



CENTRO DE ASTROBIOLOGÍA
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CSIC



OMC Calibration and Operations status

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OMC status: summary



- No anomalies
- System in good health
 - CCD surviving well, though with some ageing effects
 - Sensitivity stable
- New Flat Field calibration strategy allows to improve the photometric calibration.

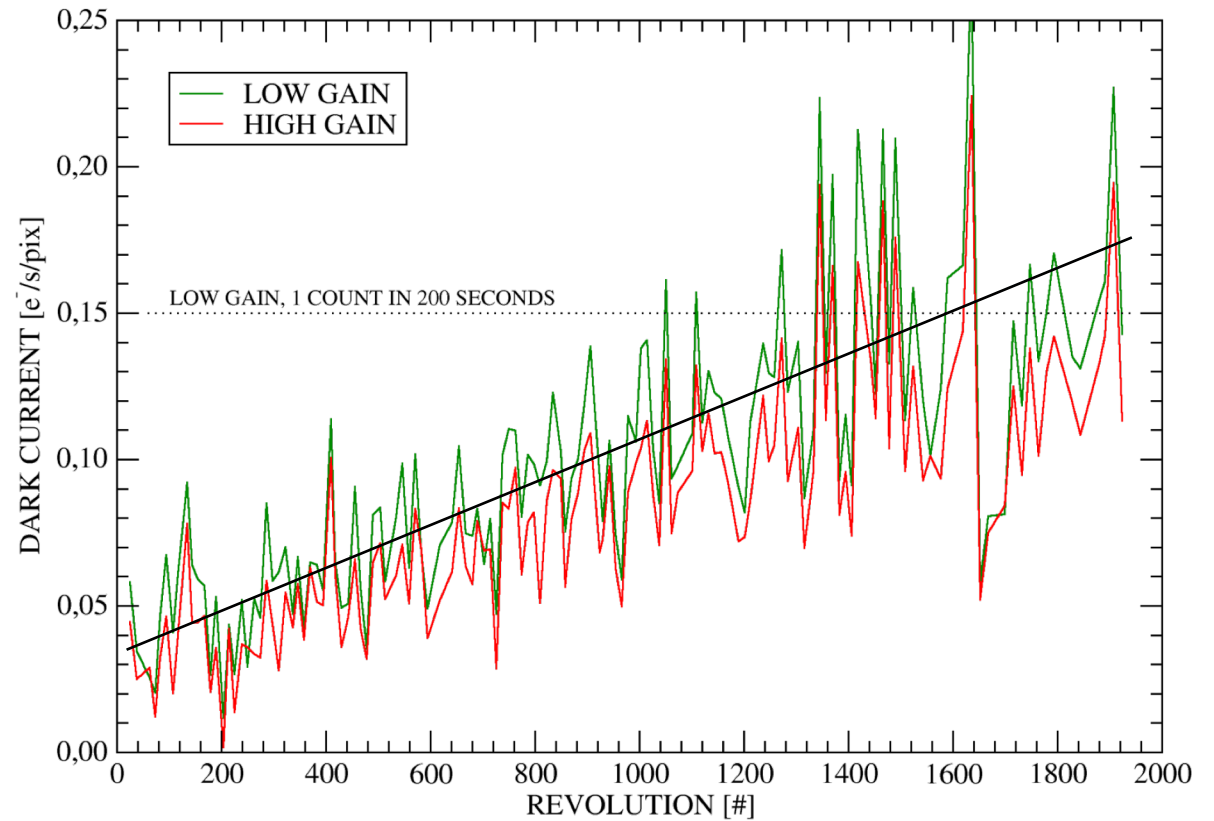


CCD status



- The dark current increases slowly, no correction yet needed
 - But correction procedure already in place.
- No temperature correction done on the plot.

