

SIDC Space Weather Briefing

05 February 2023-12 February 2023

Christine Verbeke

& the SIDC forecaster team



Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2023-02-05 12:00 to 2023-02-12 23:59

Active regions	18 active regions: NOAA AR 3206, 3207, 3208, 3209, 3210, 3211, 3212, 3213 , 3214, 3215, 3216, 3217 , 3218, 3219, 3220, 3221, 3223, 3224
Flares	# C-class flare: 58 # M-class flare: 28 # X-class flare: 1
Coronal Holes	1 neg polarity CH early in week, 1 pos polarity up-coming
CMEs	No Earth-directed CMEs detected in coronagraph images.

Proton flux	Background levels
Electron flux	Above 1000 pfu threshold, but just barely

Solar wind and geomagnetic conditions

ICMEs	None
Solar wind conditions	B : 2- 12 nT //Bz: -10 nT to 7 nT //Speed: 350 - 600 km/s
K-indices	max K-index (KBel): 5 max Kp-index (NOAA): 5

All Quiet Alert: not quiet

Solar Activity

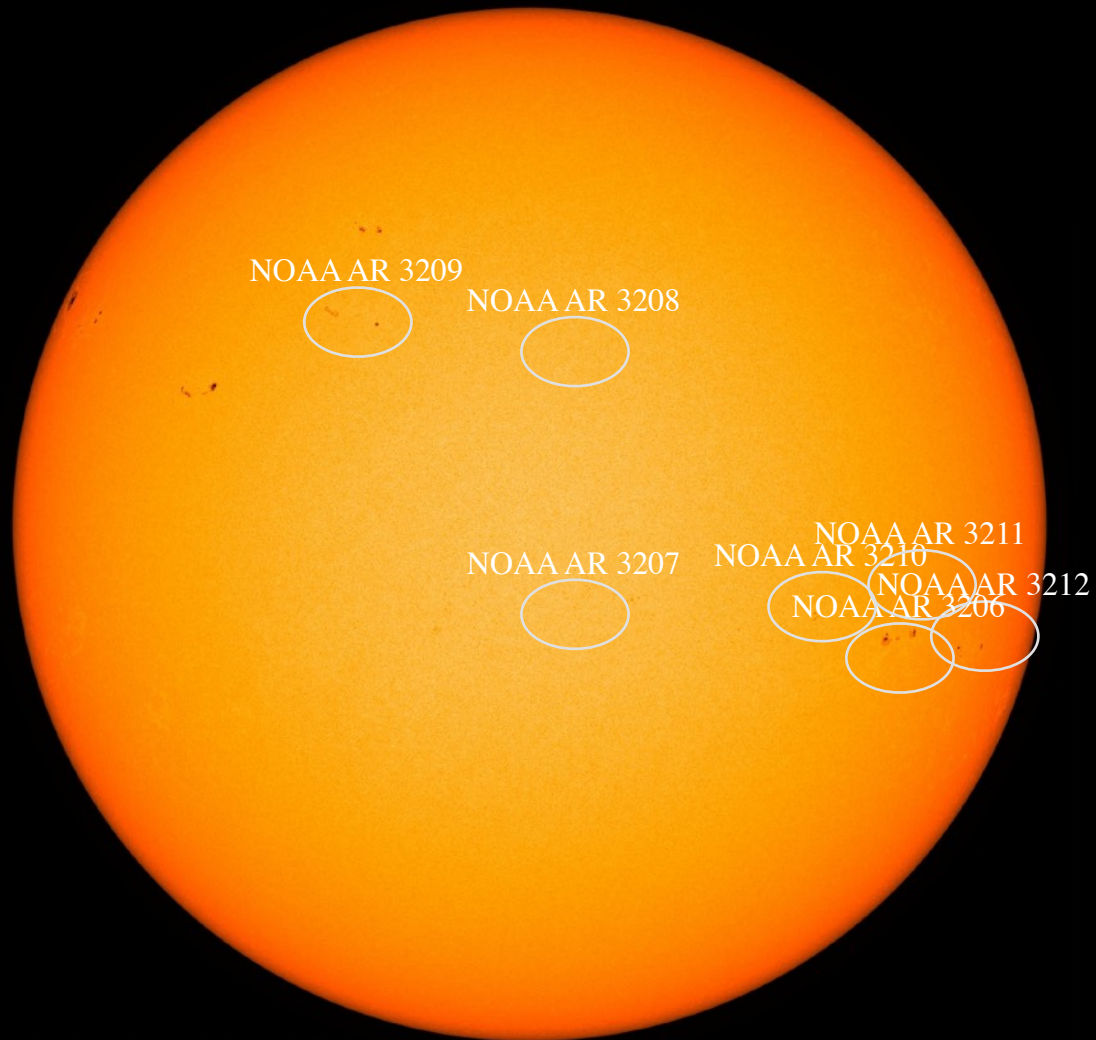


Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

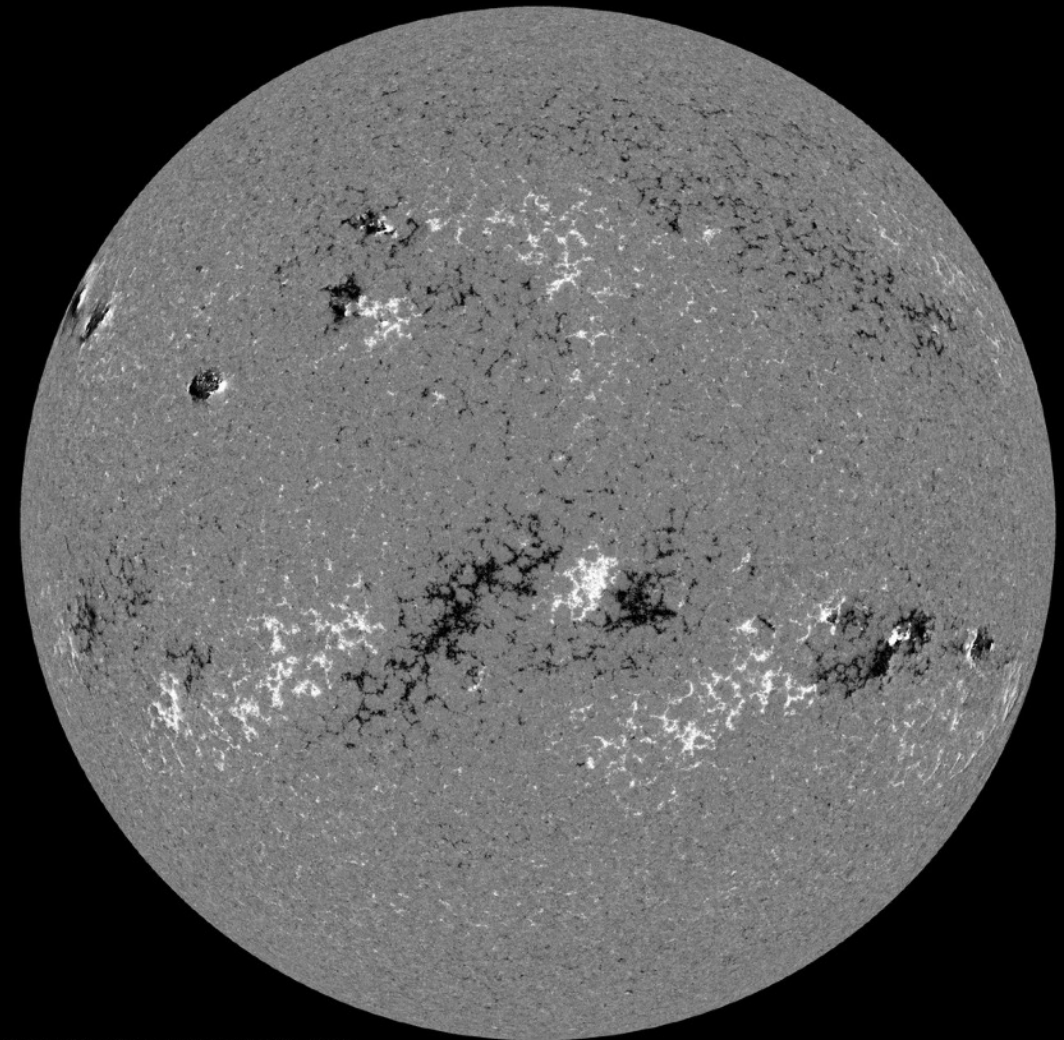
Solar active regions

