LYRA status update

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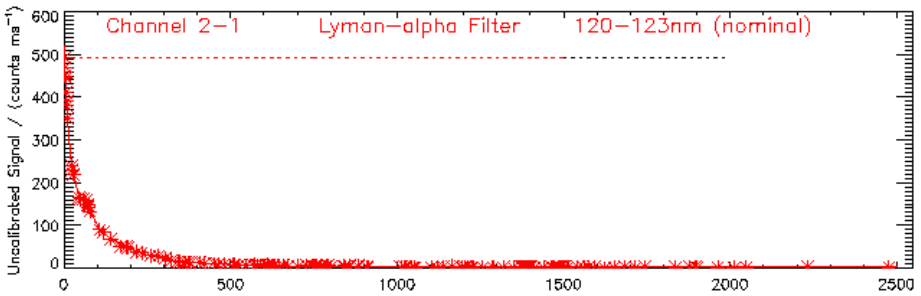
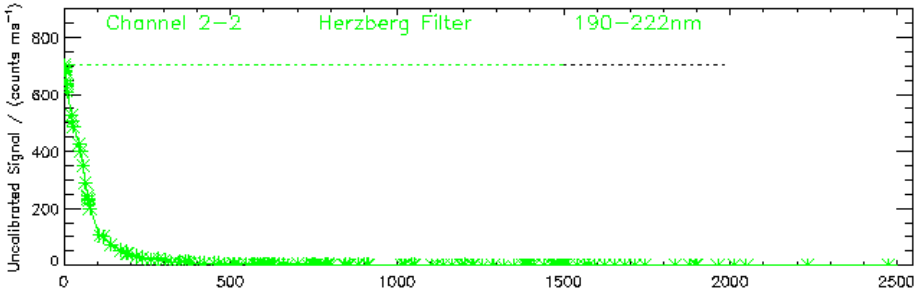
L. Wauters