DARK CURRENT



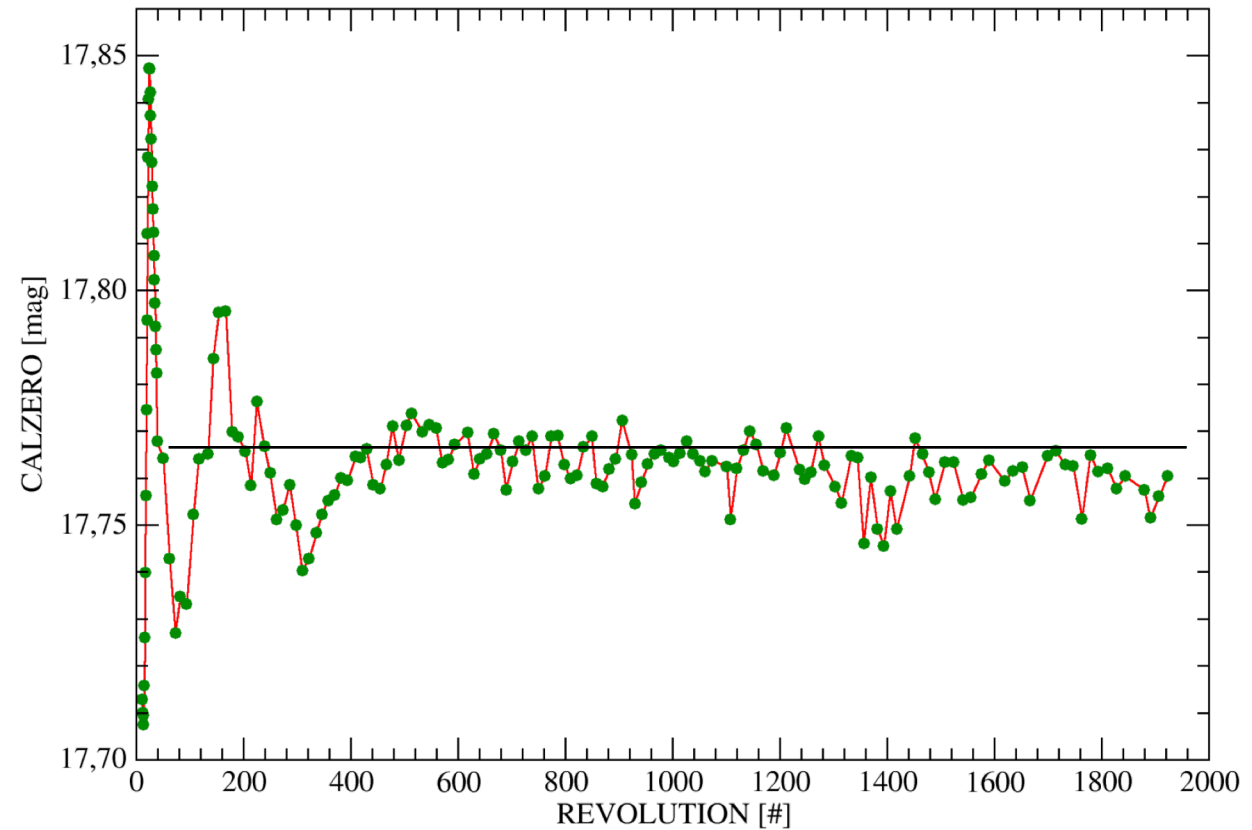


OMC photometric calibration



CALIBRATION ZERO POINT

- The zero point of the calibration (a measure of the overall sensitivity) is very stable, but with a small trend to decrease.
 - The darkening of the lenses is still not significant, but may be increasing very slowly





