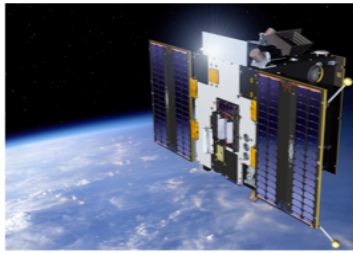


Flare tracking campaigns with LYRA

ESWW 8

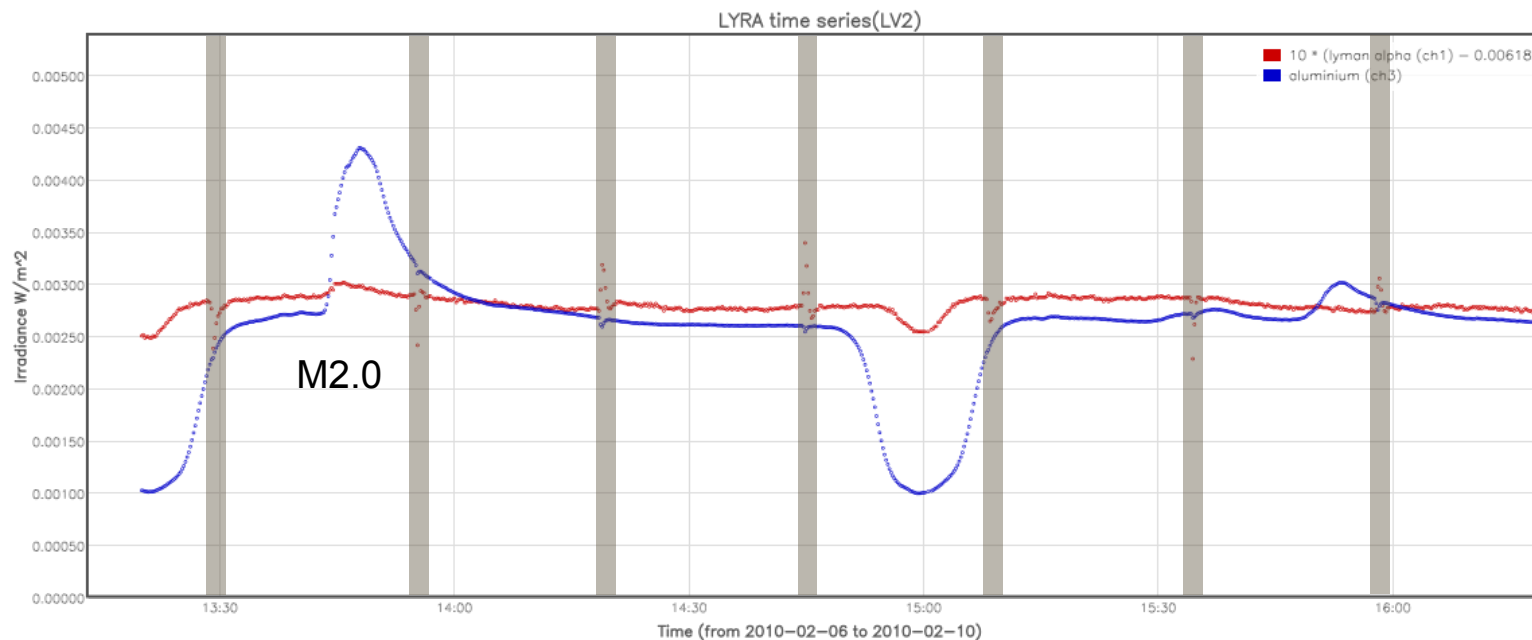
M. Dominique + LYRA team

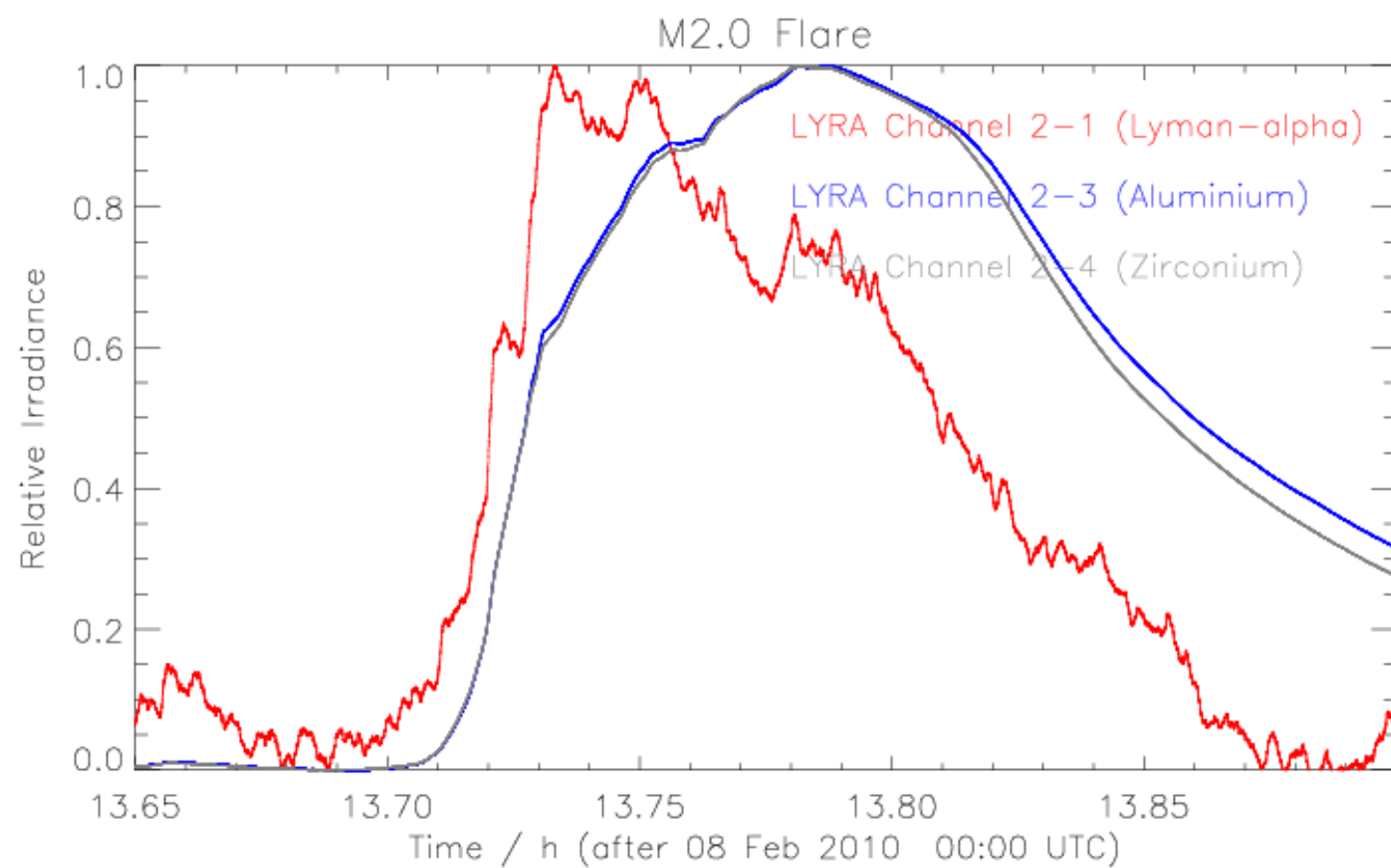
November 2011, Namur

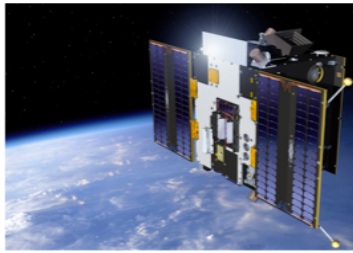


Flares with a contribution in lyman alpha

- ❑ Observed only in the early life of the instrument, before the degradation of the nominal lyman alpha channel was too strong
 - from 2010/02/06 to 2010/02/09, at least 6 cases
 - one case on 2010/02/12
- ❑ Only for fast, very impulsive flares