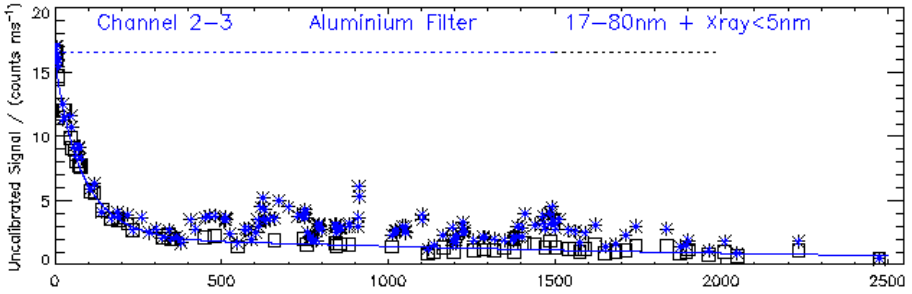
SWT, ESWW13, 16/11/2016

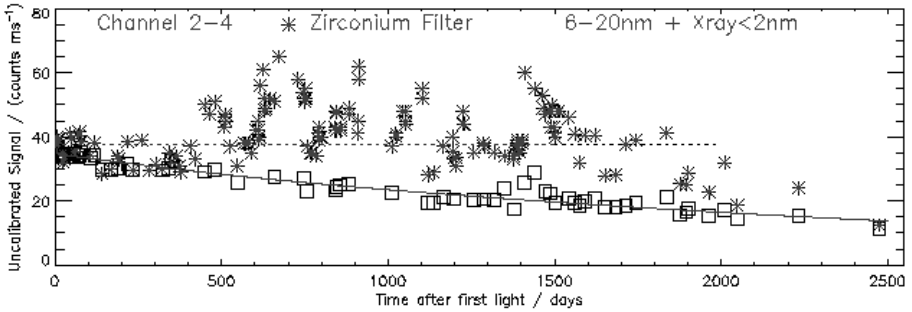
Instrument health

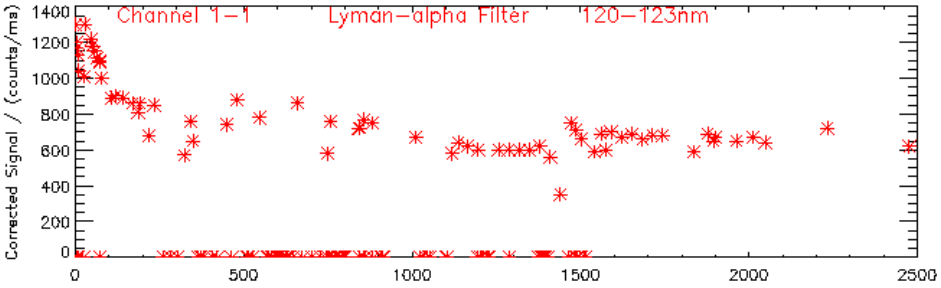


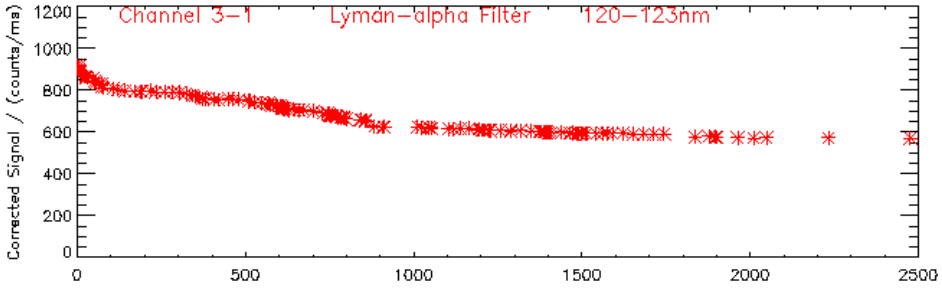


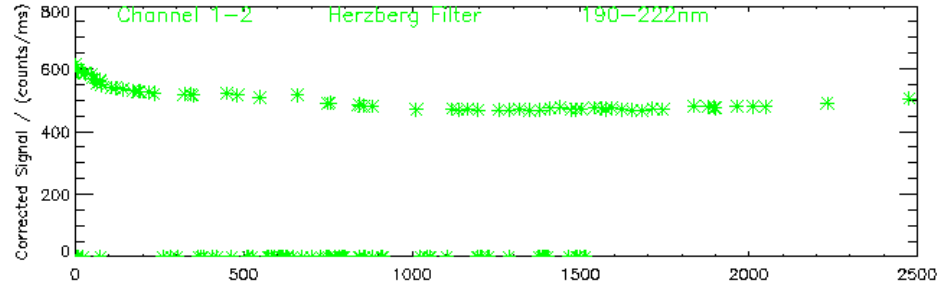
- Degradation by UV-polymerization of carbon molecules
- Dirt film on filter surface
- Worst between 20 nm and 500nm
- SXR and IR less effected

