

EUI report

Sept 18 - Apr 12 = STP 276 - 306

D. Berghmans for the EUI consortium

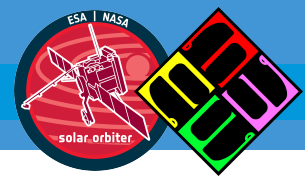
SWT 2024 Apr 12

Contact: david.Berghmans@sidc.be (PI)



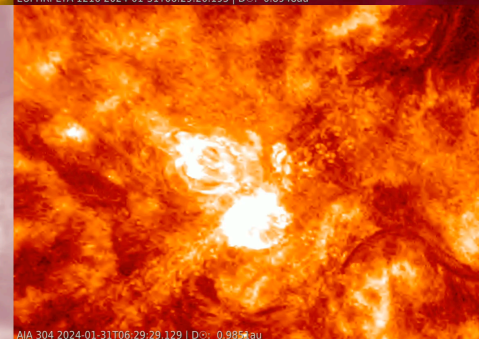
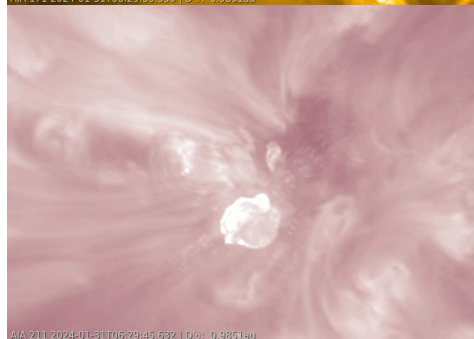
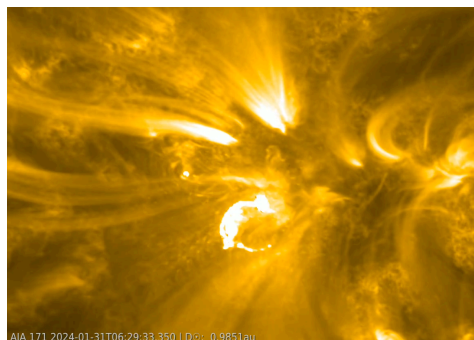
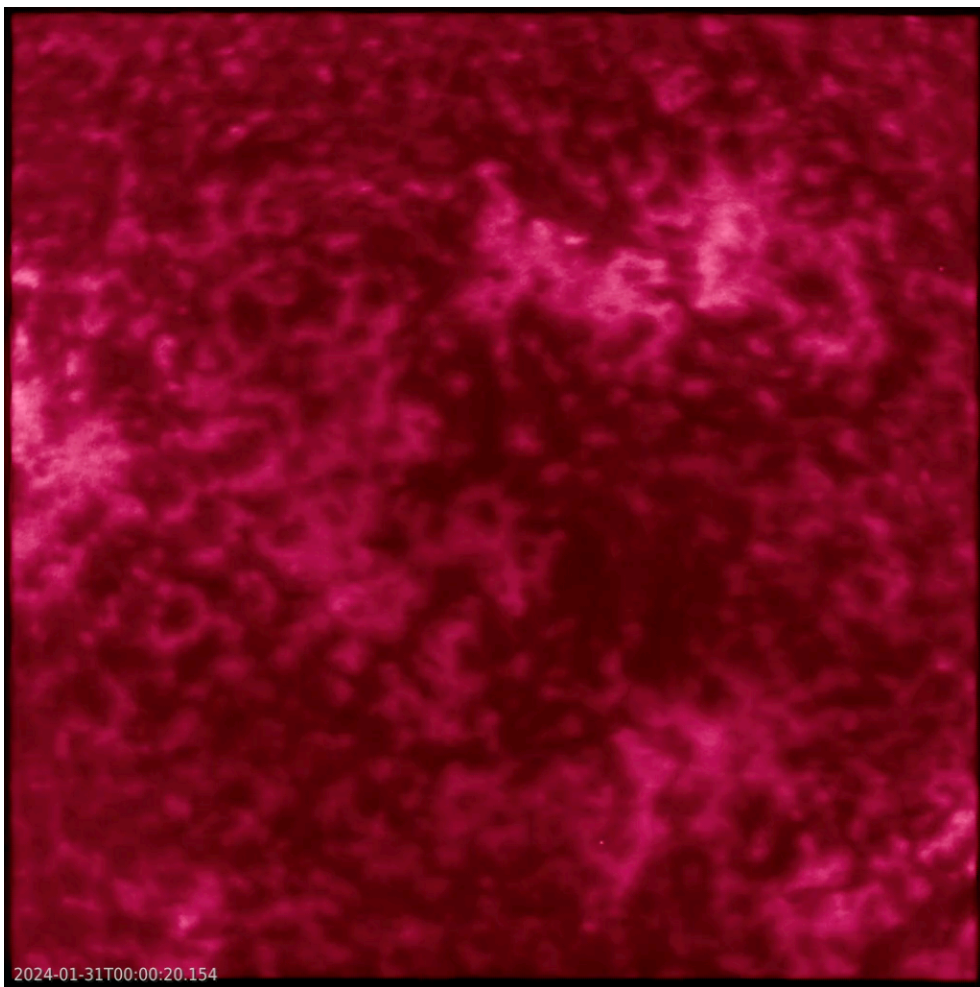
Recent Highlights