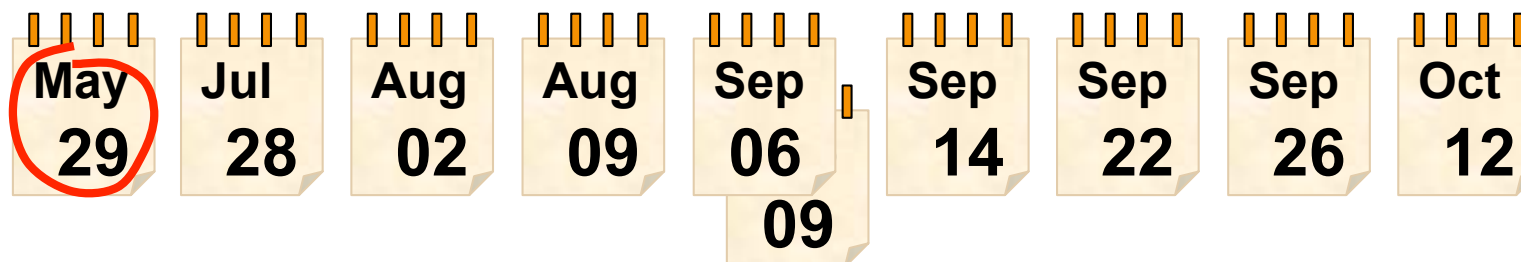
Operation: occasional campaigns

☐ Scientific campaigns

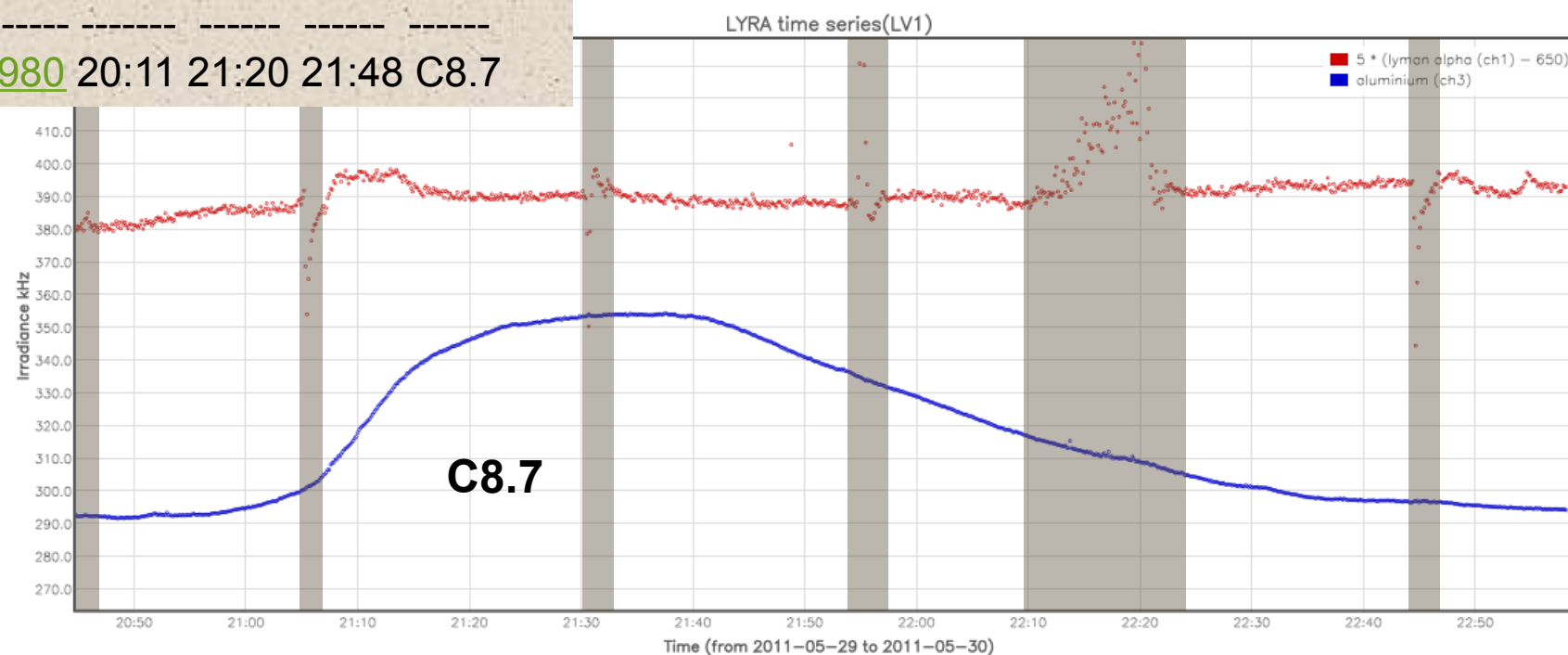
- ☐ Observation of flares: unit 2 and 3, since May 2011
- ☐ Occultations (in season, daily for unit 3, weekly for unit 1)

☐ **Data available as level 1 (uncalibrated) products only : “.bst” files**

☐ Background observations in the same season, but did not prove to be efficient so far