SDO/HMI White Light 2023-02-06



SDO/HMI Quick-look Continuum: 20230206_114500

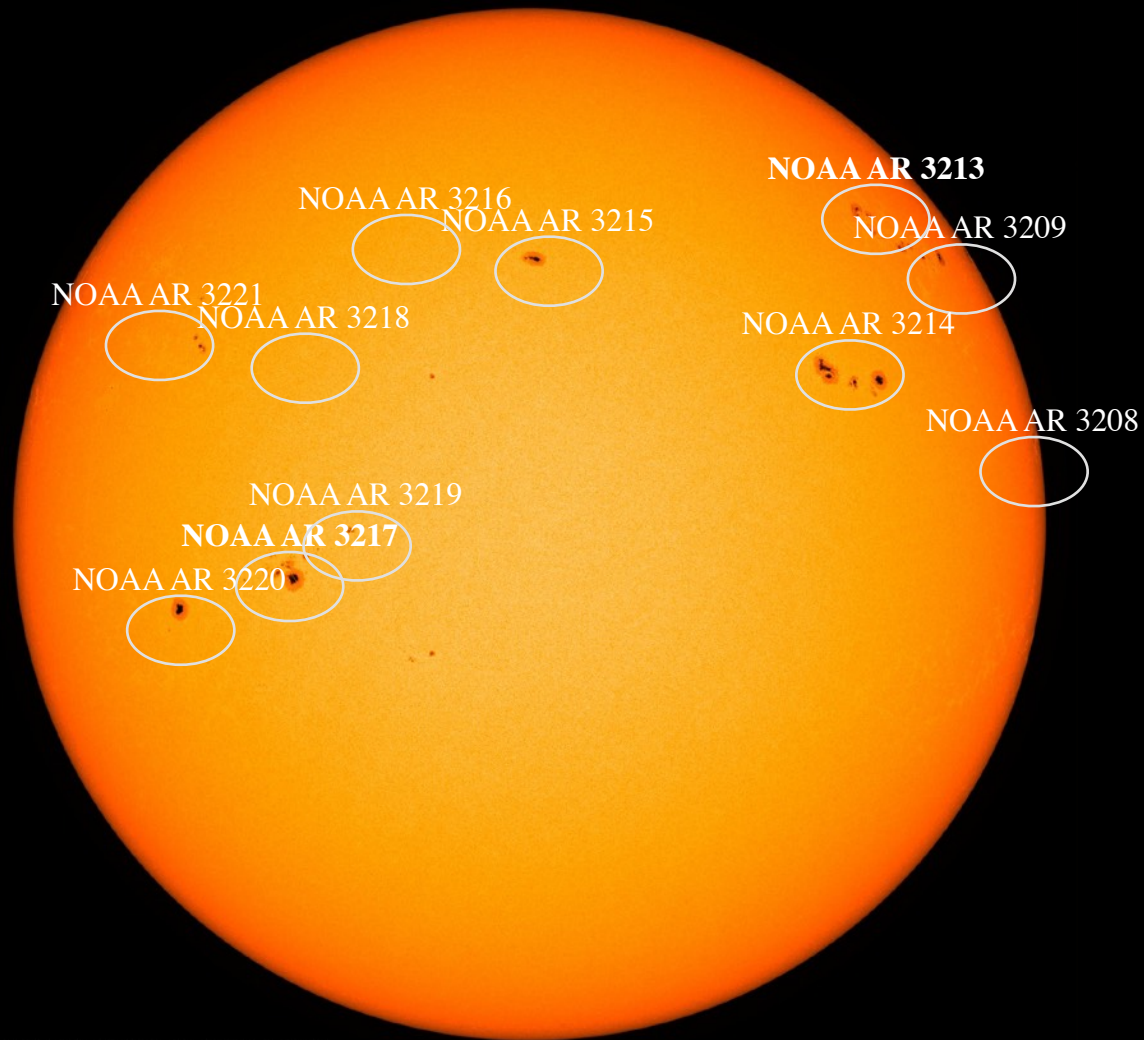
SDO/HMI Magnetogram 2023-02-06



SDO/HMI Quick-look Magnetogram: 20230206_114500

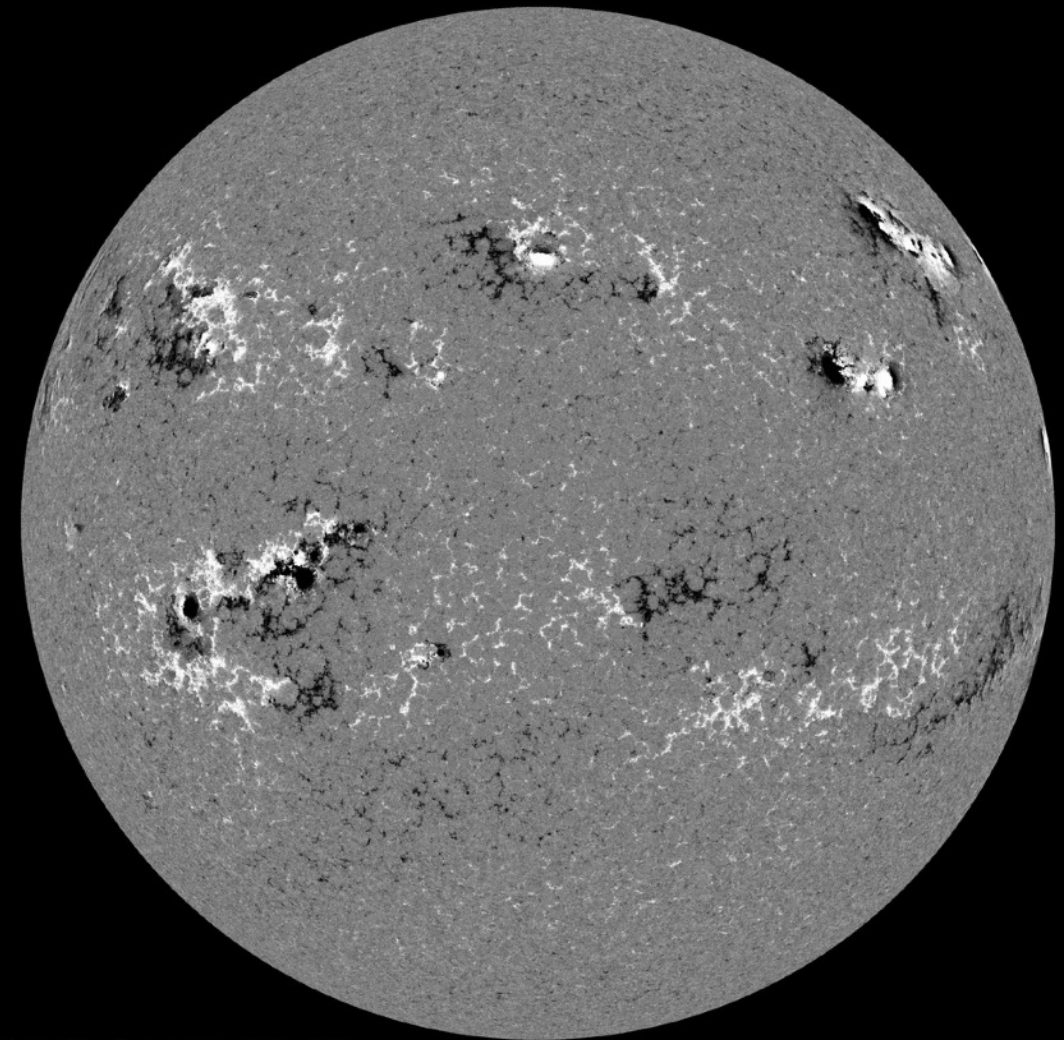
Solar active regions

SDO/HMI White Light 2023-02-12



SDO/HMI Quick-Look Continuum: 20230212_114500

