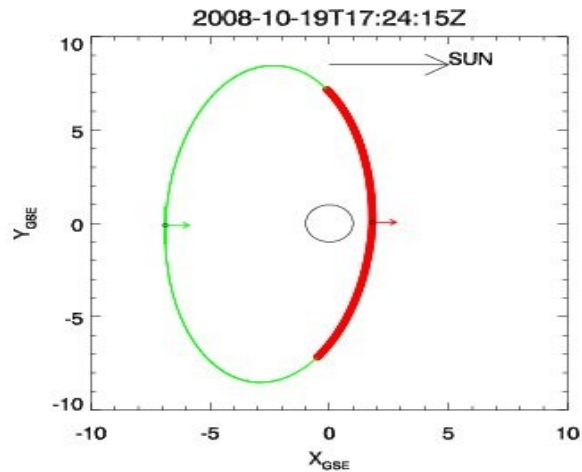
**No Impact as of Dec 5, 2008 !!!**

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# One antenna



# One antenna



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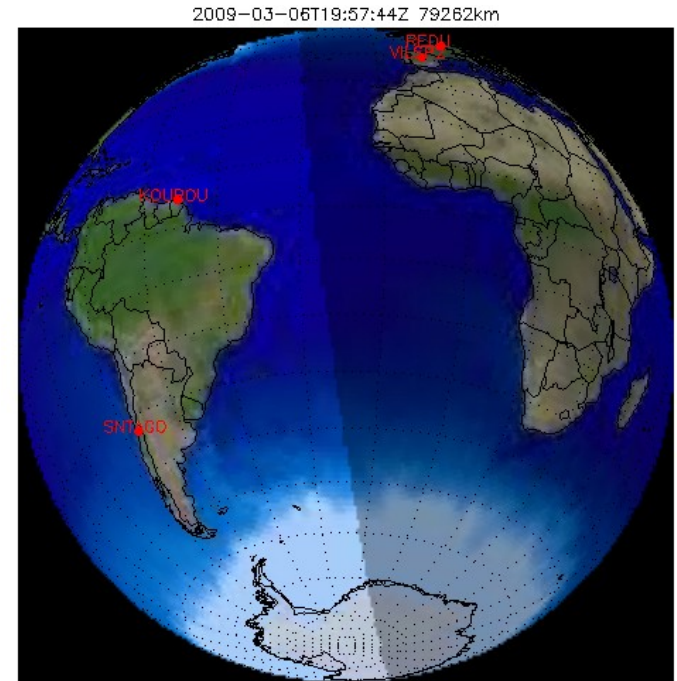
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# Two antennas

- ❖ **Change of antenna: avoid sending TC during ~ 30 m.**
- ❖ **Time for antenna swap depends on S/C pointing attitude: determined at the SOC and inserted in the planning skeleton**

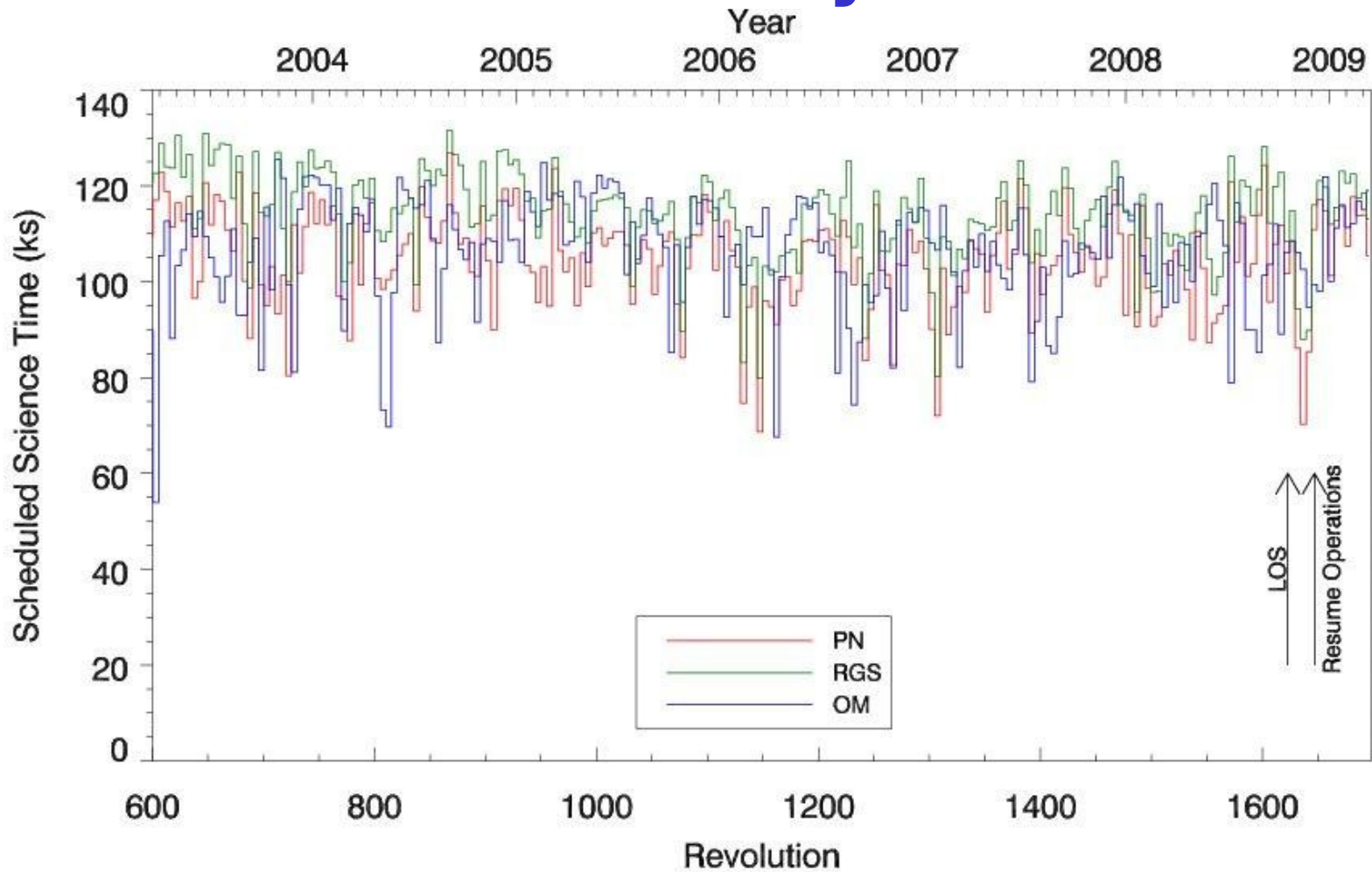
**SOC is for the first time computing S/C constraints with own tools and determining best times for an S/C operation**