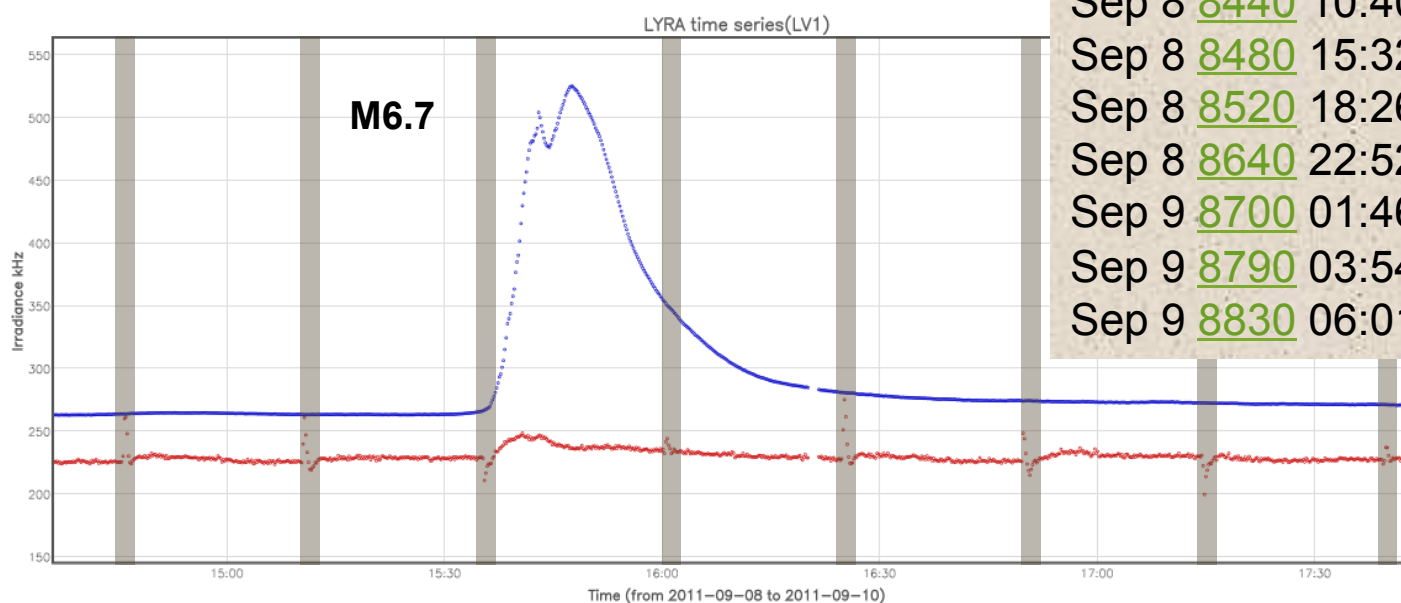
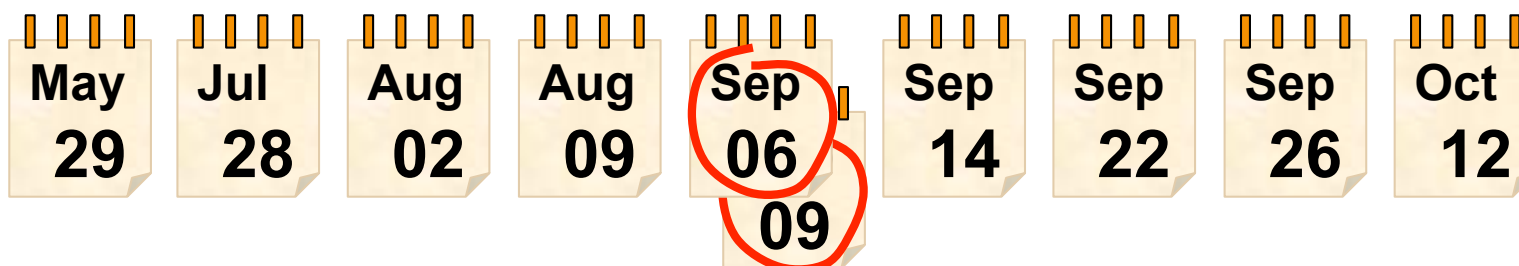


event	begin	max	end	class
2980	20:11	21:20	21:48	C8.7



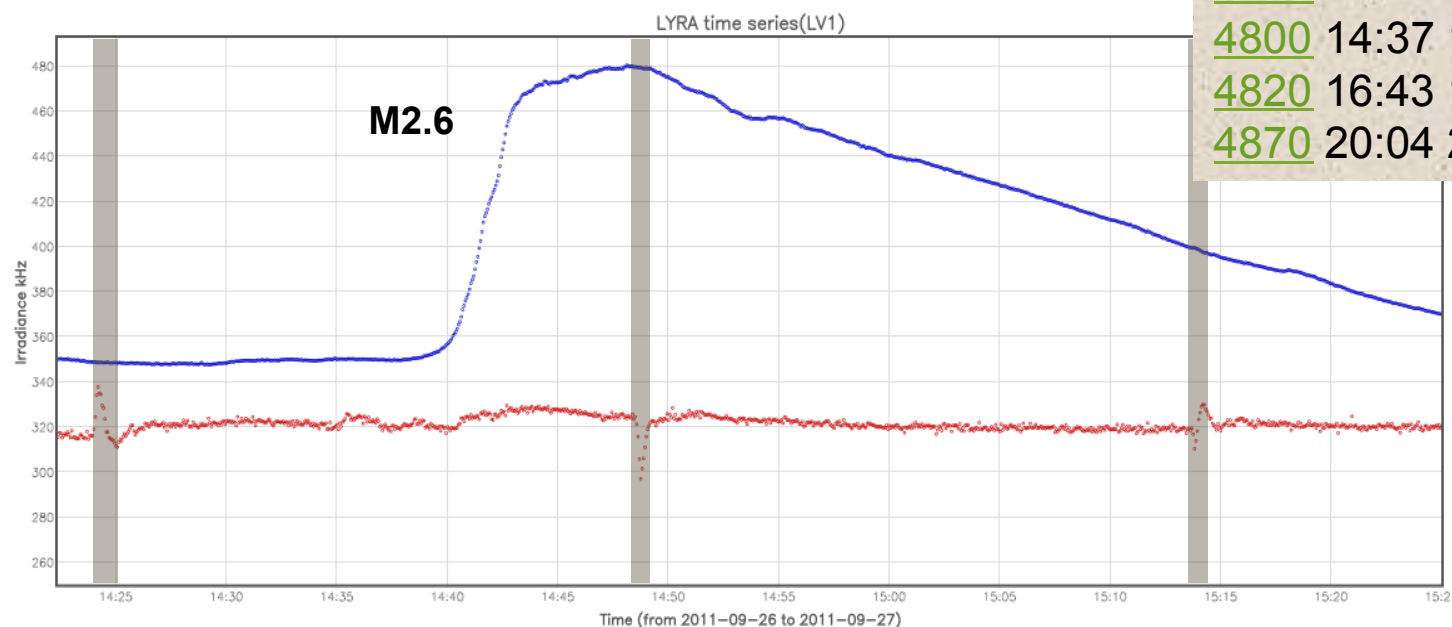
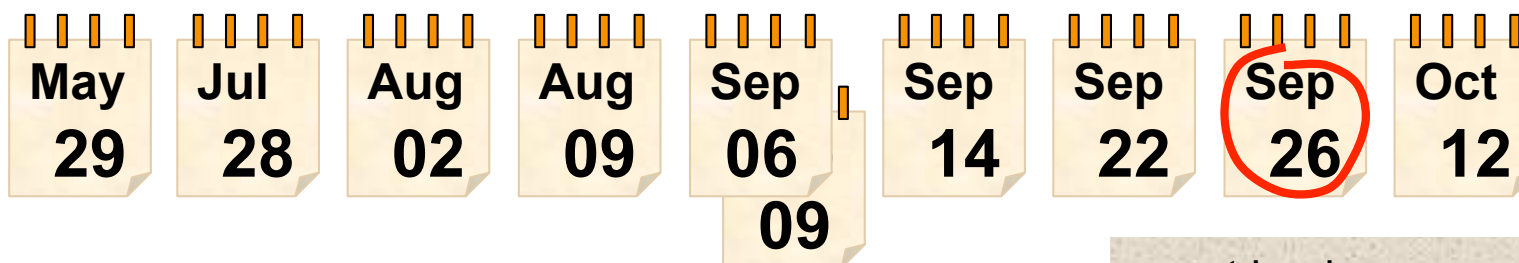


