

PROBA2 SWT16 ☀ 6 AUGUST 2018

E. D'HUYS, D. BERGHMANS, & THE P2SC TEAM

SWAP STATUS UPDATE

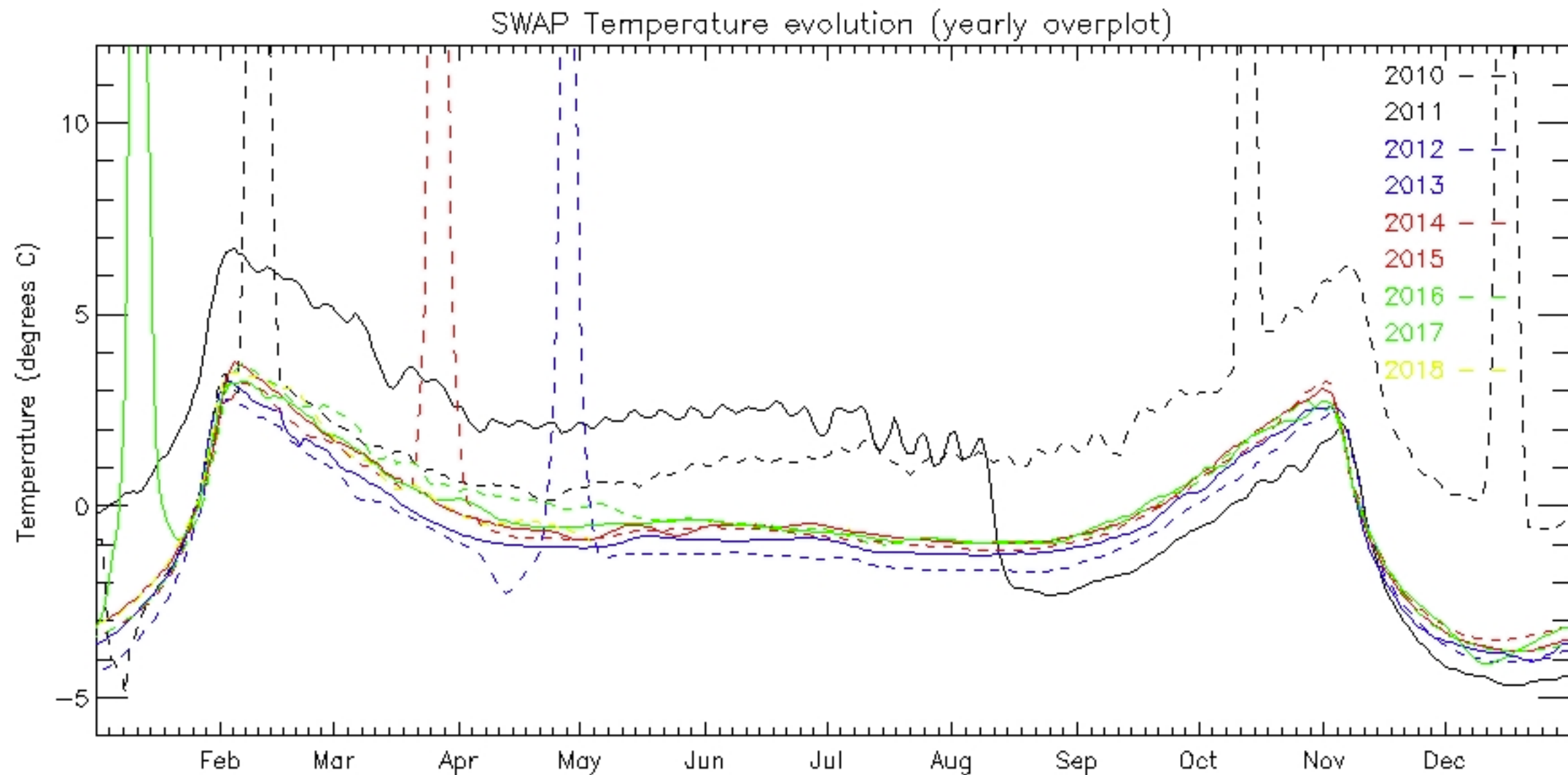
SWAP STATUS UPDATE

INSTRUMENT HEALTH AND PERFORMANCE

SWAP STATUS UPDATE

HEALTH AND PERFORMANCE

SWAP performance is nominal



SWAP STATUS UPDATE

OBET ROLL-OVER

- OBET roll-over on May 6, 2018
- SWAP and LYRA were turned off
- Data gap between 2018/05/05 23:57 UT and 2018/05/07 05:50 UT
- P2SC adapted processing software beforehand to be able to handle the return to low OBET values
- Processing at P2SC of first data after roll-over was without problems