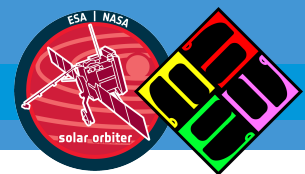
- **2023 autum: RSW10-11-12 went fine**
- **2023 Nov 16: software update**
- Jan 31: HRILYA aphelion images
- March 18: continuous mode testing
- Jan 31: HRILYA aphelion images
- Dec-Feb-March inter-instrument communication tests & flare triggering
- Major flare watch
- March 17 FSI304 occulter
- **Now: status nominal, lots of data in SSMM**
- **June: Data Release 7: improved spatial noise removal, improved pointing keywords**
- **at earliest convenience: next software update**



Jan 31: HRILYA aphelion experiment

HRILYA is more performant outside the RSW when far away from the Earth

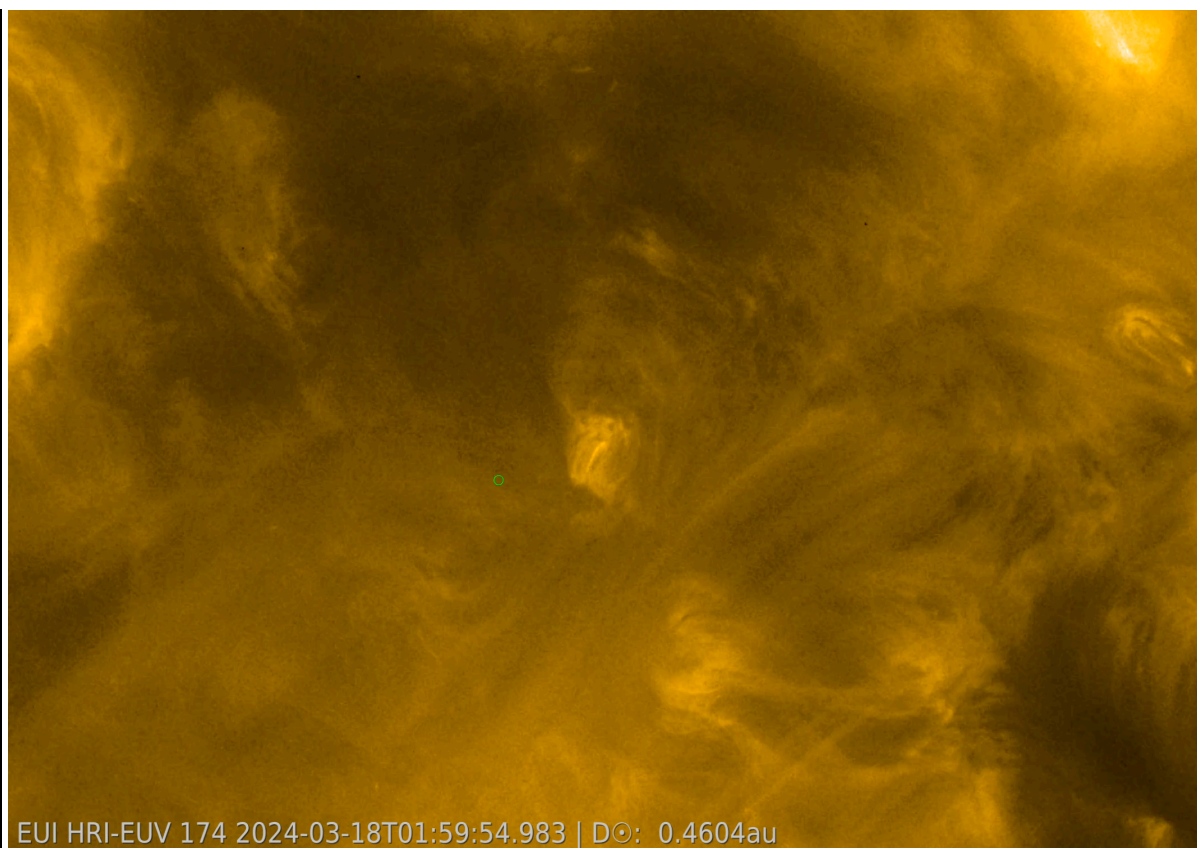
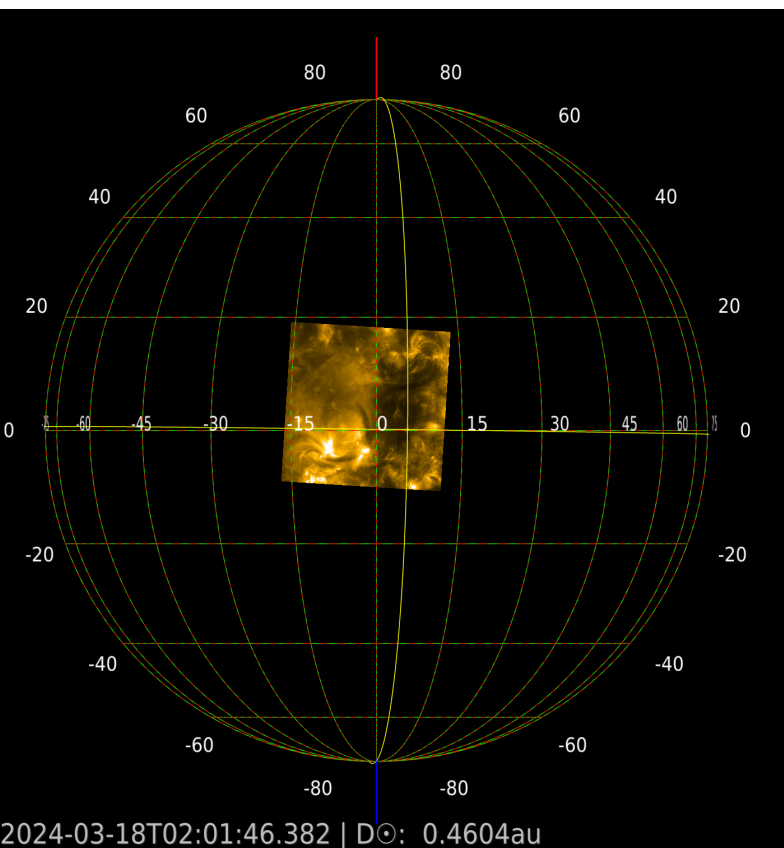