Flare campaigns



date	event begin	max	end	class
Sep 7	8250	14:45	14:48	14:51 B7.9
Sep 8	8440	10:40	10:50	10:57 C1.7
Sep 8	8480	15:32	15:46	15:52 M6.7
Sep 8	8520	18:26	18:46	18:56 C2.5
Sep 8	8640	22:52	22:58	23:21 C1.1
Sep 9	8700	01:46	02:03	02:12 C1.2
Sep 9	8790	03:54	04:14	04:19 B7.1
Sep 9	8830	06:01	06:11	06:17 M2.7

Flare campaigns



event	begin	max	end	class
4790	13:26	13:40	13:57	C5.1
4800	14:37	14:46	15:02	M2.6
4820	16:43	16:55	17:06	C4.8
4870	20:04	20:07	20:09	C1.8



- ☐ When to schedule the campaign?
 - ☐ After one big flare
 - ☐ After two big flares
 - ☐ Based on probabilities
 - ☐ Max Millenium
 - ☐ <http://www.swpc.noaa.gov/forecast.html>
 - ☐ Spaceweather.inf.brad.ac.uk/monitor.html
 - ☐ other?
- ☐ How long to keep unit 3 open?
 - ☐ currently 24h, with degradation as the price to pay



- ☐ Could we use the degraded unit to find other Lyman alpha flares?
- ☐ By summing up many flares of similar intensities ?

cfr

nature
physics

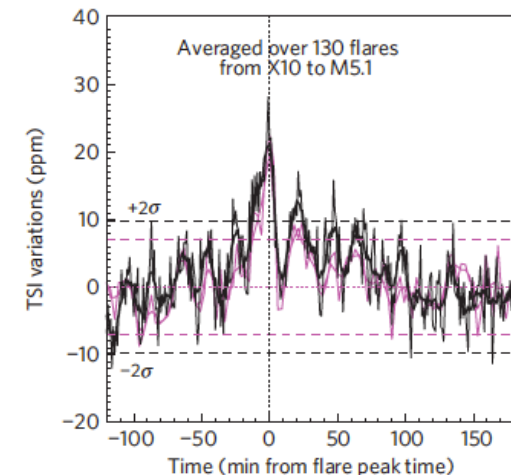
LETTERS

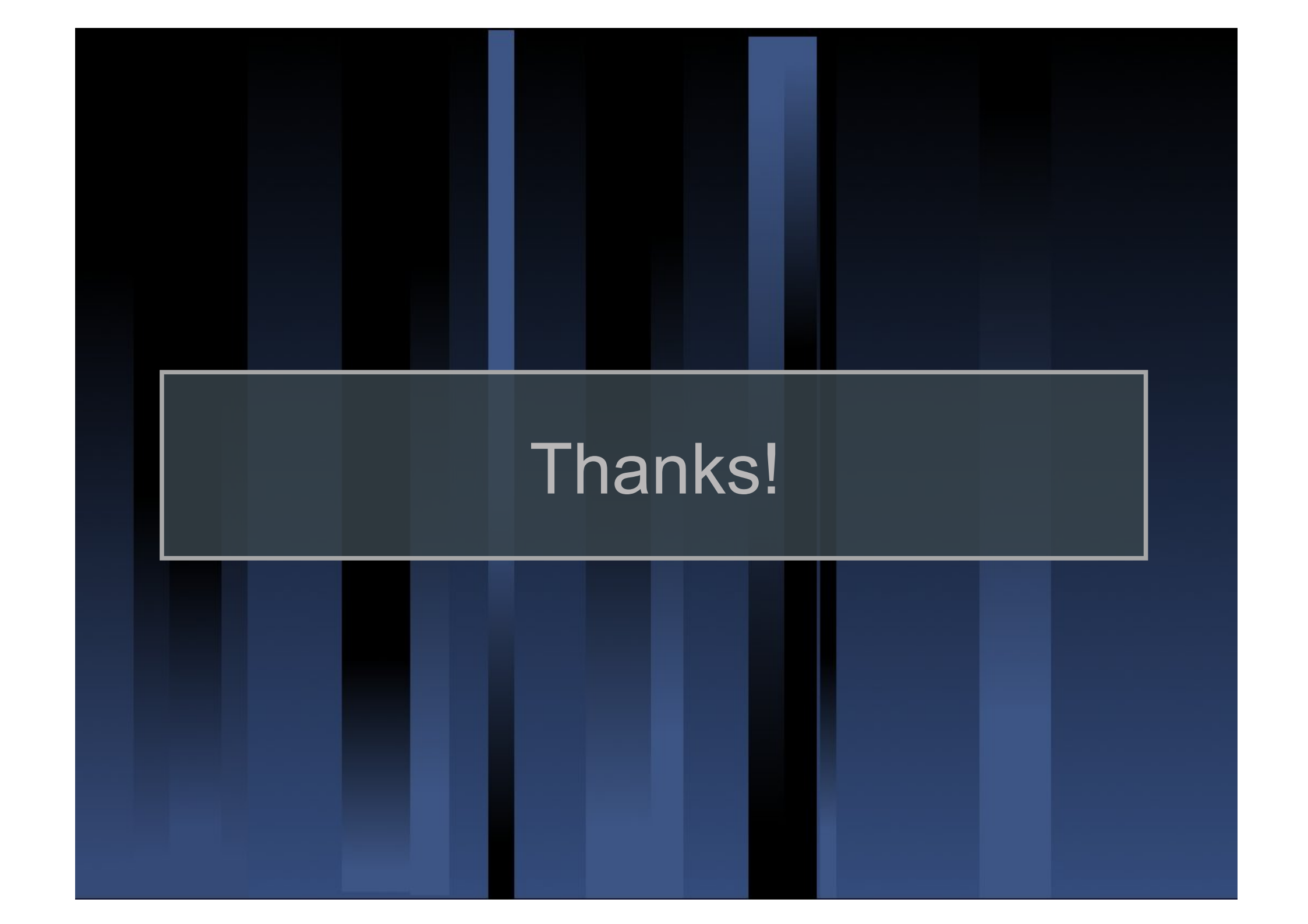
PUBLISHED ONLINE: 15 AUGUST 2010 | DOI: 10.1038/NPHYS1741

The effect of flares on total solar irradiance

Matthieu Kretzschmar^{1*}, Thierry Dudok de Wit¹, Werner Schmutz², Sabri Mekaoui³, Jean-François Hochedez⁴ and Steven Dewitte³

- ☐ Any other way?