SWAP STATUS UPDATE

SWAP DATA

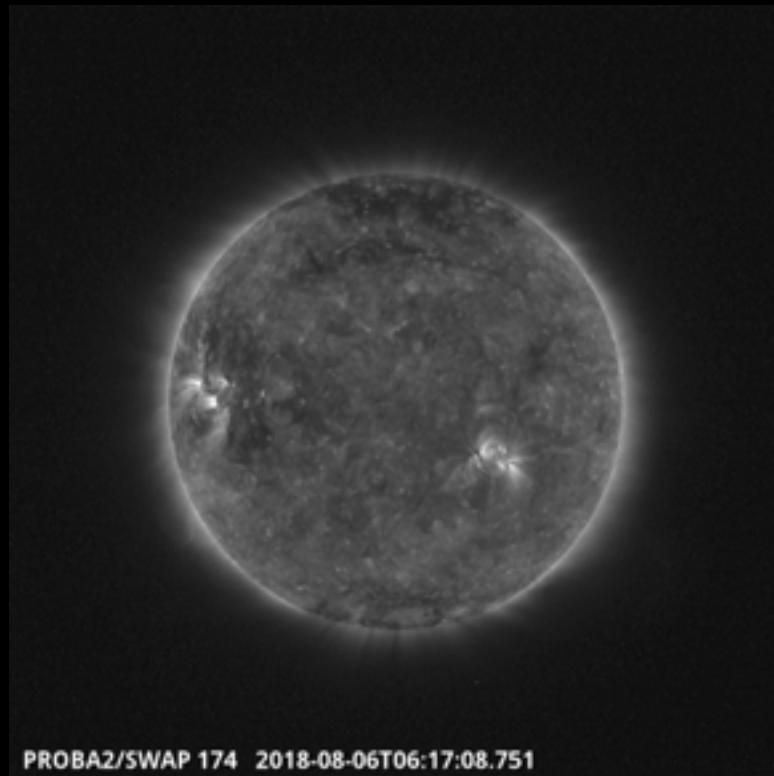
SWAP STATUS UPDATE

SWAP DATA VOLUMES

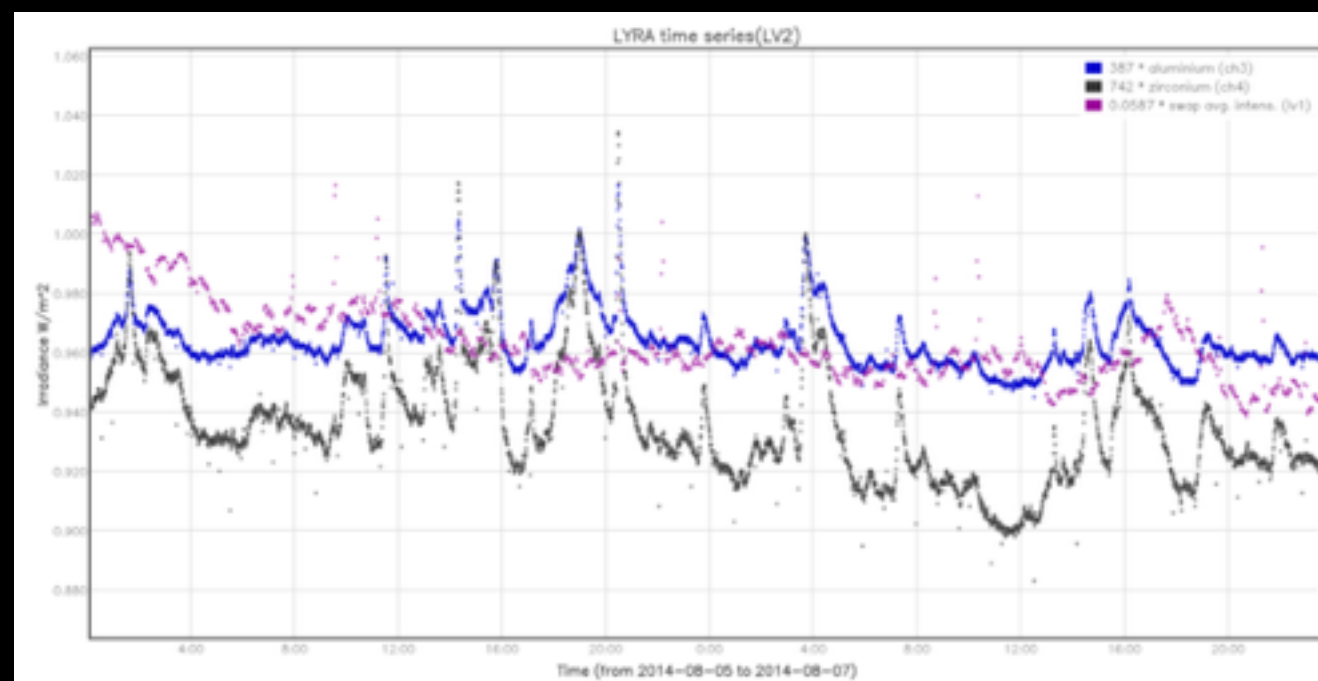
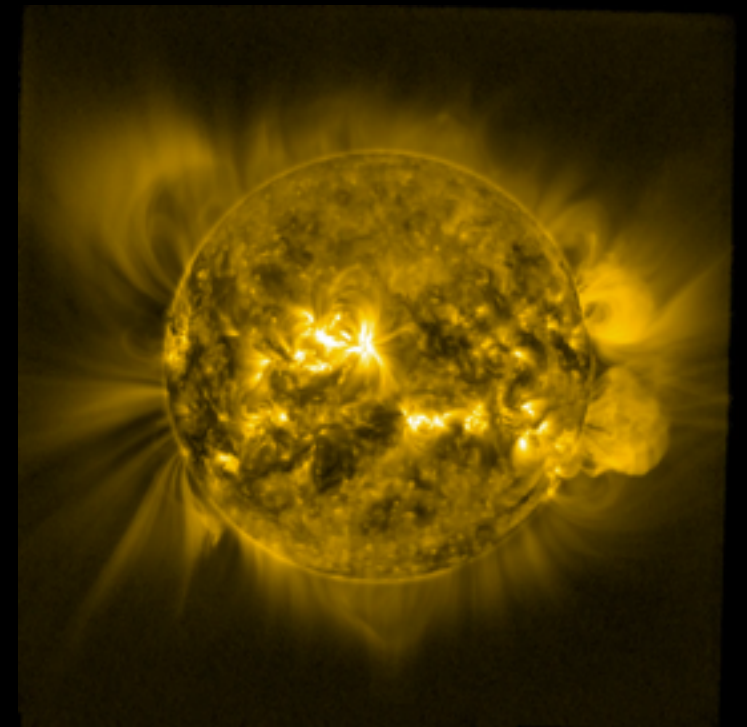
- We have just over 2 million engineering fits files, and ~1.8 million calibrated images
- Total volume of SWAP data products: ~9T