Continuous mode refurbished following software update

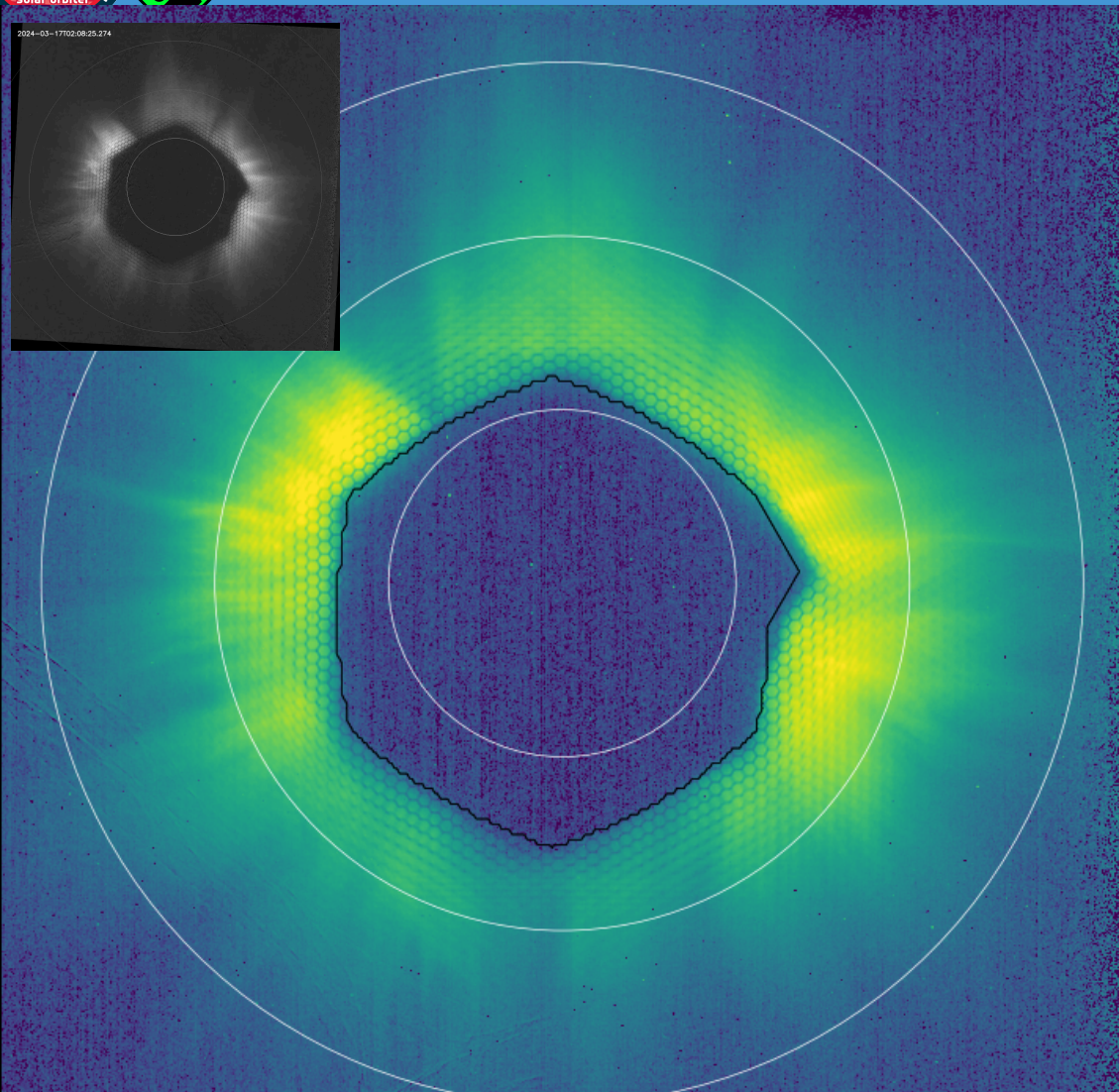
March 18: HRIEUV at 2s cadence during 56 min, while taking FSI synoptics.