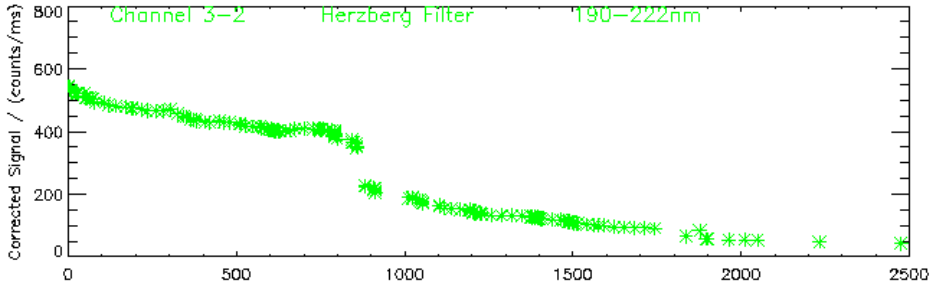


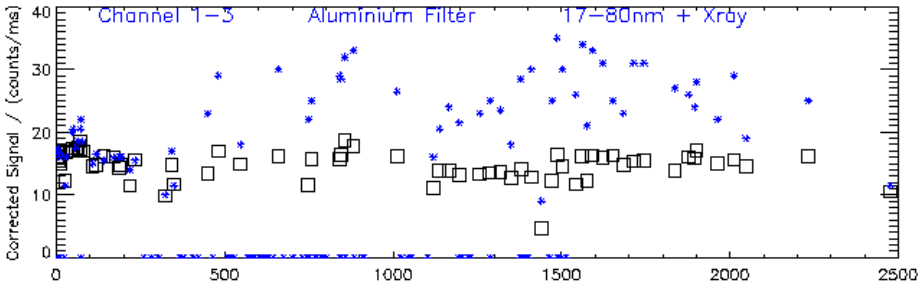


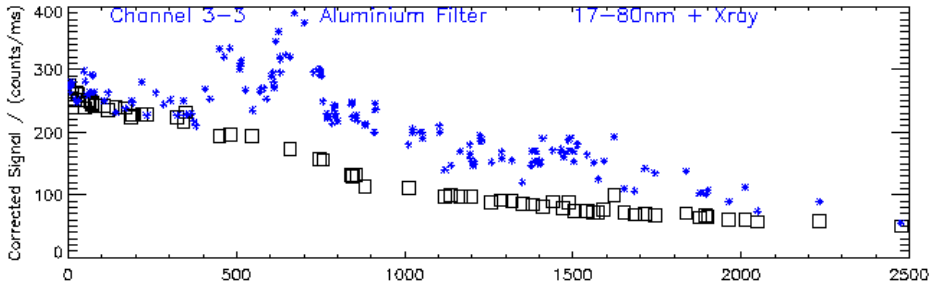


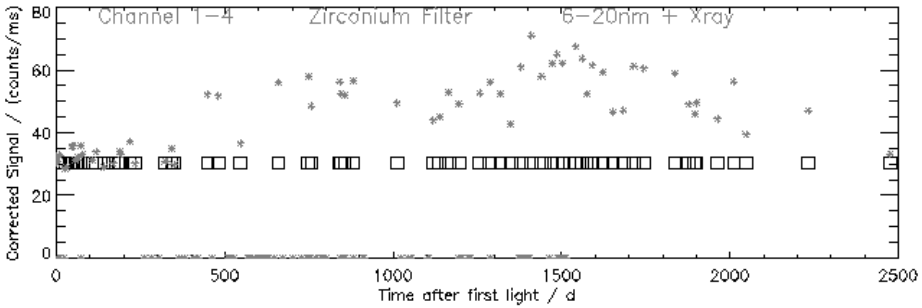


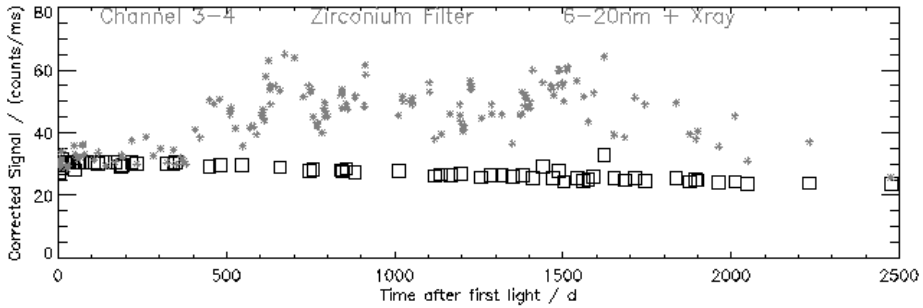












Remarks: ch *-3 and *-4 scaled by 1-4 (non degraded), saturation problem MSM, open door problem unit 3, IR problem ch 3-1