**Iterations between MOC and SOC are avoided (could have made the planning a too long process !)**





# New operational strategy: efficiency



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# Users Group

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- ❖ **Next meeting: 6-7 May 2009**
- ❖ **Endorsement 2006-05-19/11: The Users Group endorses the future plans for calibration improvements. Particular emphasis on:**
  - solve high energy discrepancies between pn and MOS
  - Pursue devel. of background estimation tools
  - Devel. the off-axis PSF
- ❖ **Recommendation 2007-06-08/39: Priority for timing modes is calibration of Timing and Burst modes. After they are fixed, pn modified timing recommendation can be revised, now only on case by case basis.**
- ❖ **Endorsement 2008-05-07/04: current cal. plan is endorsed, especially the EPIC PSF:**
- ❖ **Recommendation 2008-05-07/04: the new 2D-PSF model should be described in a technical document such that model parameters stored in a CCF can be understood and interpreted outside SAS**
- ❖ **Recommendation 2007-06-08/45: Background working group to make a study of the needs for closed filter data.**
- ❖ **Recommendation 2008-05-07/05: XMM-ESAS to accept pn data, and to be made easier and simplified if possible, especially wrt fitting**
- ❖ **Recommendation 2008-05-07/06: the EPIC BGWG to continue their ongoing work**
- ❖ **Recommendation 2008-05-07/07: selection of blank sky fields based on the count rate value, i.e. level of background**



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# RGS and OM

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## ❖ RGS: meeting 5-6 March, see Andy's talk

- Calibration: effective area and wavelength: progress done
- Operations: working on a new mode for very bright X-ray sources, the Small Window (only part of the cross-dispersion direction read to allow faster readout of CCDs)

## ❖ OM: meeting 24-25 March

- No major calibration issue
- Instrument degradation predictions after 2015, since launch:
  - < 15% in optical and UVW1
  - < 25% in UVM2 and UVW2
- OM catalogue: 680,000 sources with at least one UV

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# SAS and XSA

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## ❖ Next SAS release planned for end of April

- Several EPIC-related changes
  - ESAS
  - 2D-PSF
  - Split large PN files
  - Fluxing of EPIC
  - EPIC Ic corr upgrades
  - (...)

## ❖ Next XSA for end of May

- Incremental slew catalogue
- Improvements and some bug fixing

# Next XMM-Newton Science Workshop

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❖ **Supersoft X-ray Sources – New Developments**

❖ **2009, 18-20 May, ESAC, Madrid, Spain**

[http://xmm.vilspa.esa.es/external/xmm\\_science/work](http://xmm.vilspa.esa.es/external/xmm_science/work)

❖ **Abstract submission 13 March, registration still open**

**SAS Workshop: June 29 – July 3, 2009**



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**Instrument-teams support  
continues to be essential and  
really appreciated**

**...Thanks !**



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