=> **Continuous mode available for 2024 autumn RSWs**





March 17: FSI 304 occulter images

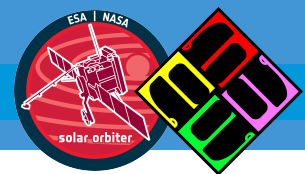


A light leak prevented us up till now to operated FSI in occulter mode in 30.4 nm.

However, when closer to the Sun, the coronal signal is strong enough to overcome the light leak

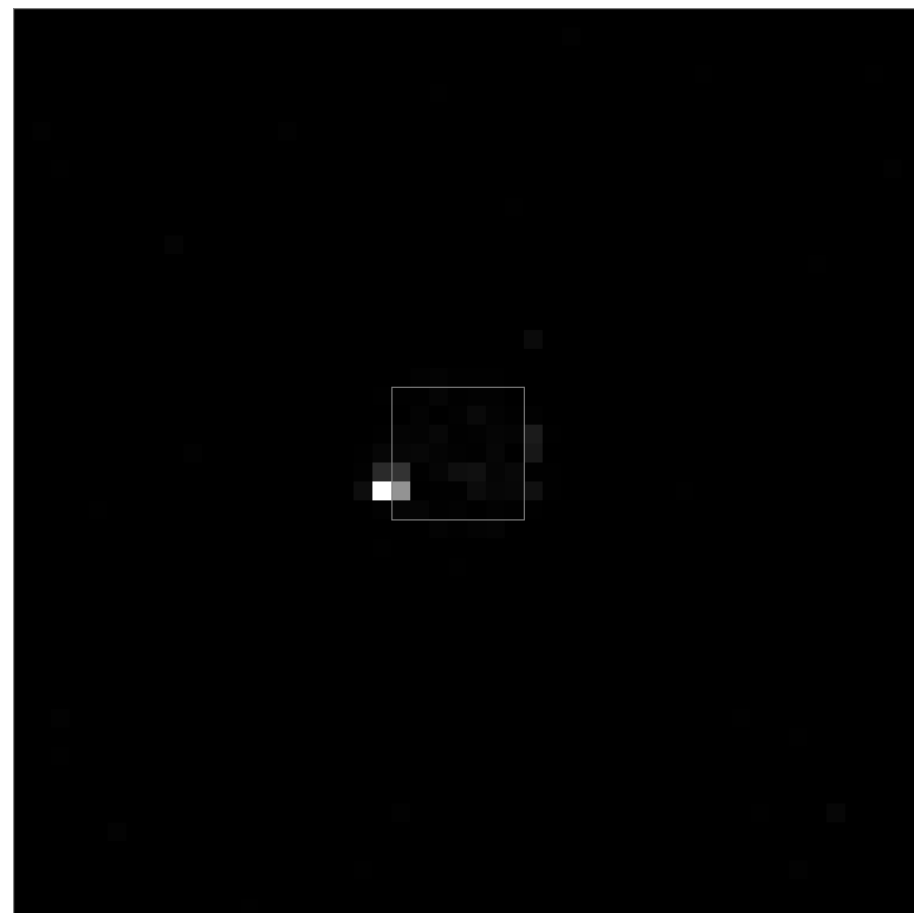
New hope for L_FULL_HRES_MCAD_Coronal-He-Abundance SOOP.

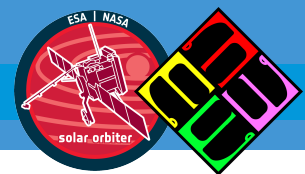
Mid-september when we cross the Sun-Earth line on the back side. Orbiter will be at ~ 0.47 AU. We won't be in a RS window but this is a very good opportunity to get simultaneous white light data from Earth.