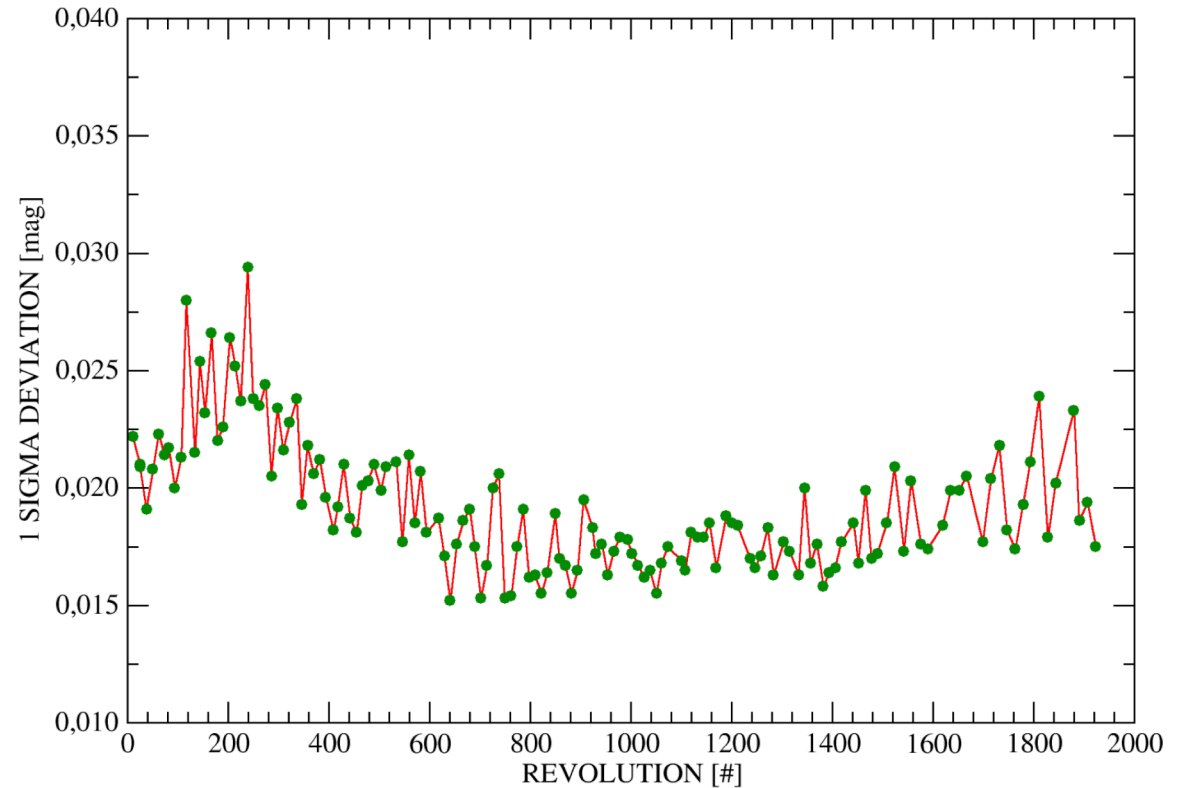
OMC photometric calibration



- The accuracy of the calibration remains stable, with a slow trend to worsen
 - It is improving with the new calibration strategy.