Degradation

- Status on February 15, 2016

Channel	Remaining signal
Unit 1	
Channel 1-1	62%
Channel 1-2	75%
Channel 1-3	100%
Channel 1-4	100%

Channel	Remaining signal
Unit 2	
Channel 2-1	0.6%
Channel 2-2	0.03%
Channel 2-3	3%
Channel 2-4	30%

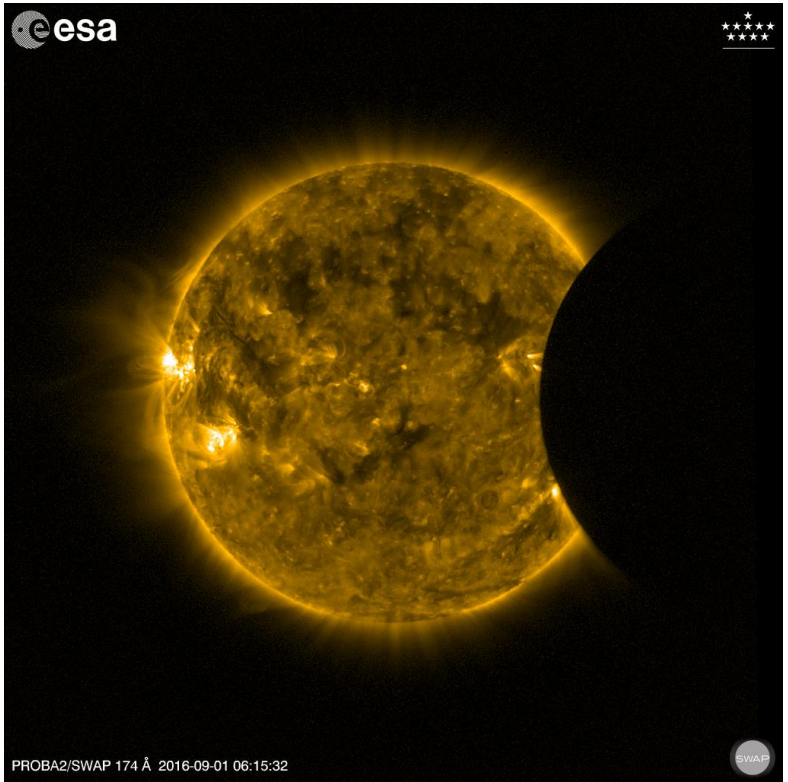
Channel	Remaining signal
Unit 3	
Channel 3-1	61%
Channel 3-2	9%
Channel 3-3	19%
Channel 3-4	71%