SDO/HMI Magnetogram 2023-02-12

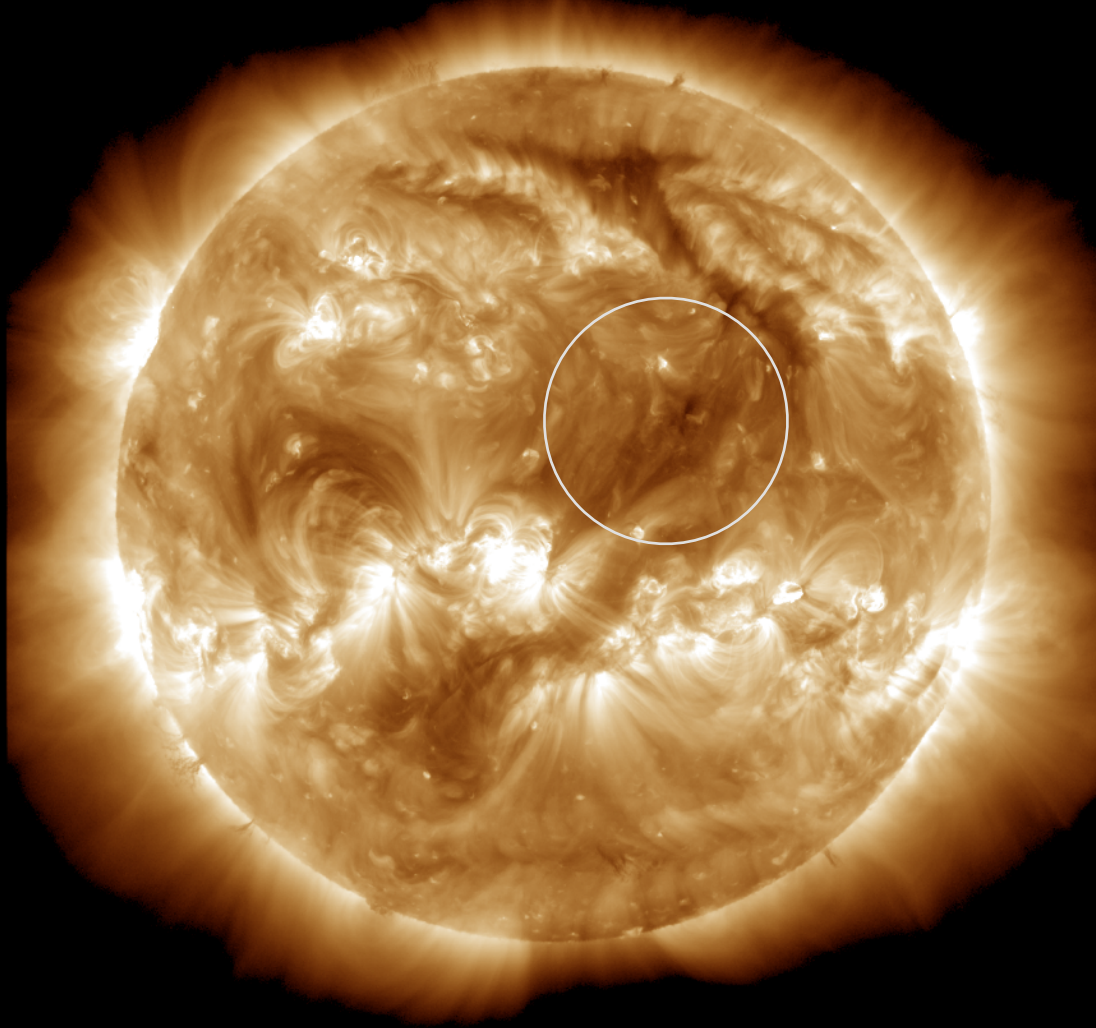


SDO/HMI Quick-Look Magnetogram: 20230212_114500

Coronal holes

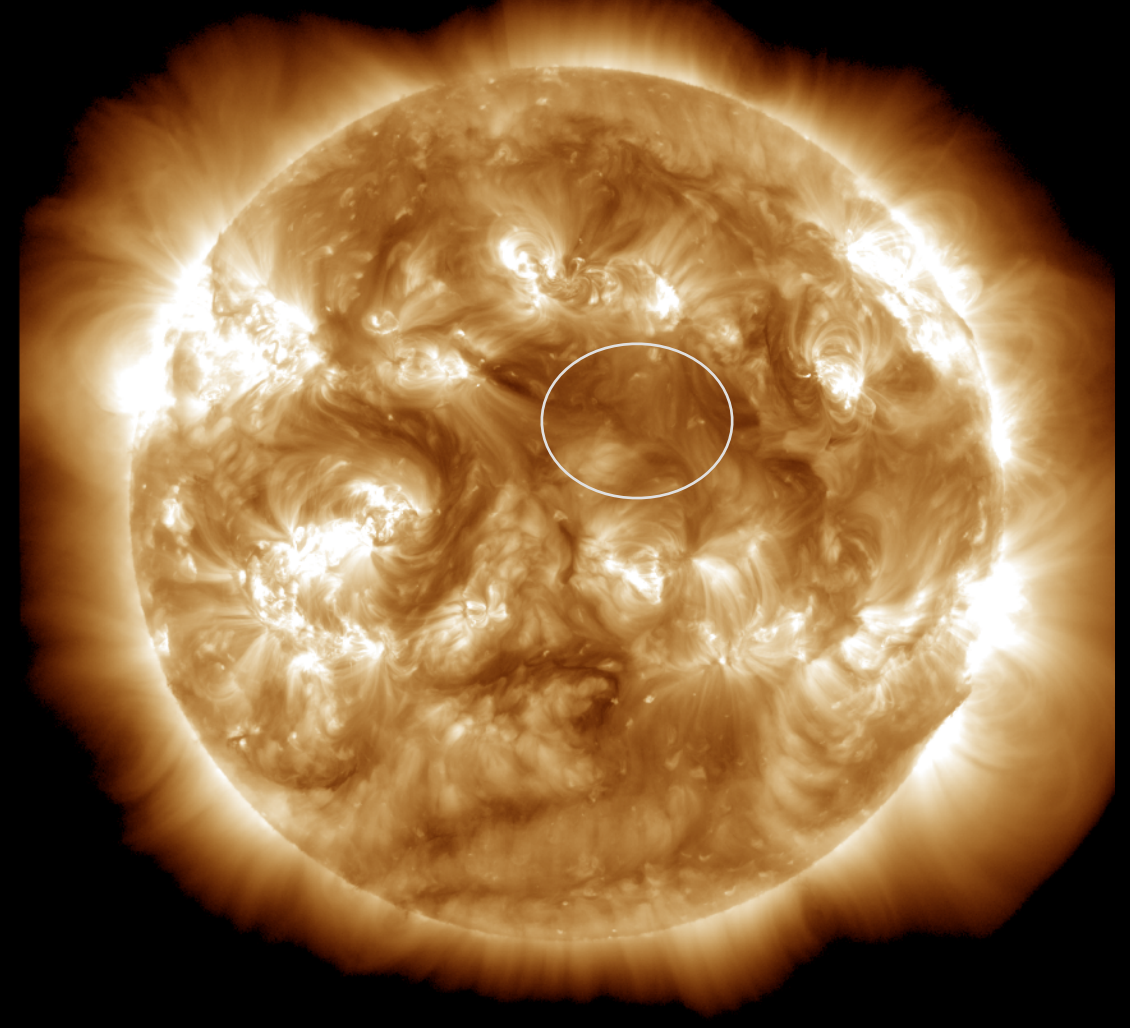
SDO/AIA 19.3 nm 2023-02-05

SDO/AIA AIA 193Å 2023-02-05T12:00:05.843



SDO/AIA 19.3 nm 2023-02-12

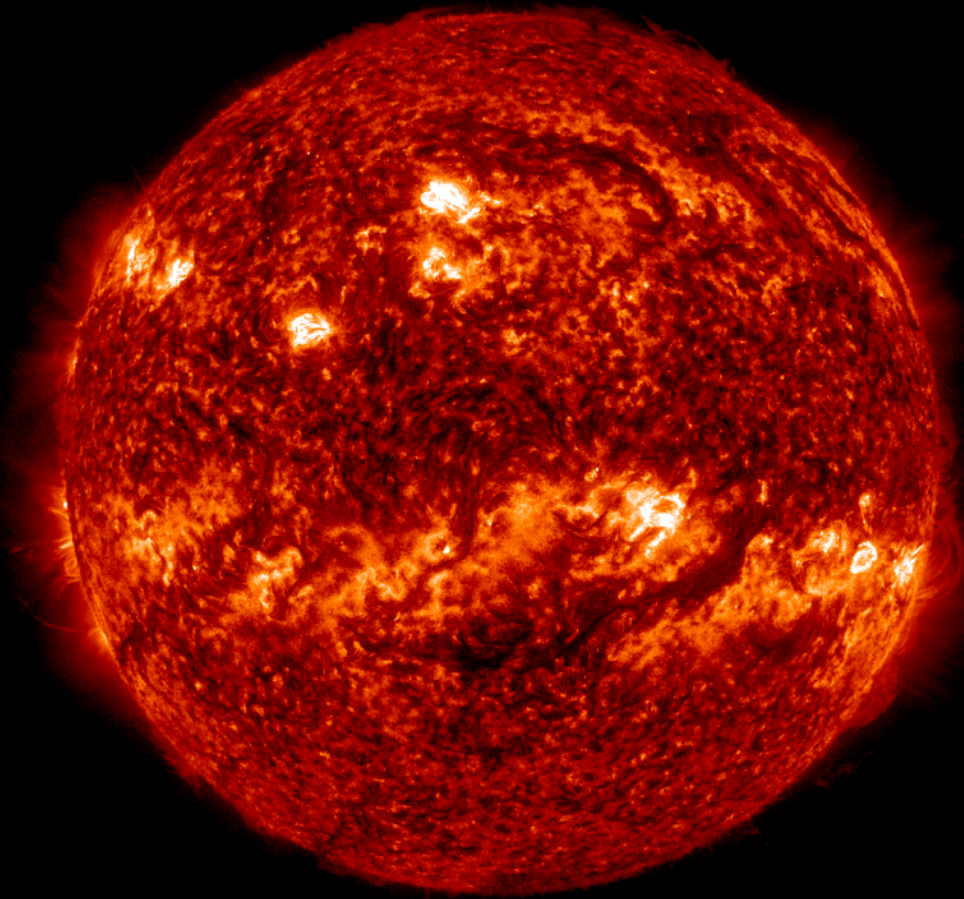
SDO/AIA AIA 193Å 2023-02-12T12:00:05.843