PHOTOMETRIC STARS STANDARD DEVIATION

APERTURE 3x3 PIXELS

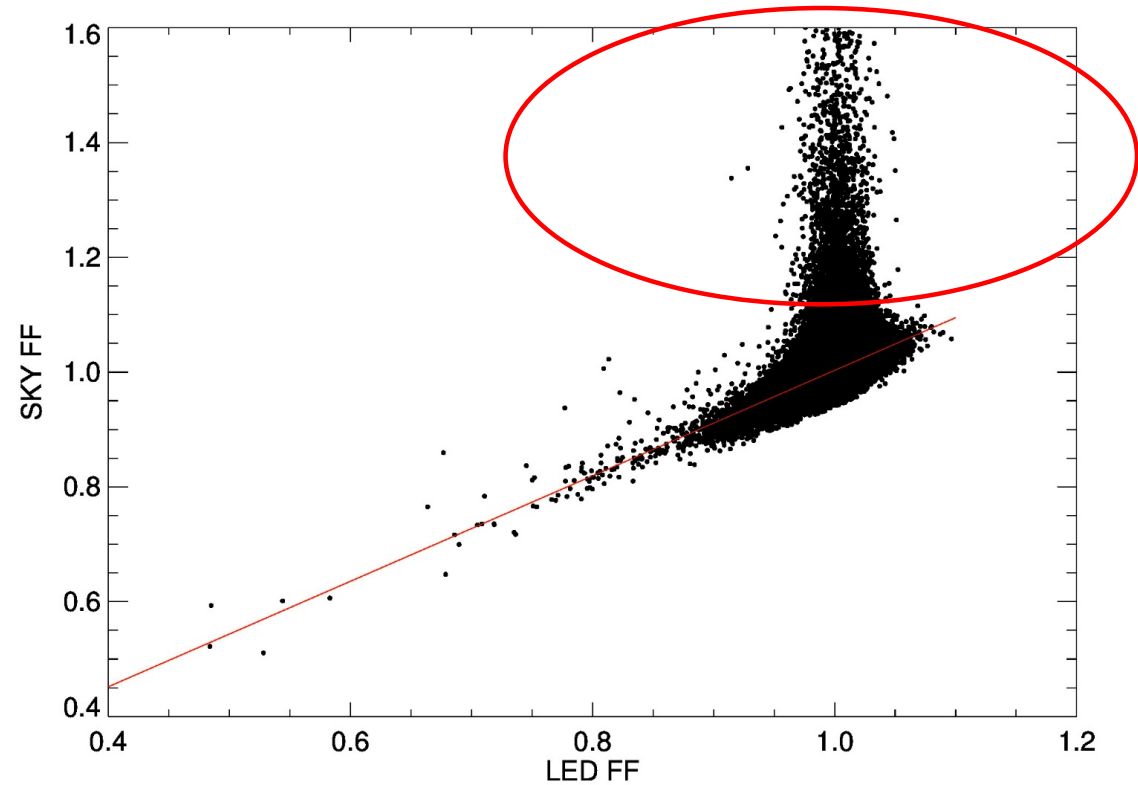




OMC photometric calibration



- A new strategy allows to recover the number of hot pixels (increased dark current).
 - Number rather large (around 4.000 pixels).
 - Still a small fraction (0.4%).
 - Partially usable.





Summary



- Optics + CCD + thermal control hardware performing excellently after 16 years of operation.
 - No CCD columns lost
 - CCD temperature range within predictions (-85 C to -70 C)
 - Optics still clear
 - Effect of radiation still moderate



Some scientific results



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Optical/X-ray correlations during the V404 Cyg June 2015 outburst