=> Slow evolution

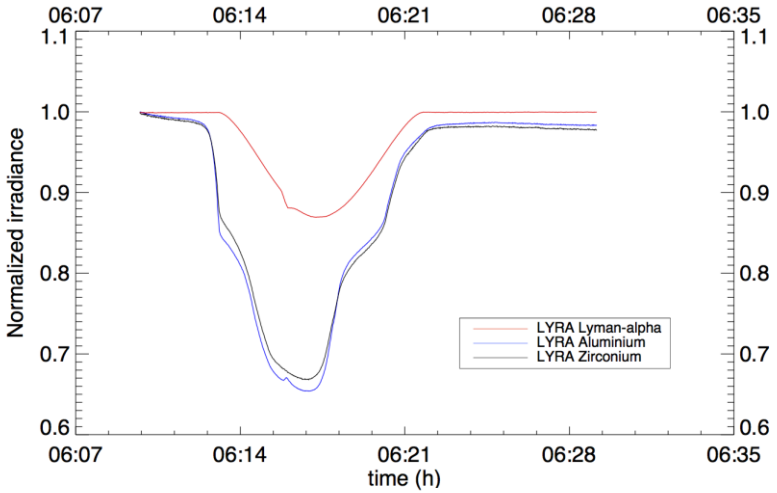
Latest results

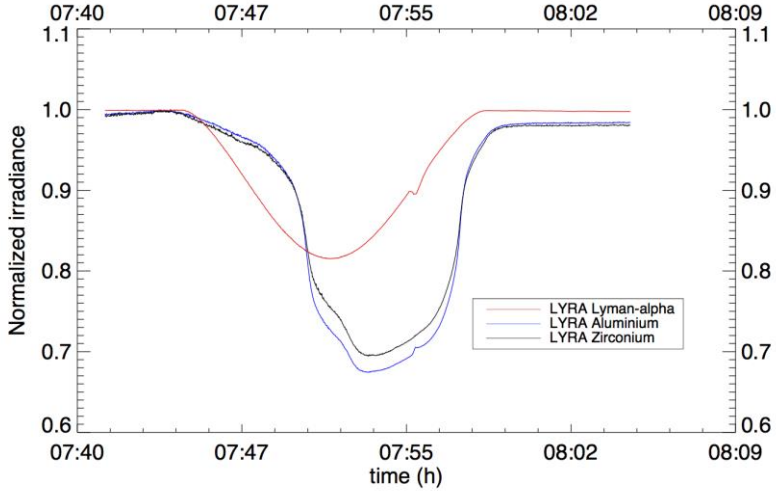
Eclipse observation

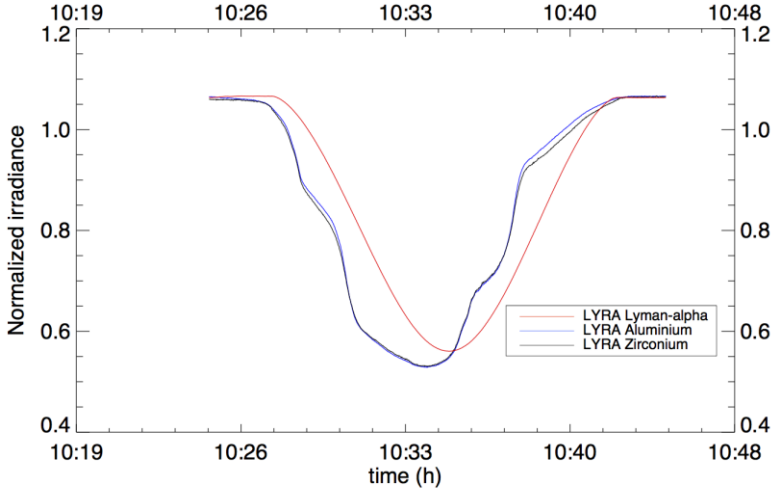
- EUV curves more irregular than UV curve(s)
- Importance of active regions in EUV
- Lyman-alpha channel more uniform, Sun more homogeneous
- No Herzberg signal due to problems during eclipse