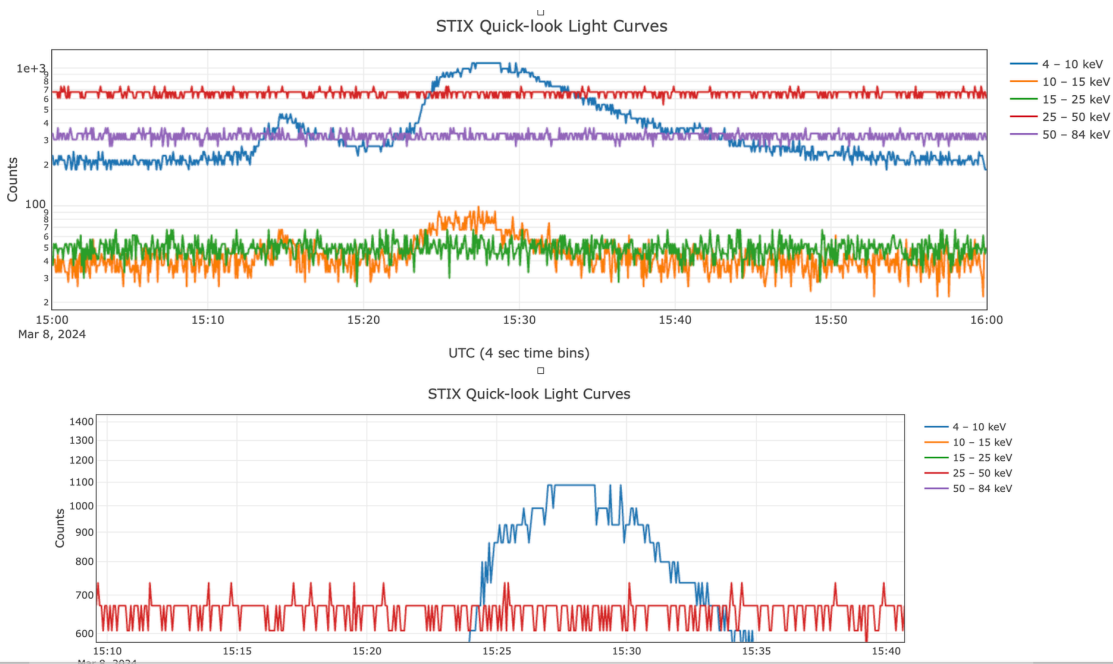
RS-IIC tests

- 2023 Dec:
 - no flare detected
 - successfully produced fake event and brought down S20 echo
 - bug in EUI S20 production, to be corrected
 - learning phase: configuration to be optimised
- 2024 Feb 12
 - EUI flare detection triggered but no data was copied (more configuration to be optimised)
- 2024 March 8



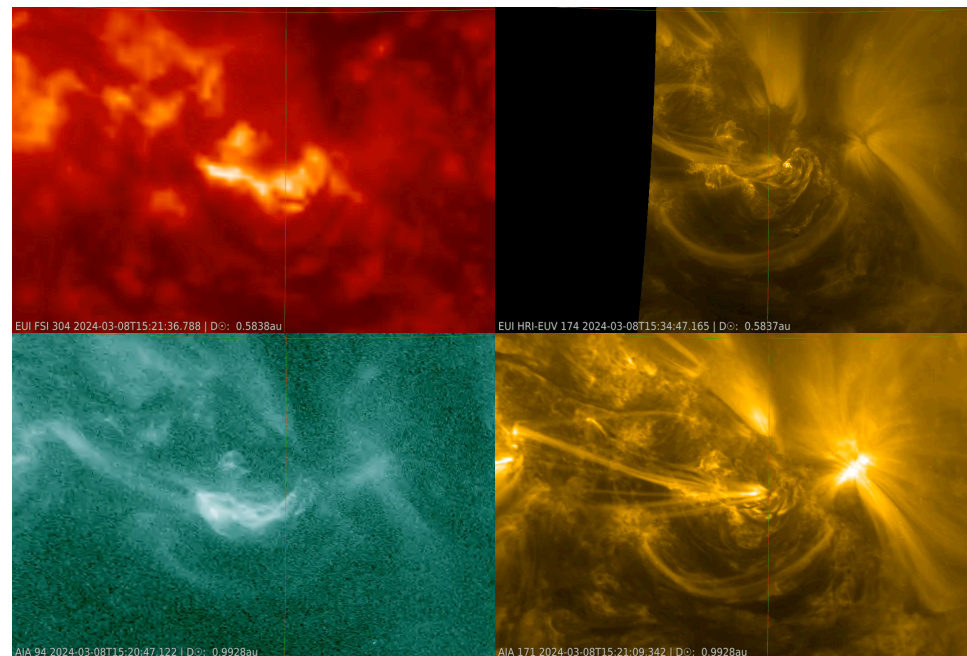


March 8 EUI-STIX Flare trigger test: success!