SWAP STATUS UPDATE

SWAP DATA PRODUCTS



- Raw images (level 0)
- Calibrated images (level 1)
- Quicklook data
- Daily Movies
- Carrington Movies
- Average Intensity (SWAVINT)



SWAP REPROCESSING

- We are performing a final reprocessing of all P2SC data since the start of the mission.
- All ancillary data have been reprocessed. Ongoing: SWAP fits files (75% finished). Next steps: SWAP movies and LYRA data.
- All SWAP files will be reprocessed with the most recent calibration software to obtain a coherent and complete dataset

SWAP STATUS UPDATE

SWAP SCIENCE

SWAP STATUS UPDATE

SWAP PUBLICATIONS

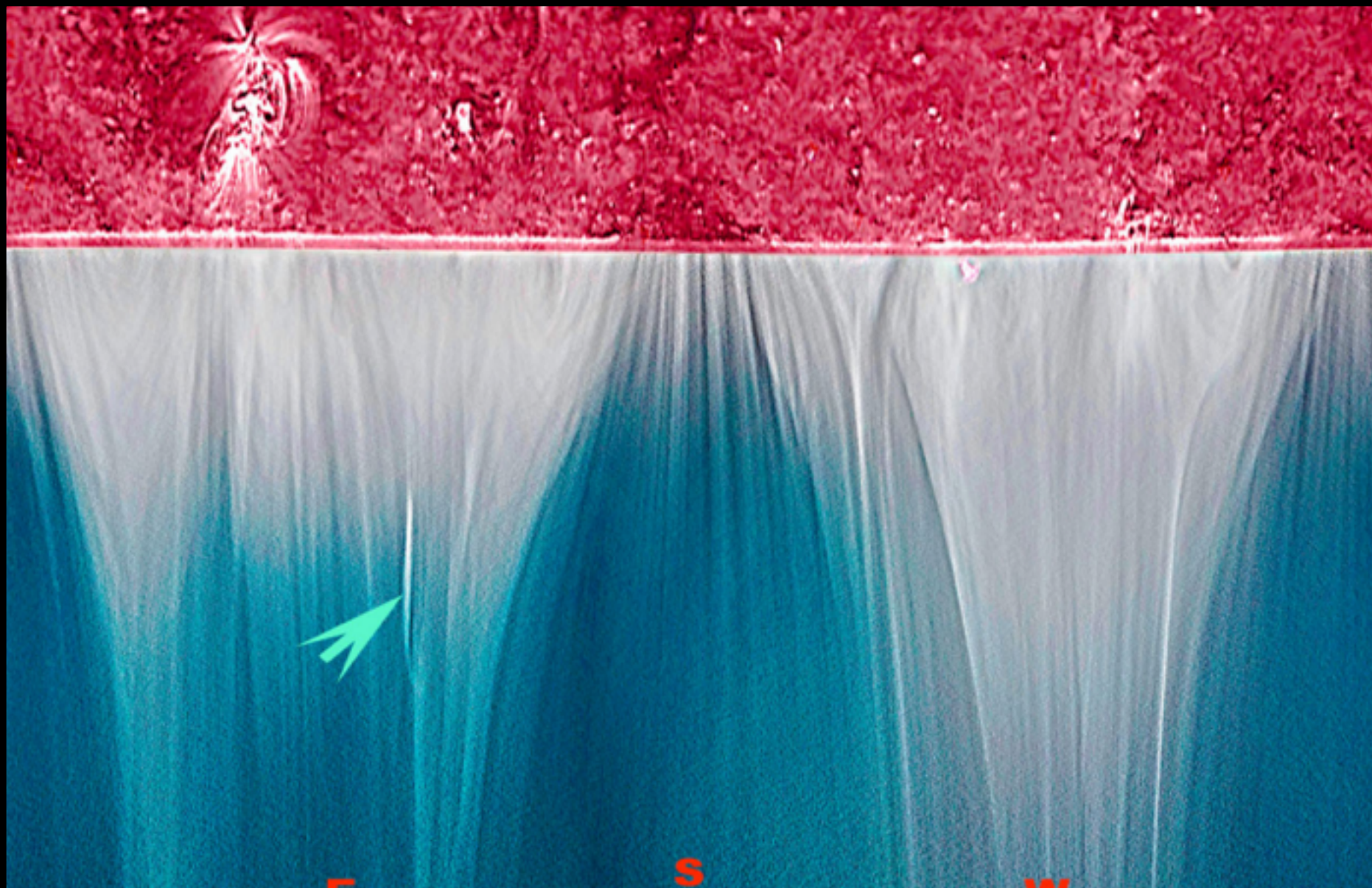
- 7 PROBA2 papers published this year so far
- SWAP-related publications
 - Brightening and Darkening of the Extended Solar Corona observed by SWAP telescope during the Superflares on 6 and 10 September 2017, *Goryaev F. et al.* (ApJL)
 - Density fluctuations in a polar coronal hole, *Hahn M. et al.* (ApJ)
 - Analysis of a Failed Eclipse Plasma Ejection Using EUV Observations, *Tavabi E. et al.* (Sol Phys)
 - On the Performance of Multi-Instrument Solar Flare Observations During Solar Cycle 24, *Milligan R.O. et al.* (Sol Phys)