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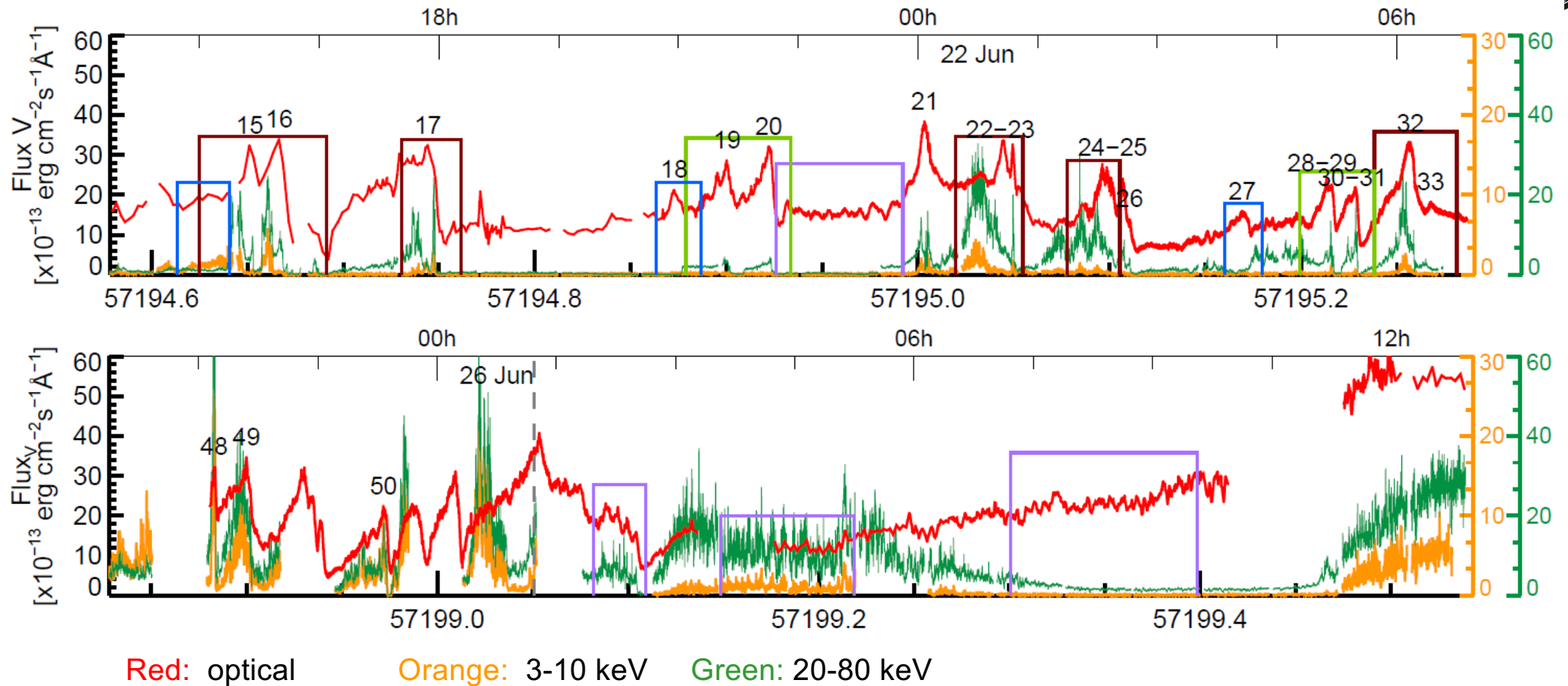
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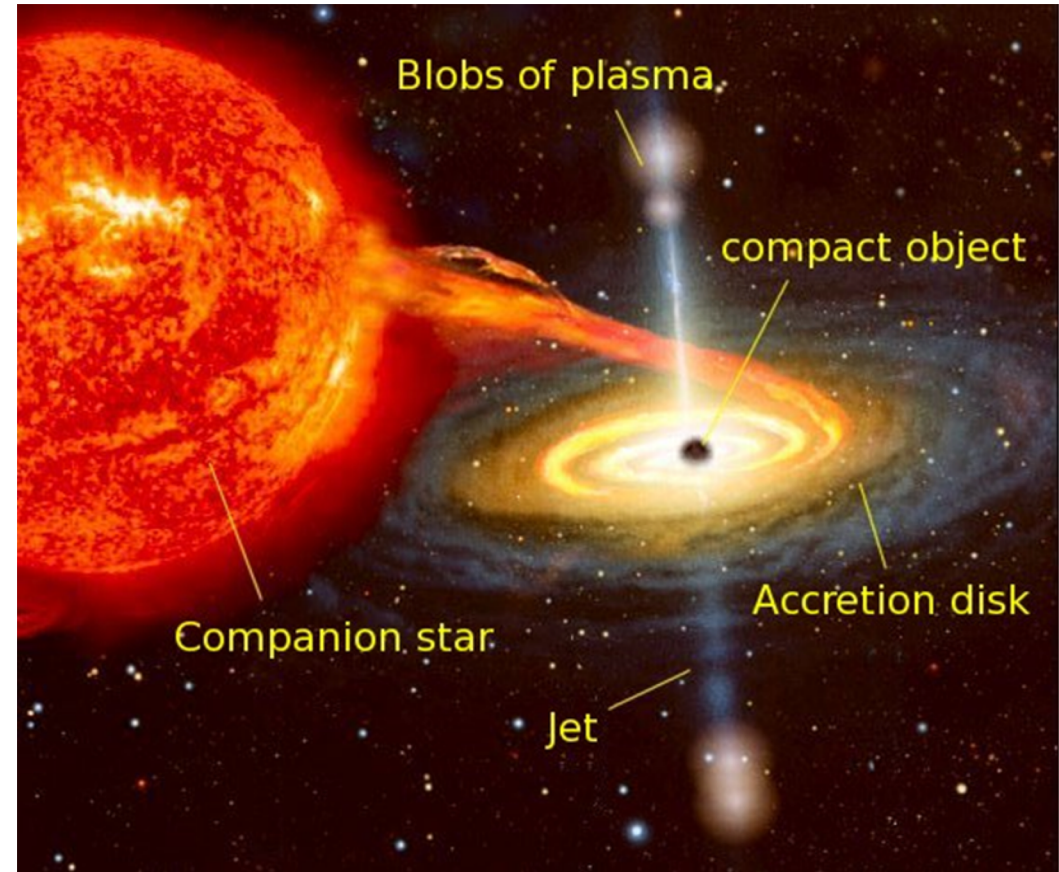
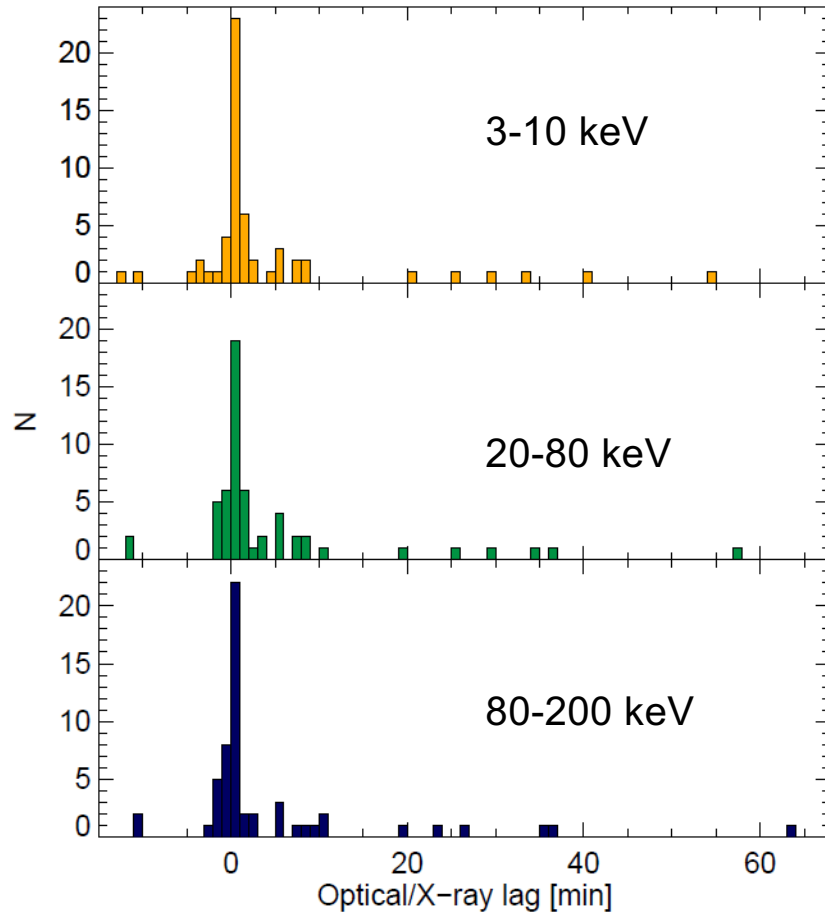


Some results: taking out the most of OMC





Some results





OMC operations: future support



- OMC operations continue to be funded by the Spanish agency.
- The compromise is to fund at least up to $T_{\text{end}} + \sim 2$ years, to guarantee the final processing and archival of data.