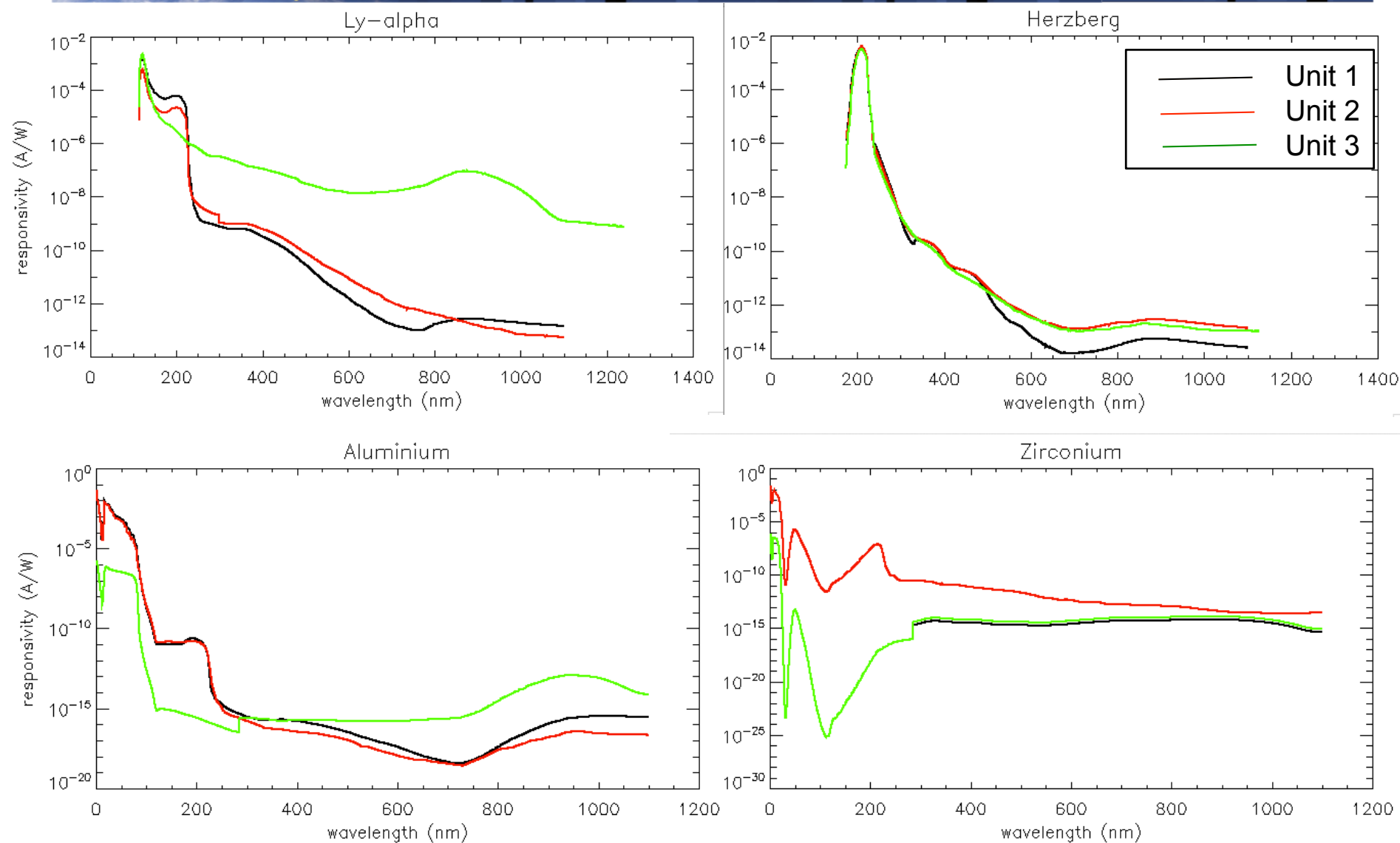


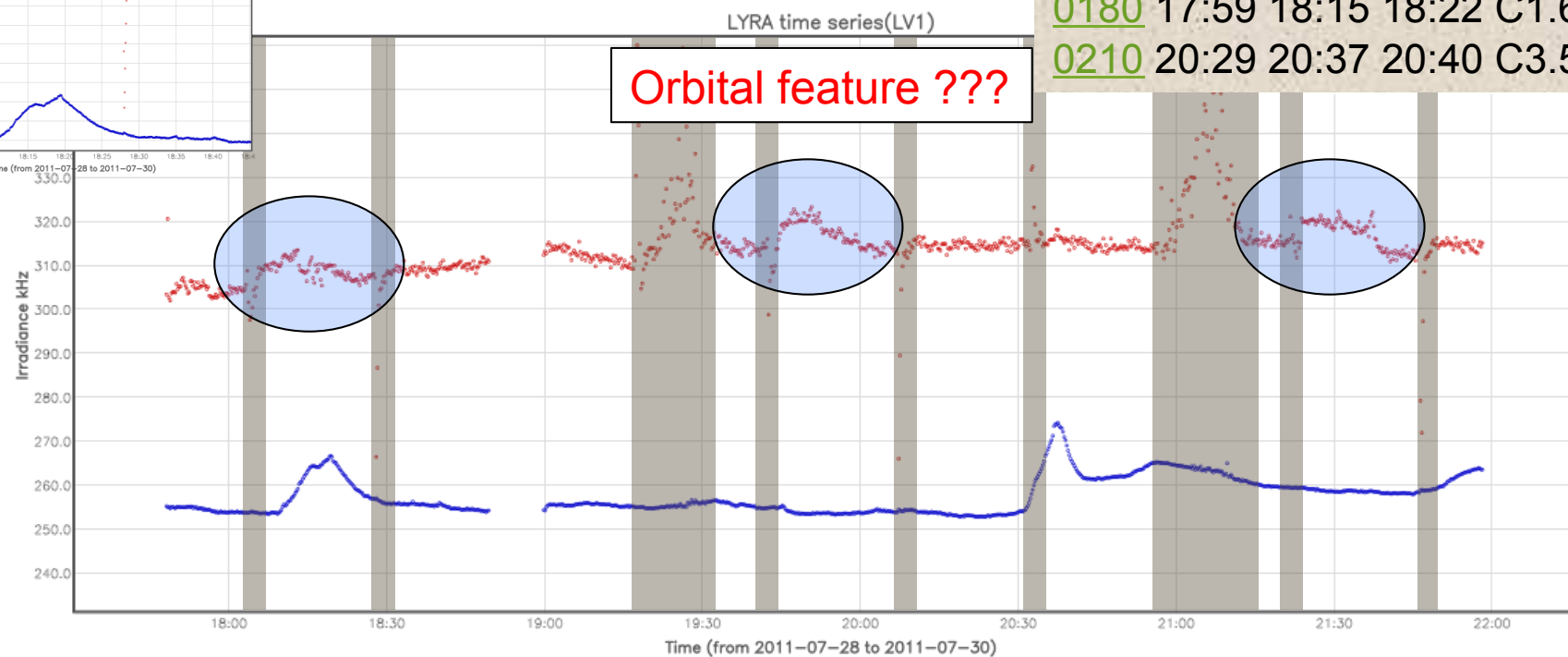
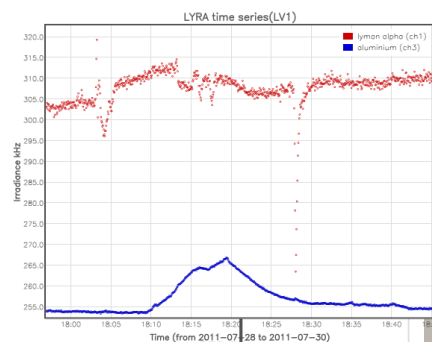
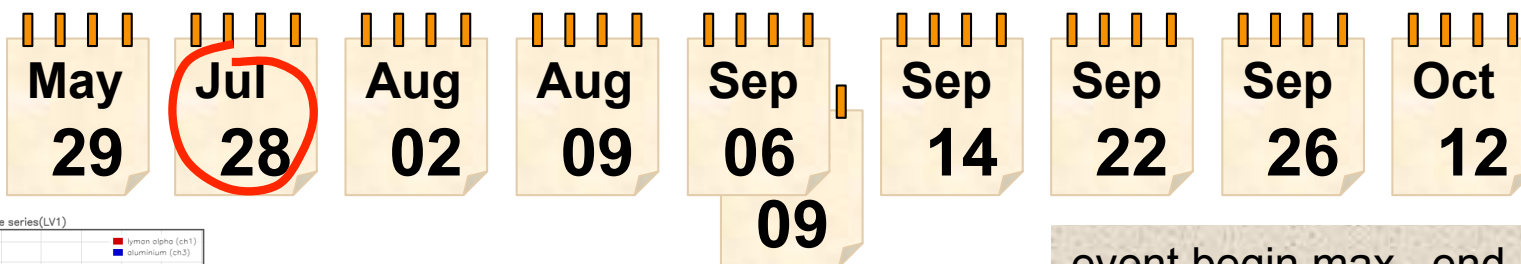