SWAP STATUS UPDATE

SWAP PUBLICATIONS

Analysis of a Failed Eclipse Plasma Ejection Using EUV Observations

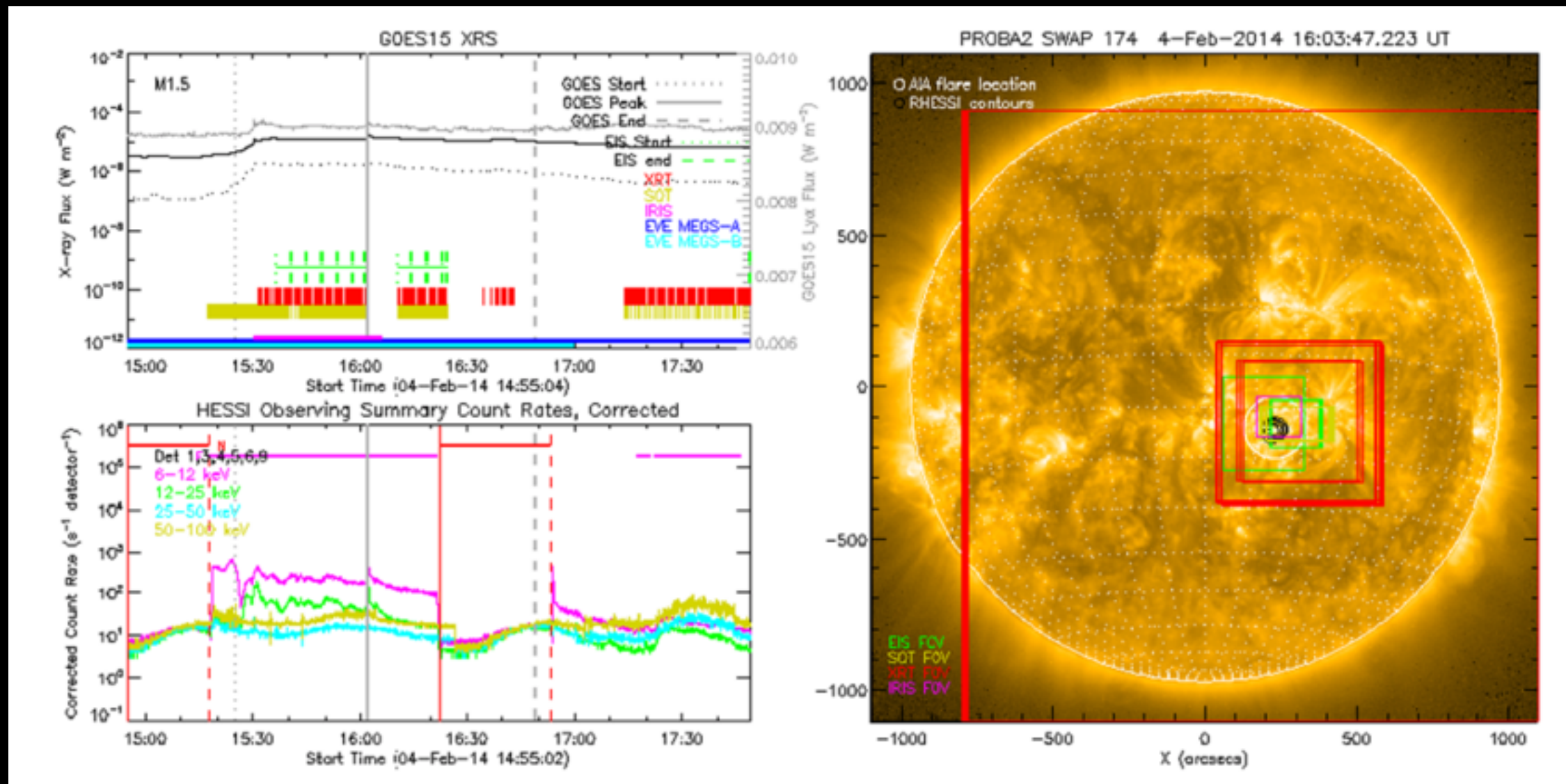
Tavabi E. et al. (Sol Phys)



SWAP STATUS UPDATE

SWAP PUBLICATIONS

On the Performance of Multi-Instrument Solar Flare Observations During Solar Cycle 24
Milligan R.O. et al. (Sol Phys)