Filaments

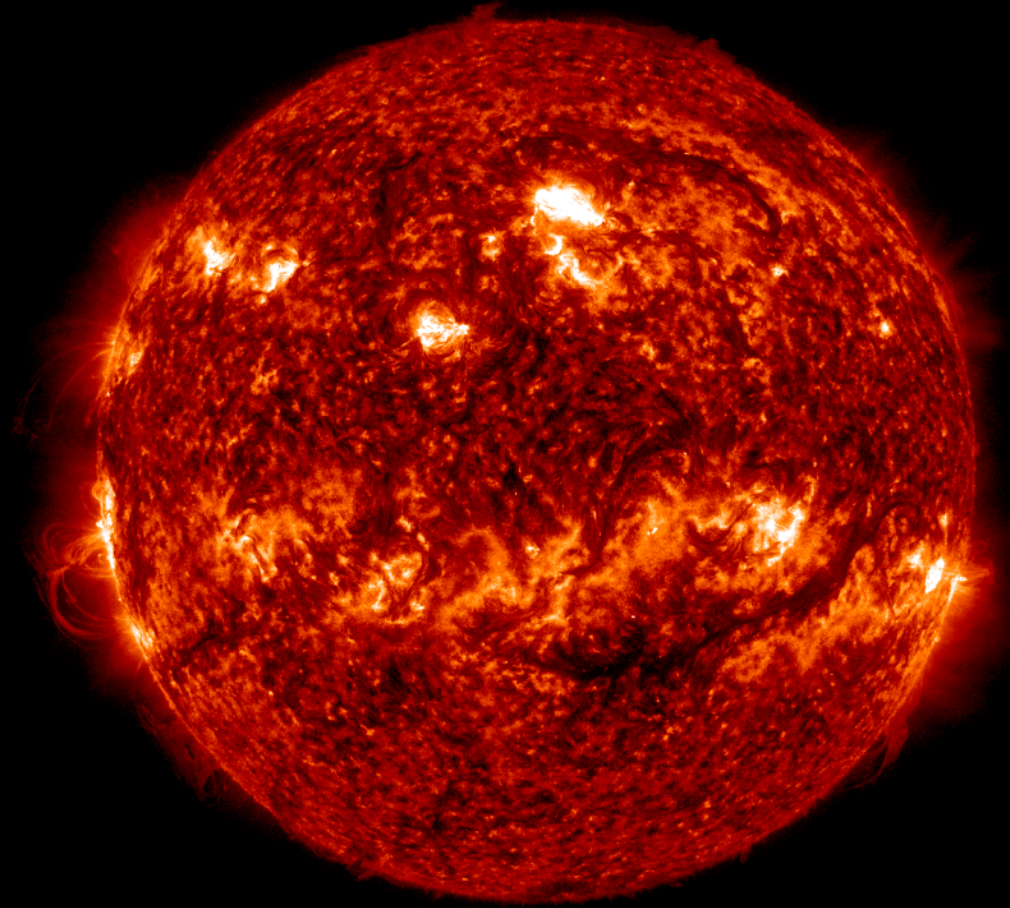
SDO/AIA 30.4 nm 2023-02-07

SDO/AIA AIA 304Å 2023-02-07T12:00:06.580



SDO/AIA 30.4 nm 2023-02-08

SDO/AIA AIA 304Å 2023-02-08T12:00:06.580



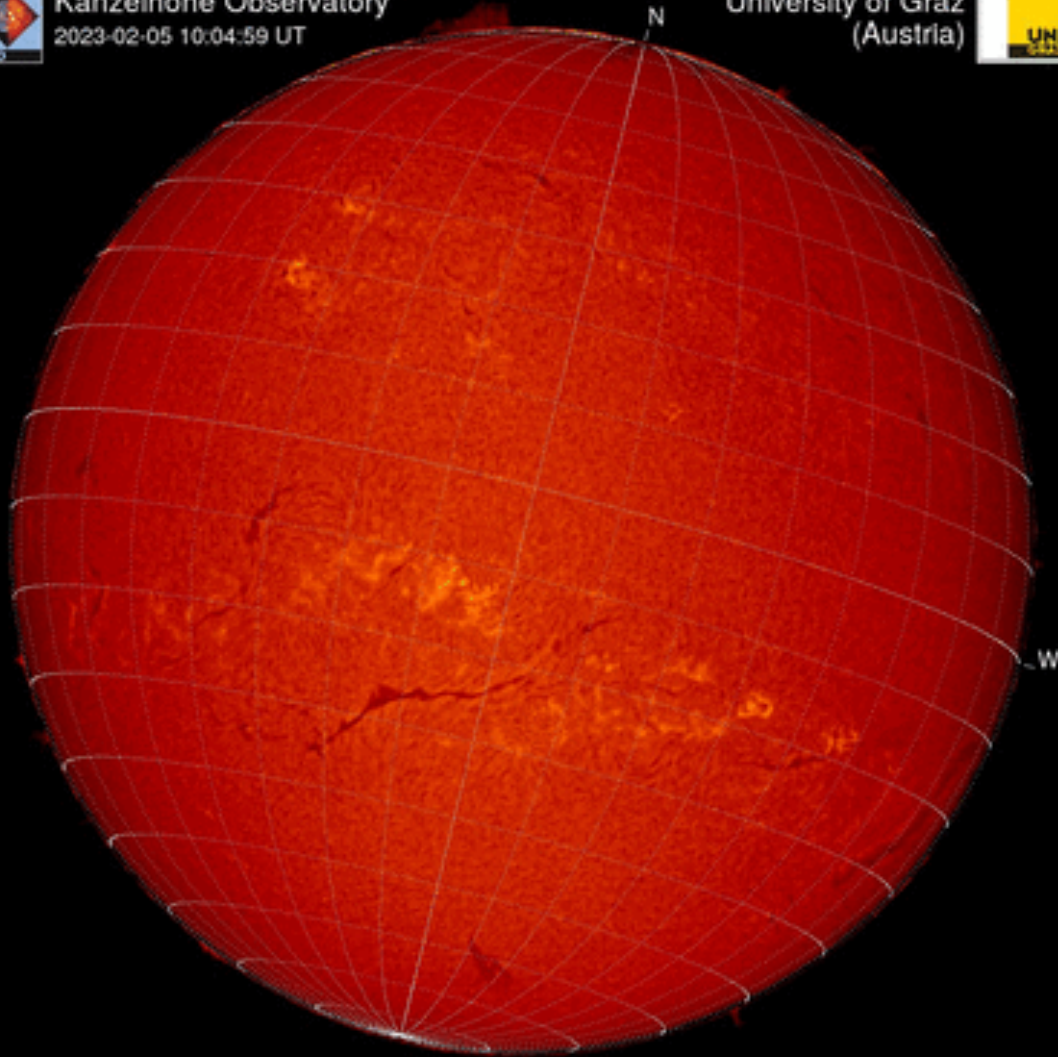
Filaments & Filament eruptions

H-alpha 2023-02-05



Kanzelhöhe Observatory
2023-02-05 10:04:59 UT

University of Graz
(Austria)