Thanks!



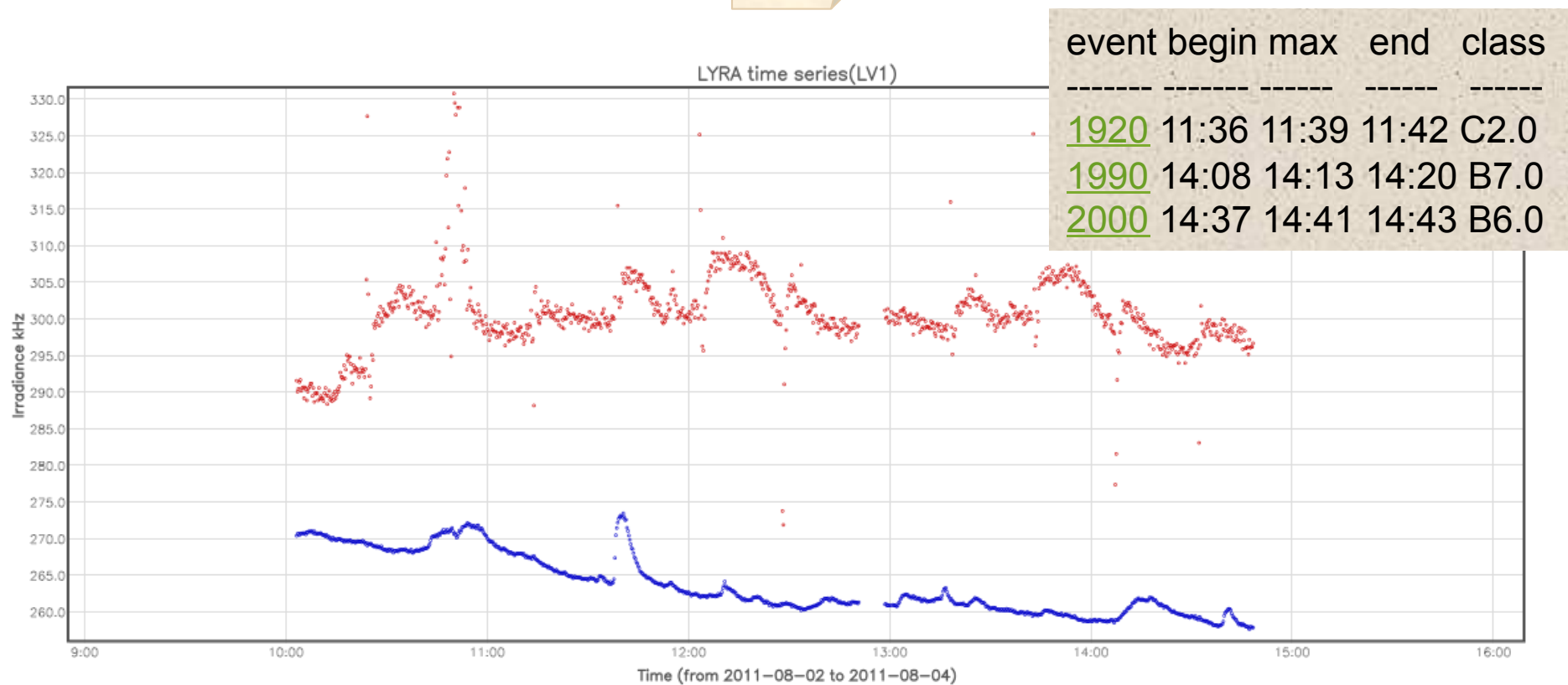
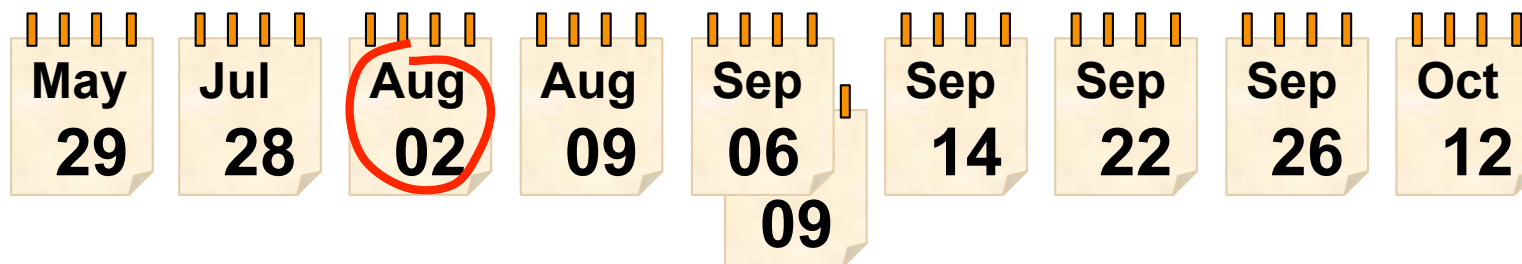
Filter + detector responsivity