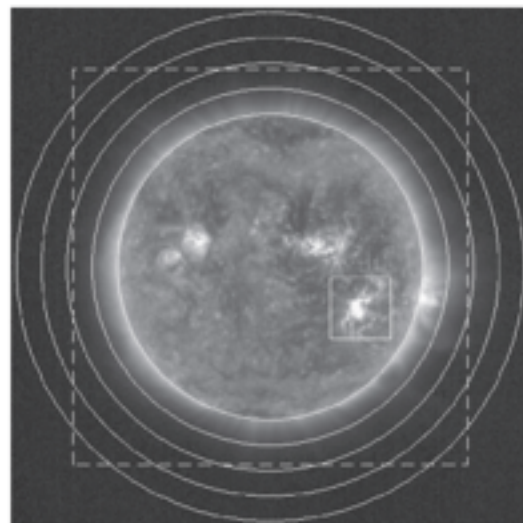


SWAP STATUS UPDATE

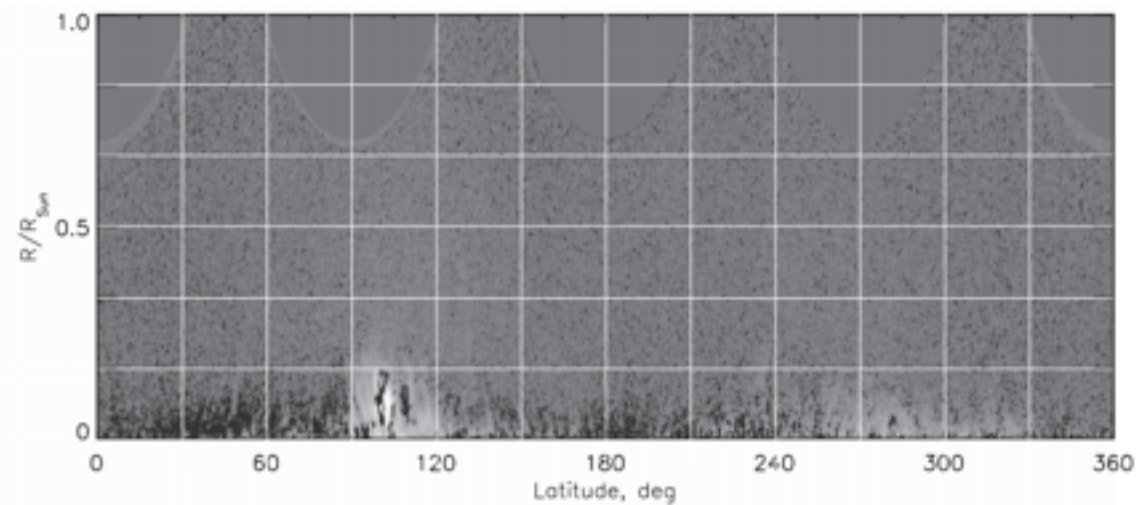
SWAP PUBLICATIONS

Brightening and Darkening of the Extended Solar Corona observed by SWAP telescope during the Superflares on 6 and 10 September 2017

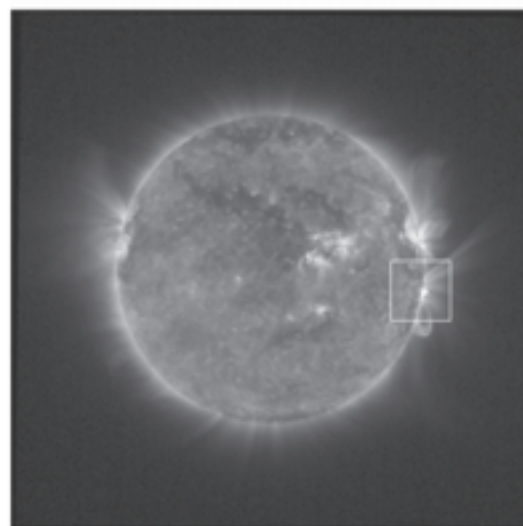
Goryaev F. et al. (ApJL)



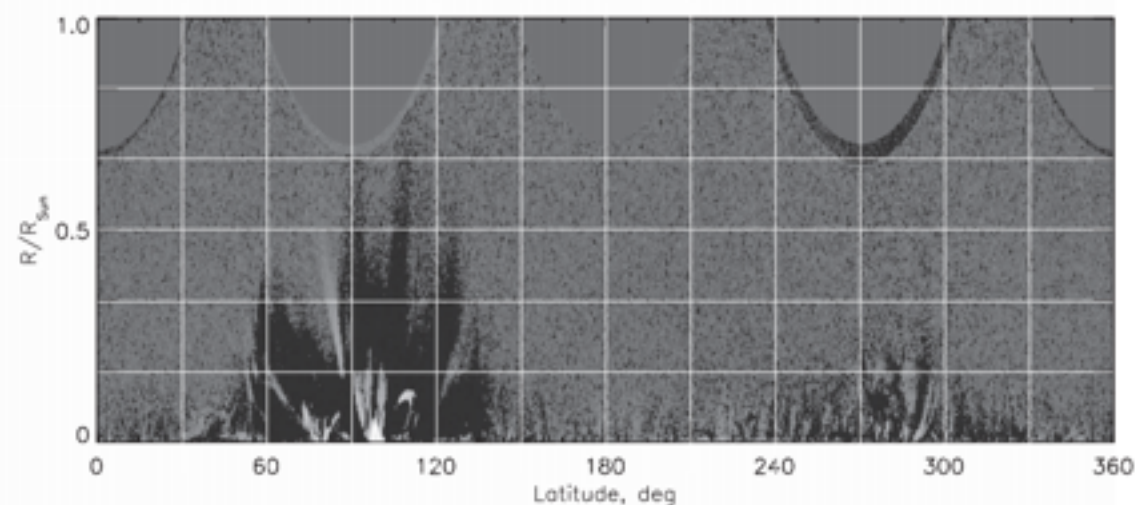
(a)



(b)



(c)