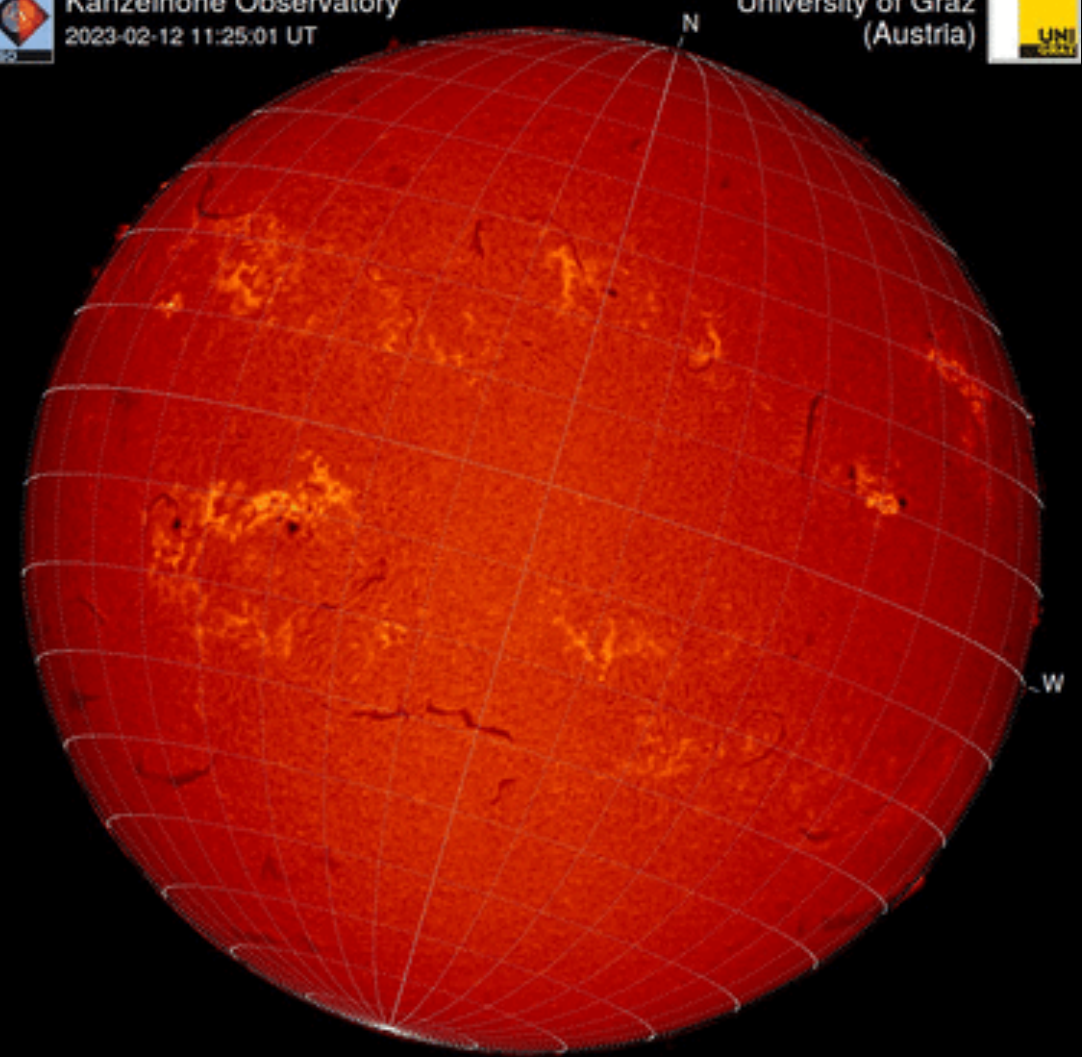


H-alpha 2023-02-12

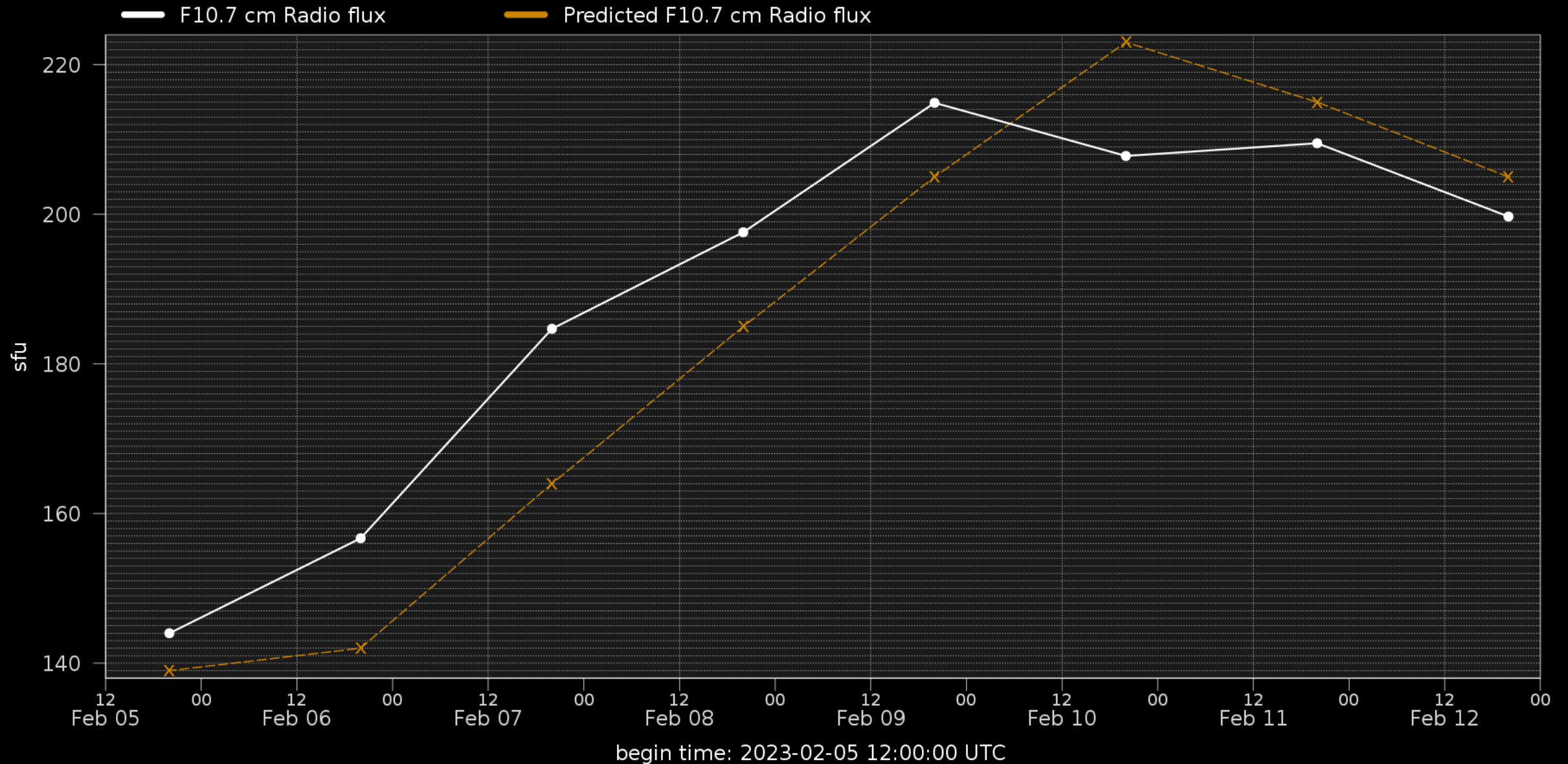


Kanzelhöhe Observatory