Eclipse: 2016/09/01



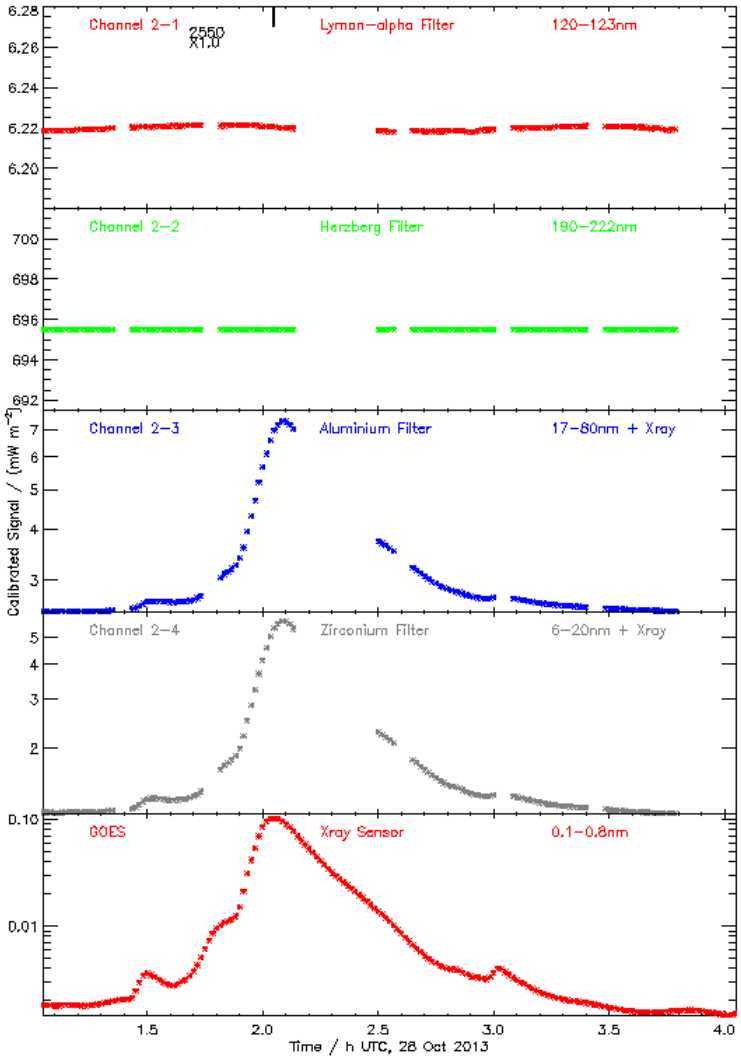




Observations with LYRA unit3

QPP observations

- Recent paper on quasi-periodic pulsations, using LYRA data
- Compares QPP in several wavelength ranges
- Impulsive and decaying part of X1 flare, 28 Oct 2013
- Publication was result of guest investigator visit



Quasi-Periodic Pulsations

- Hayes et al., ApJL, 2016 (Guest Investigator)