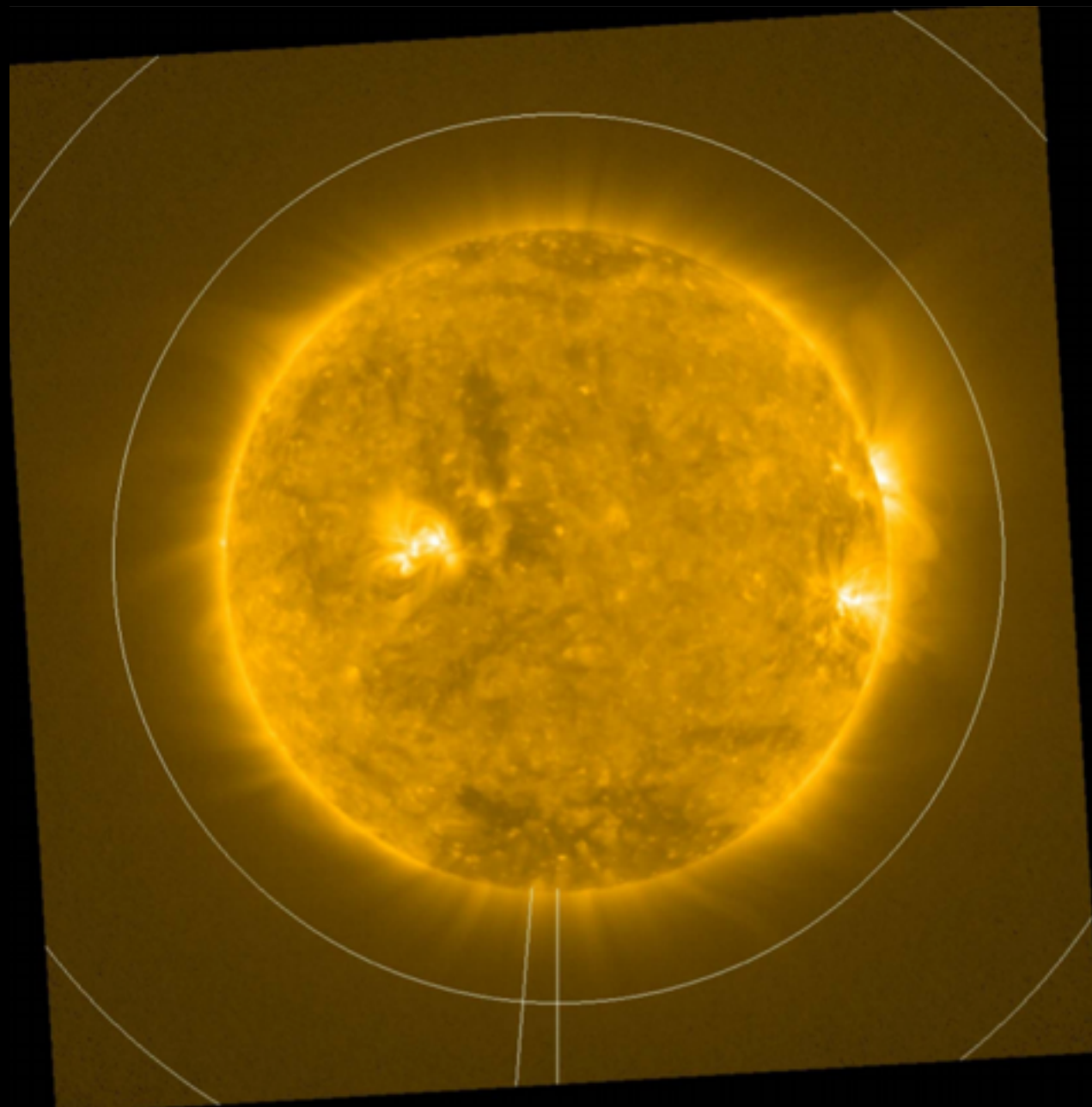
(d)

SWAP STATUS UPDATE

SWAP PUBLICATIONS

Density fluctuations in a polar coronal hole

Hahn M. et al. (ApJ)