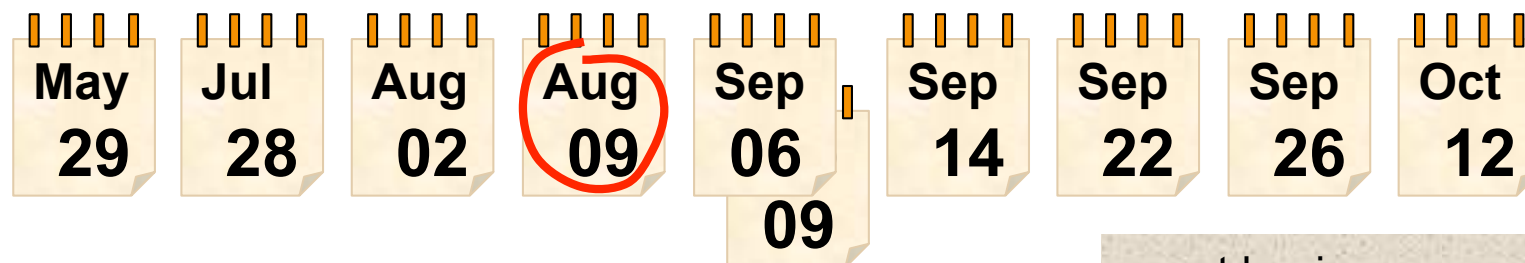




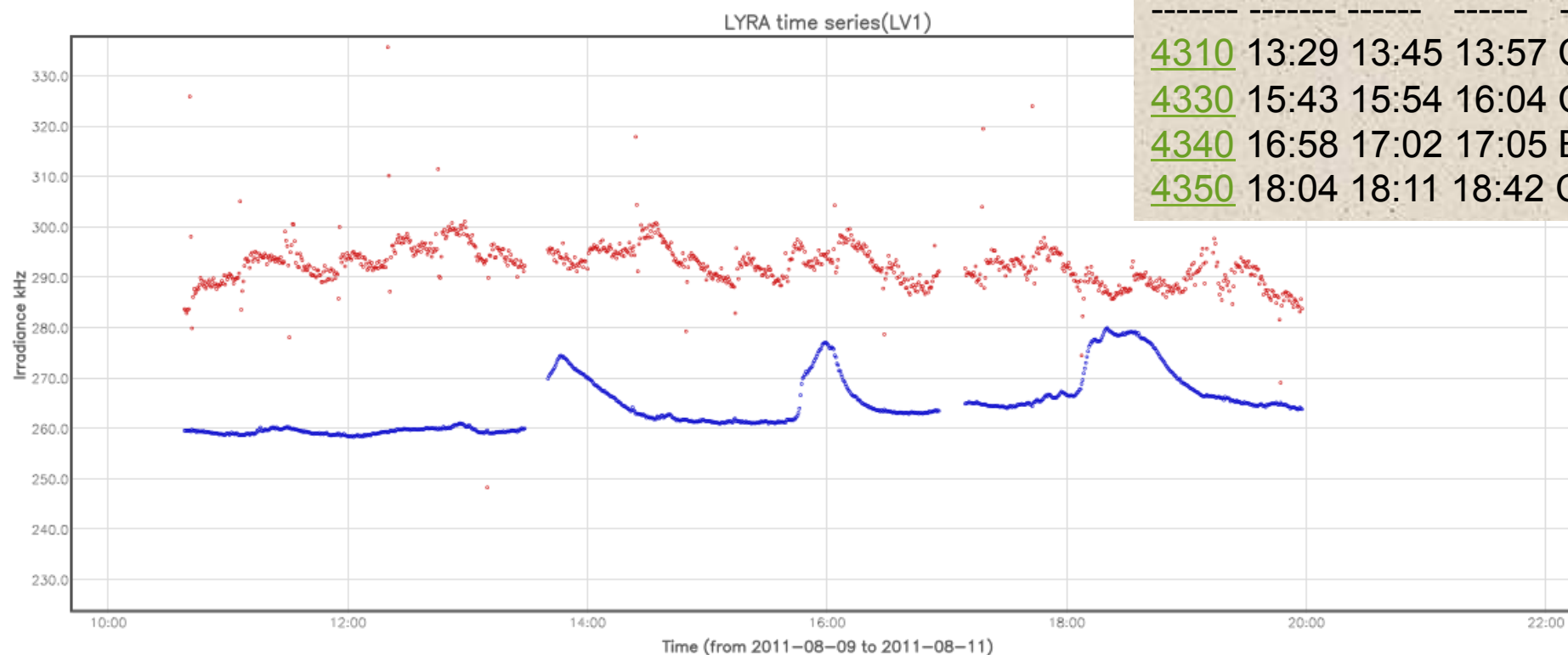


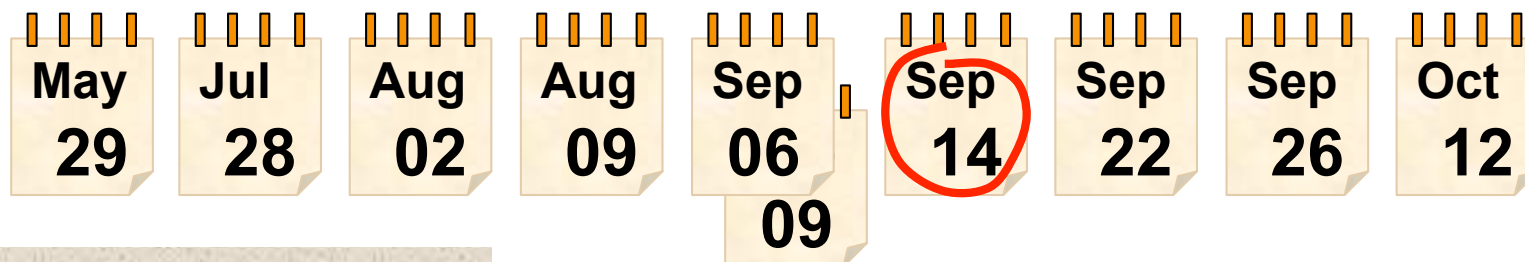
Flare campaigns





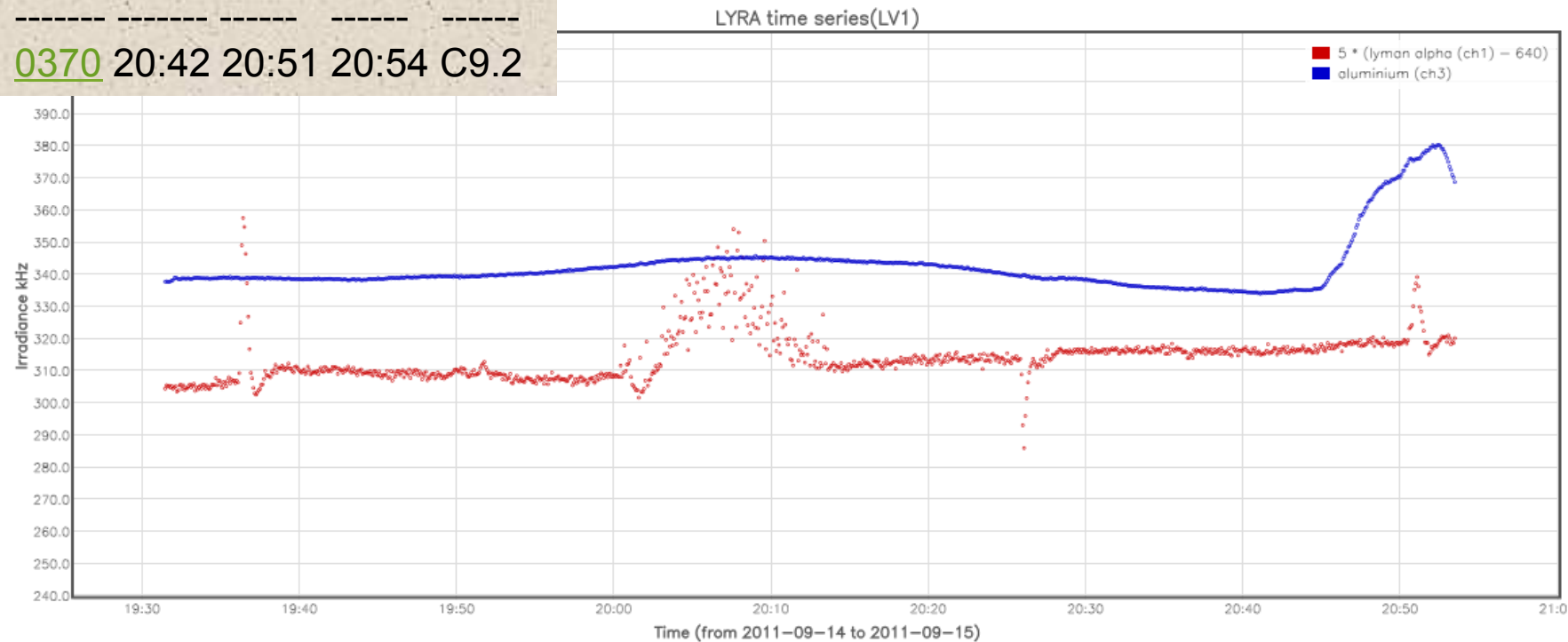
event	begin	max	end	class
4310	13:29	13:45	13:57	C2.2