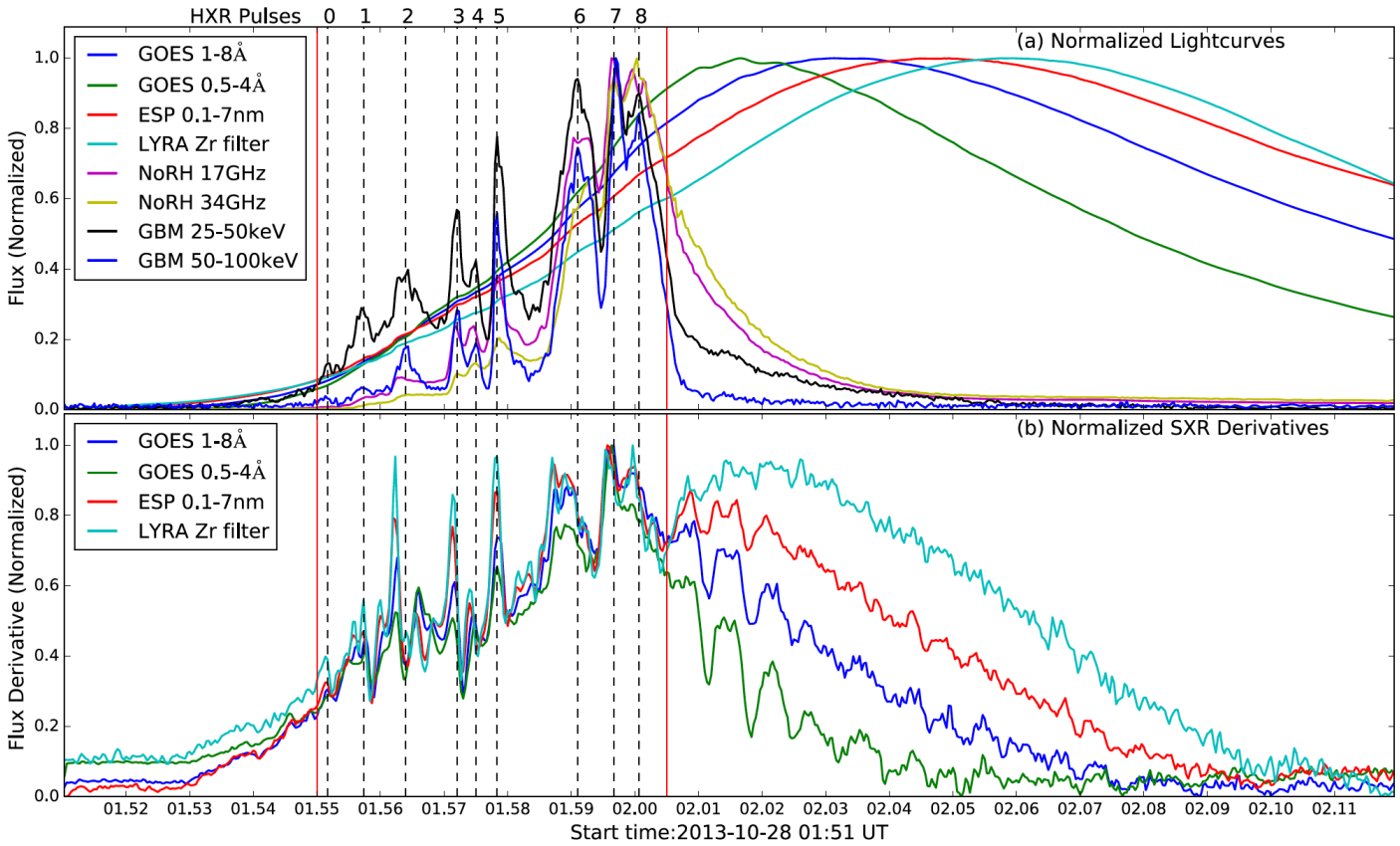
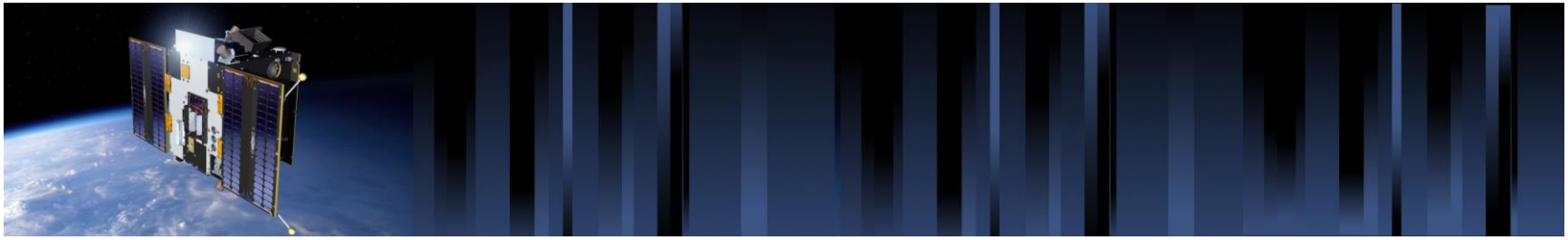


Figure 1. (a) Normalized light curves from different instruments for the flare of 2013 October 28. Detector Na I 6 was used for GBM. (b) Derivatives of the soft X-ray channels. The vertical red lines show the start and end of the impulsive phase, and the dashed lines show the timing of the HXR pulses.

Latest news

In brief …

- Mission extension on-going: extension for 2017-2018 should be granted, two more years are being requested.



ORB – KSB

wrc pmod

esa

CSL

THANKS!

LASP

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LPC2E

belspo

MPS

Max-Planck-Institut für Sonnensystemforschung