SWAP PUBLICATIONS

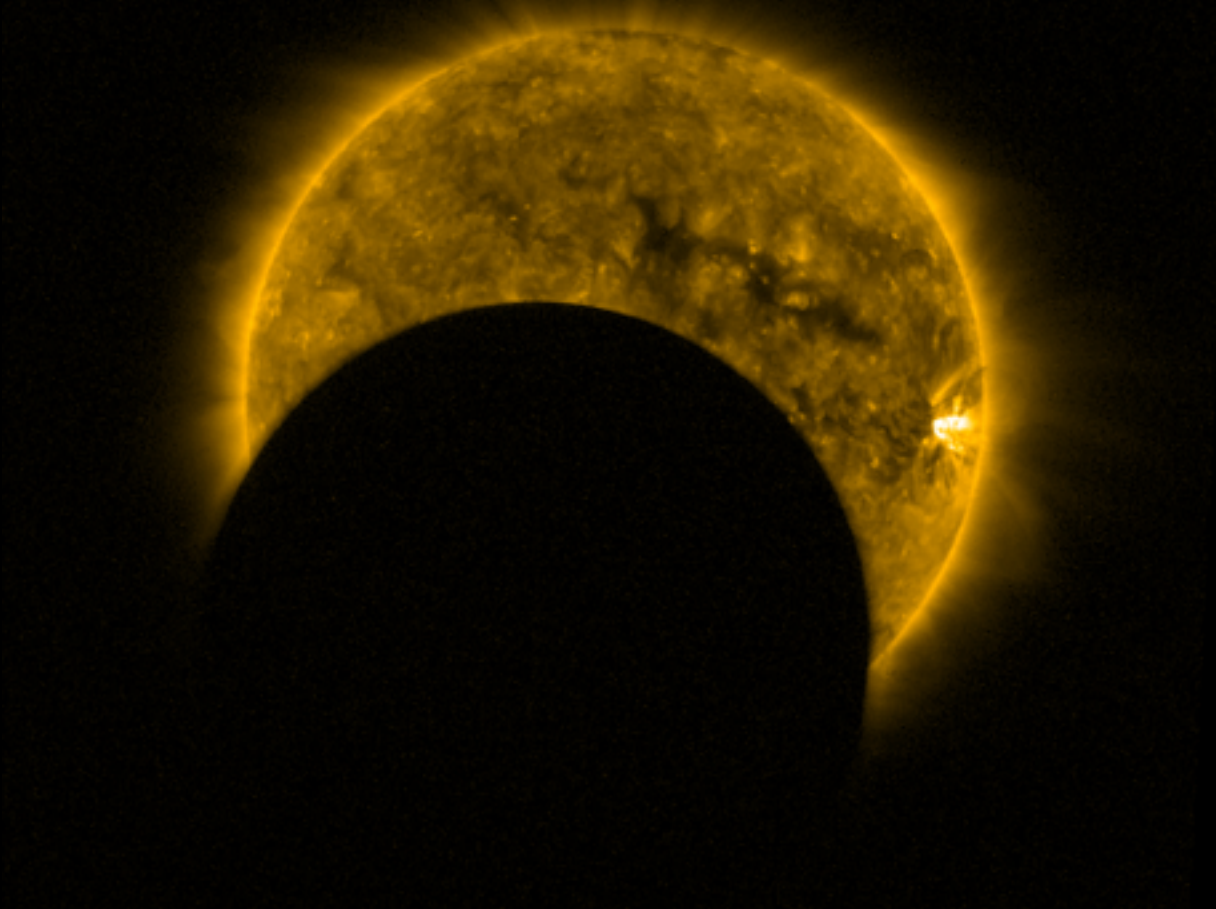
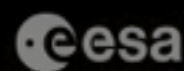
- More SWAP-related publications upcoming
 - We are preparing a publication on the flares observed during the off-pointing campaigns in April 2017 (Vial campaign)
 - Studying EUV emission of the solar corona using Proba2/SWAP, STEREO/EUVI, and AIA/SDO data, Goryaev F. et al. (related to SWAP high-cadence campaigns in 2016 and 2017)
 - We are continuing the work of D.B. Seaton on the long-term, large-scale evolution of the extreme-ultraviolet solar corona (ApJ 2013) by now looking at the complete set of SWAP observations over the whole mission