FSI304

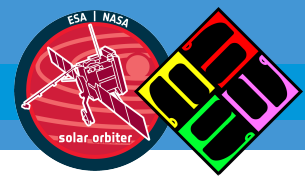
HRIEUV



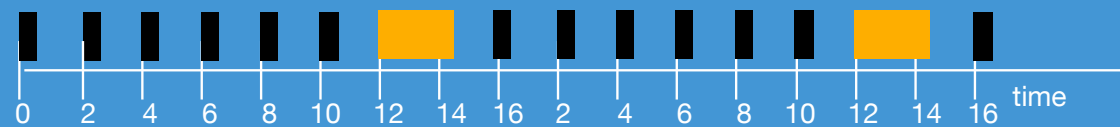
AIA 94

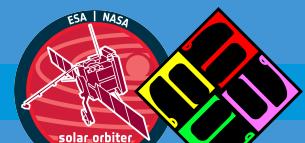
AIA 171

EUI send HRIEUV images to SSMM in response to an incoming STIX S20 flare trigger.
Secondary bugs found in EUI onboard software, to be fixed

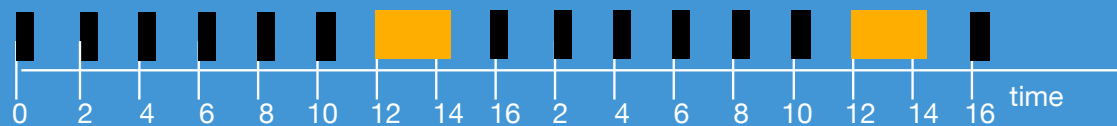


Major flare watch

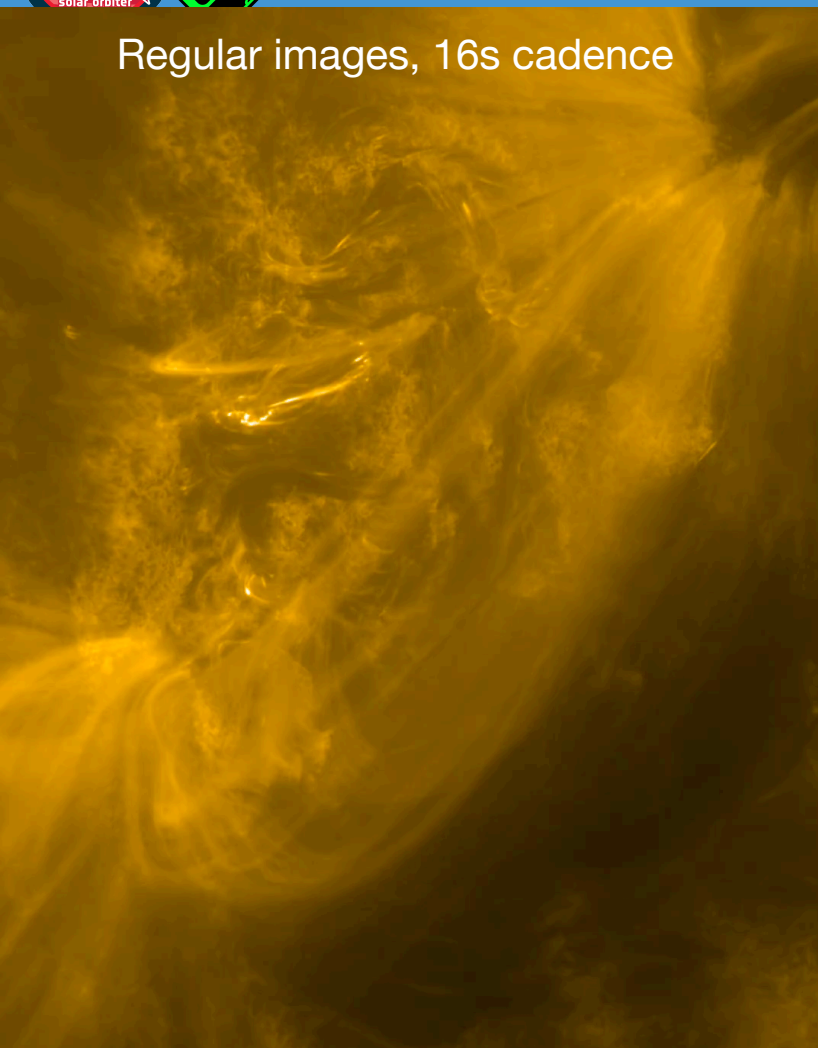




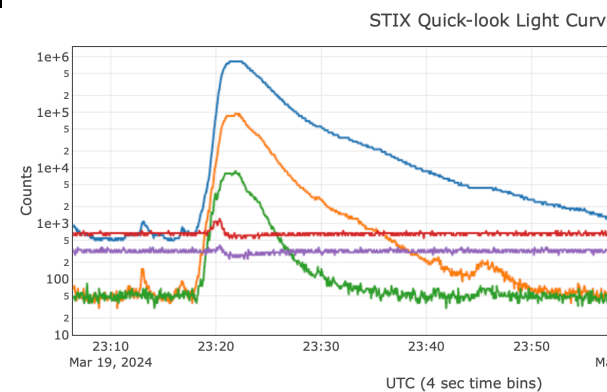
Major flare watch



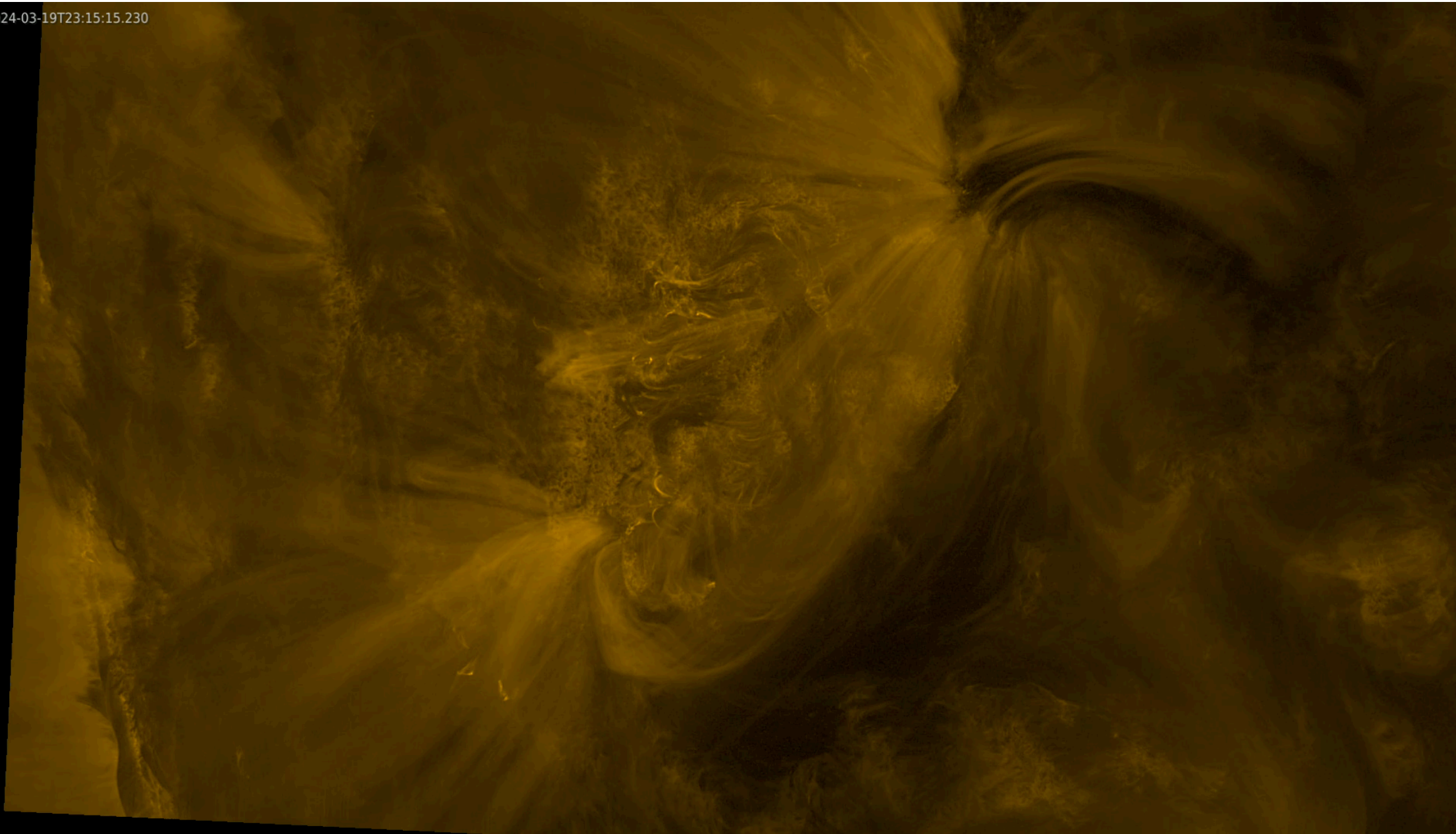