4330	15:43	15:54	16:04	C2.4
4340	16:58	17:02	17:05	B8.6
4350	18:04	18:11	18:42	C2.0





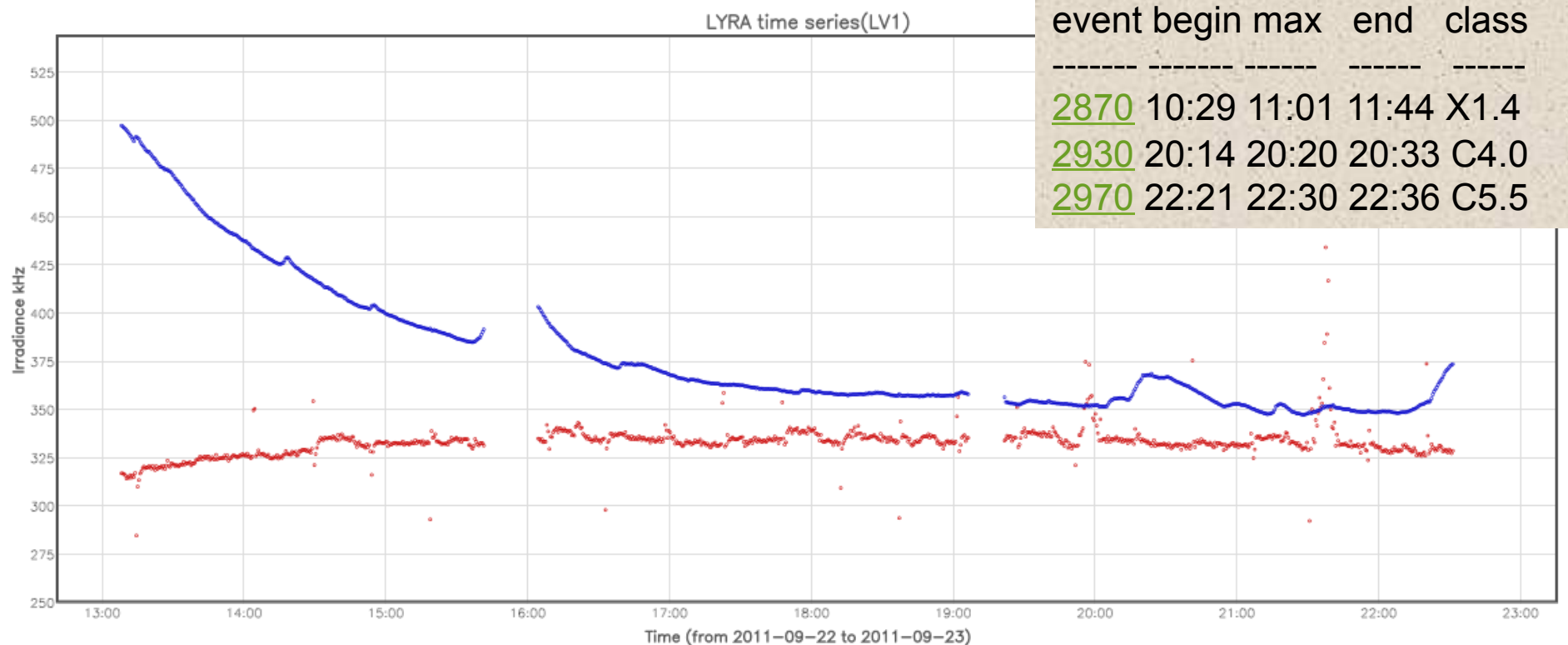
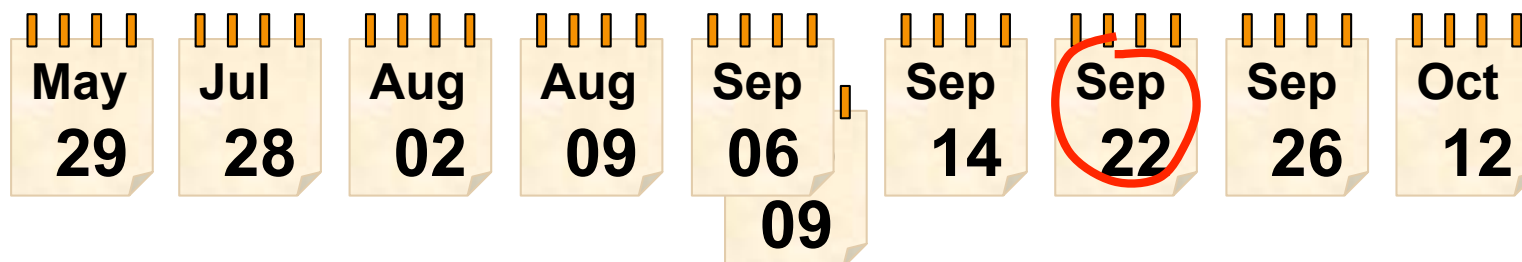
event begin max end class

0370 20:42 20:51 20:54 C9.2





Flare campaigns





Flare campaigns