SWAP STATUS UPDATE

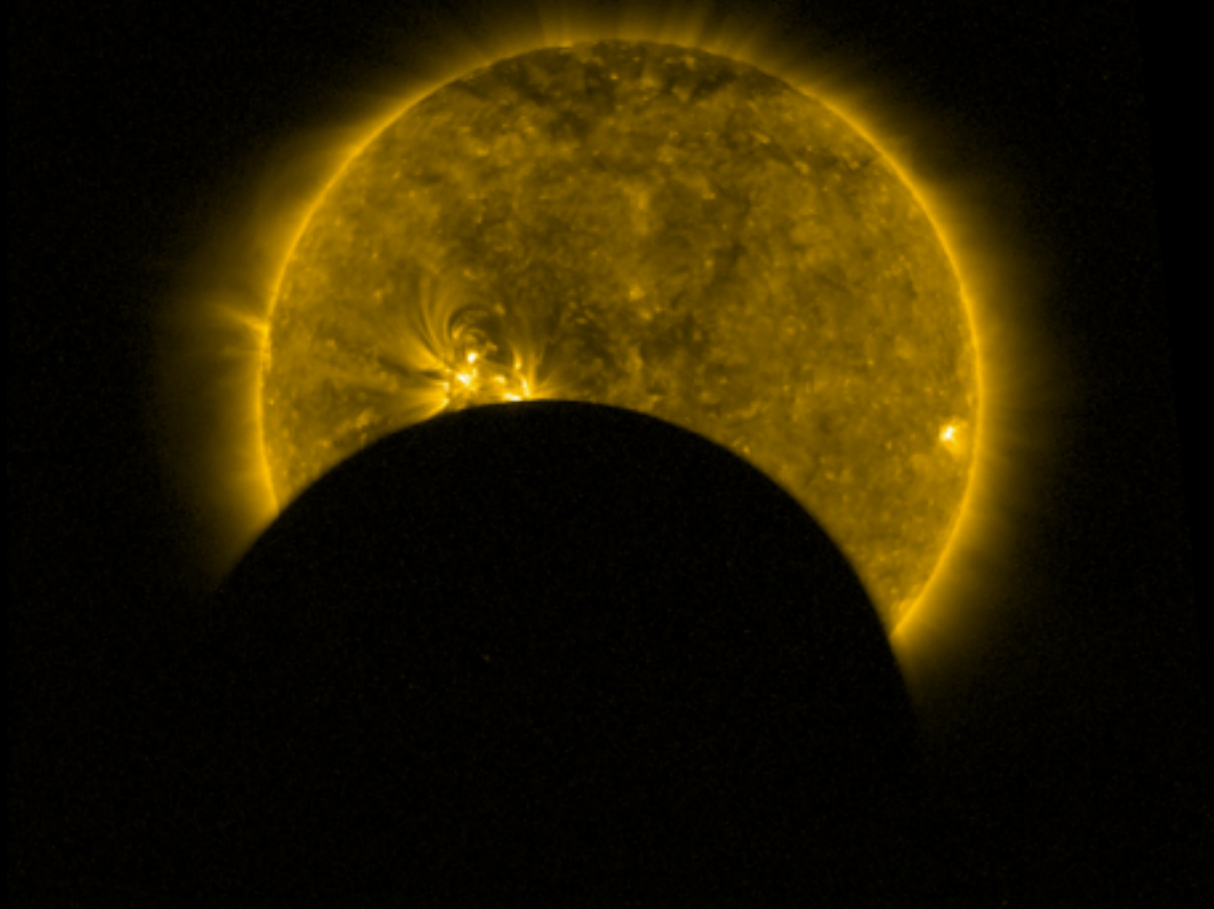
OBSERVATION CAMPAIGNS

SWAP STATUS UPDATE

PARTIAL SOLAR ECLIPSES



PROBA2/SWAP 174 Å 2018-02-15 21:35:21



PROBA2/SWAP 174 Å 2018-07-13 03:10:31



2018 February 15

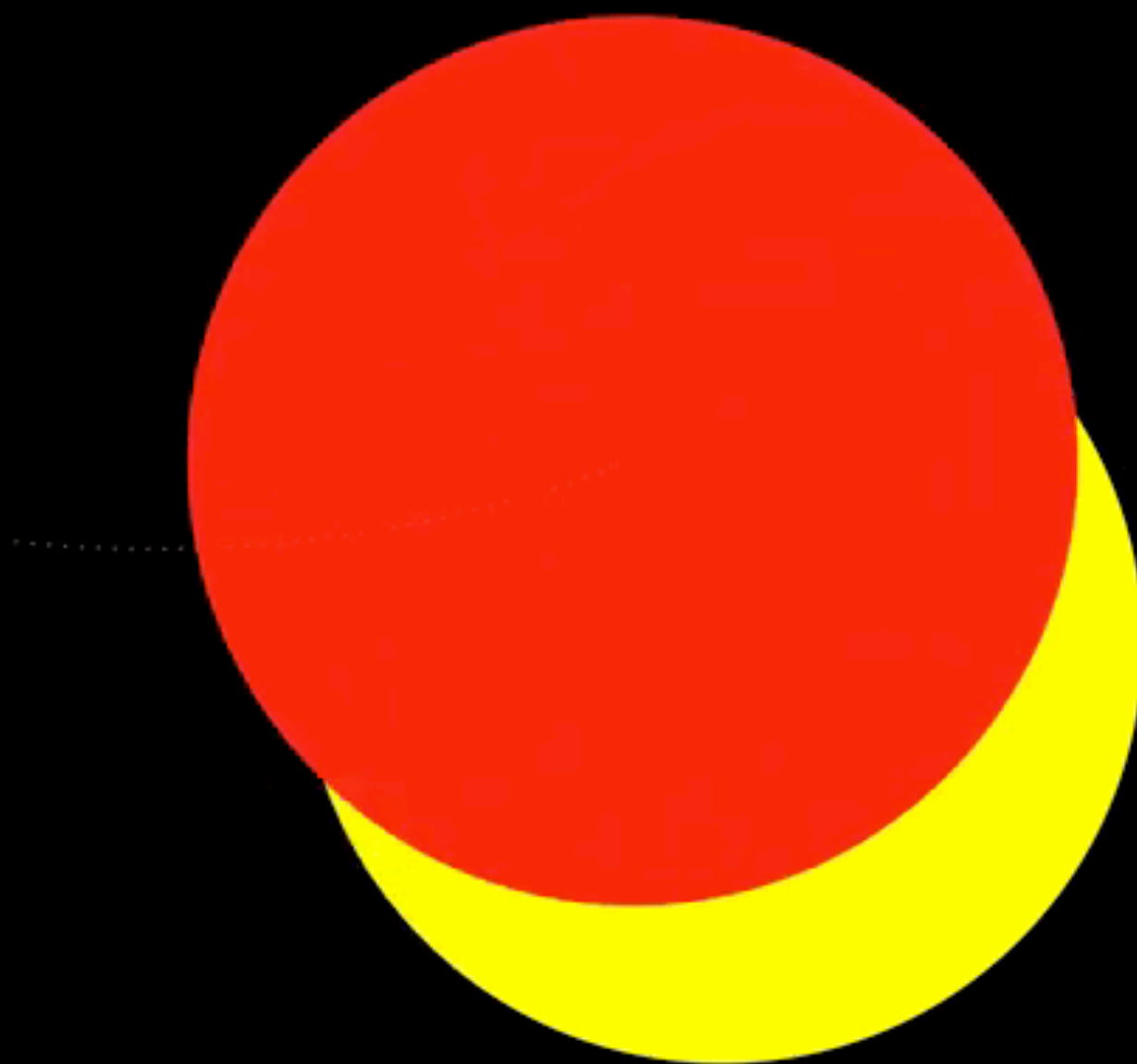
2018 July 13

SWAP STATUS UPDATE

UPCOMING PARTIAL SOLAR ECLIPSES

2018 August 11

1000.0km



PROBA2/SWAP #1 2018-08-11T10:32:10.368

74.5%

SWAP STATUS UPDATE

UPCOMING CAMPAIGNS?

- Science mission until end of 2018, then transitioning to operational satellite
- Any requests for special campaigns?

swap_lyra@oma.be