Regular images, 16s cadence

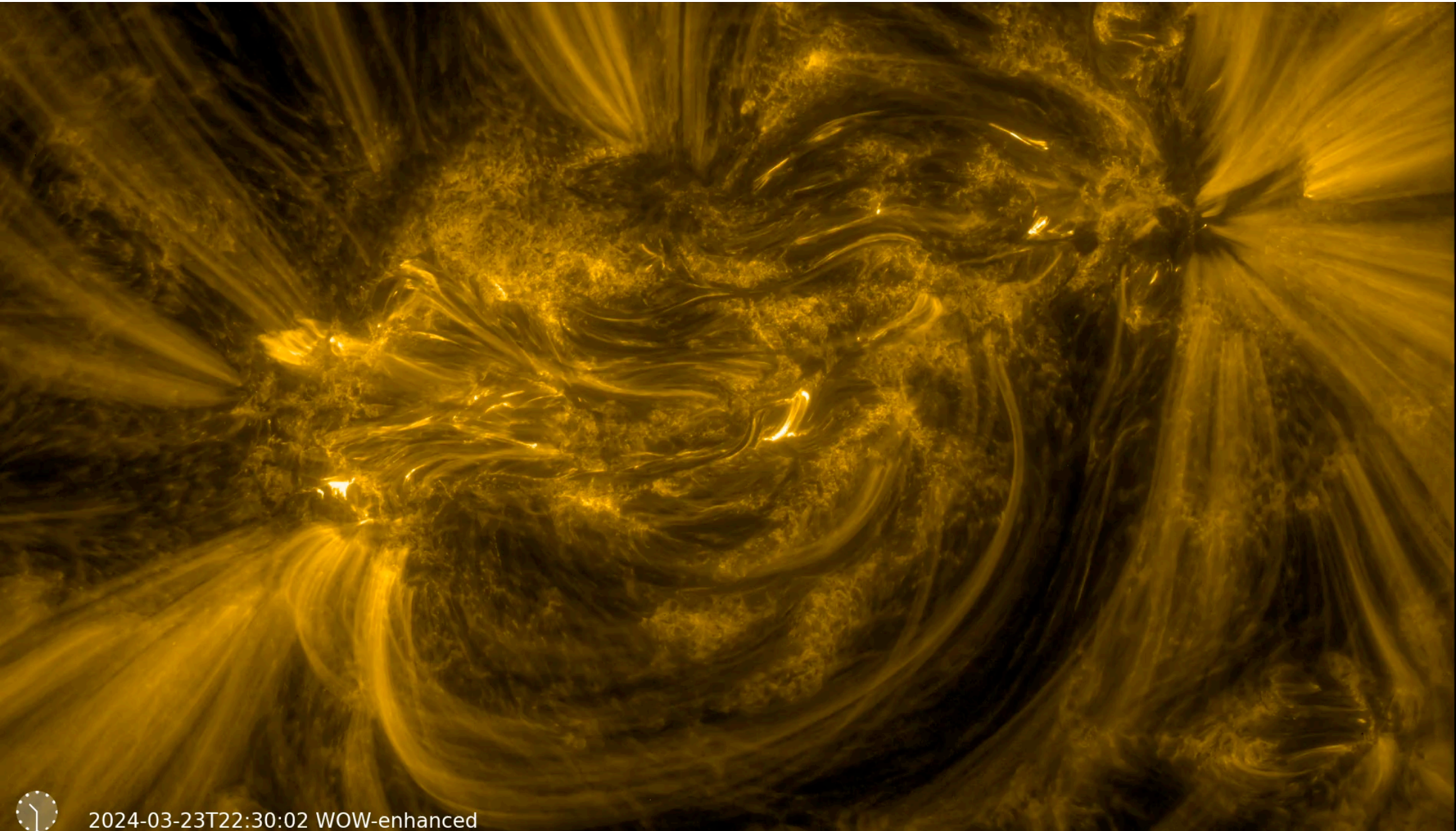


Short exposure images, 2s cadence

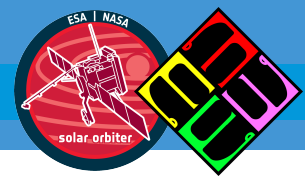


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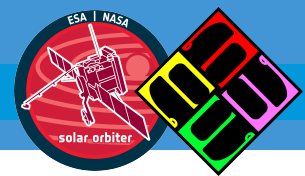
2024-03-23T22:30:02 WOW-enhanced



New campaigns & SOOPs

LTP16

- L_FULL_HRES_MCAD_Coronal-He-Abundance: mid September
- HRILYA 6 hours aphelion sequence (360 MiB)



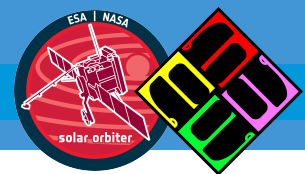
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- We want more flare hunting campaigns
- RS Burst: EUI continuous mode 2s
- special attention to SST coordination.
=> Nanoflare campaign quiet Sun near limb but not on



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>= 2025 (TBC)

- new dark halo SOOP (Serena Lezzi)
- R_FULL_HRES_HCAD_Density-Fluctuations , now with SPICE included
- L_FULL_LRES_MCAD_Probe-Quadrature, once PSP orbit is fixed
- @ Sun-Earth line: joint observations with Aditya & PROBA3/ASPIICS