2023-02-12 11:25:01 UT

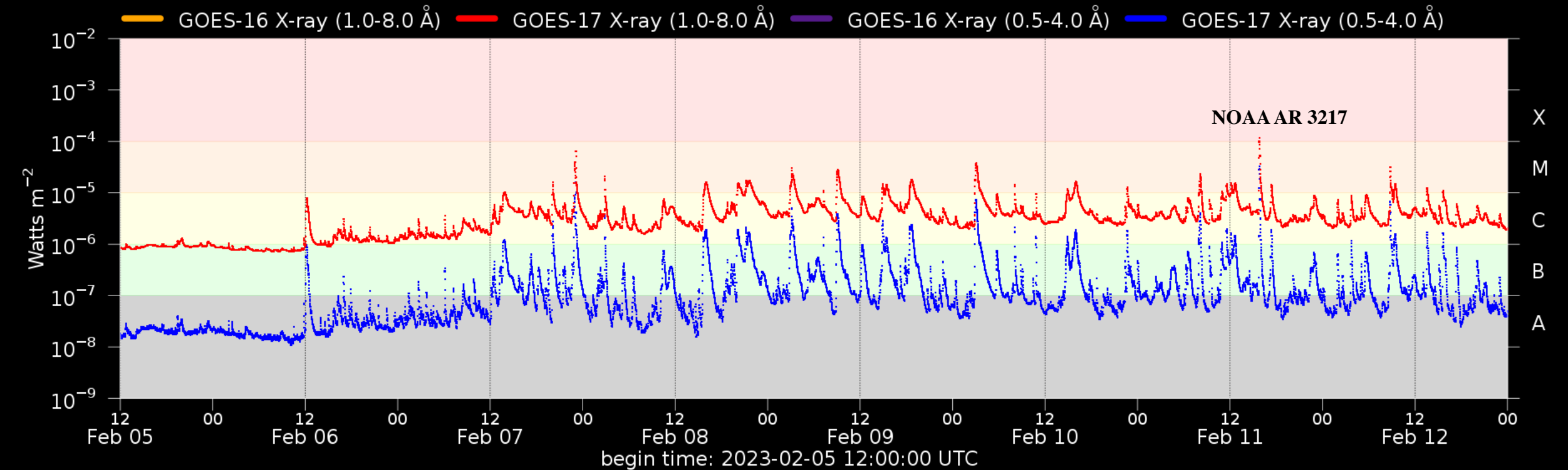
University of Graz
(Austria)



Solar F10.7cm radio flux



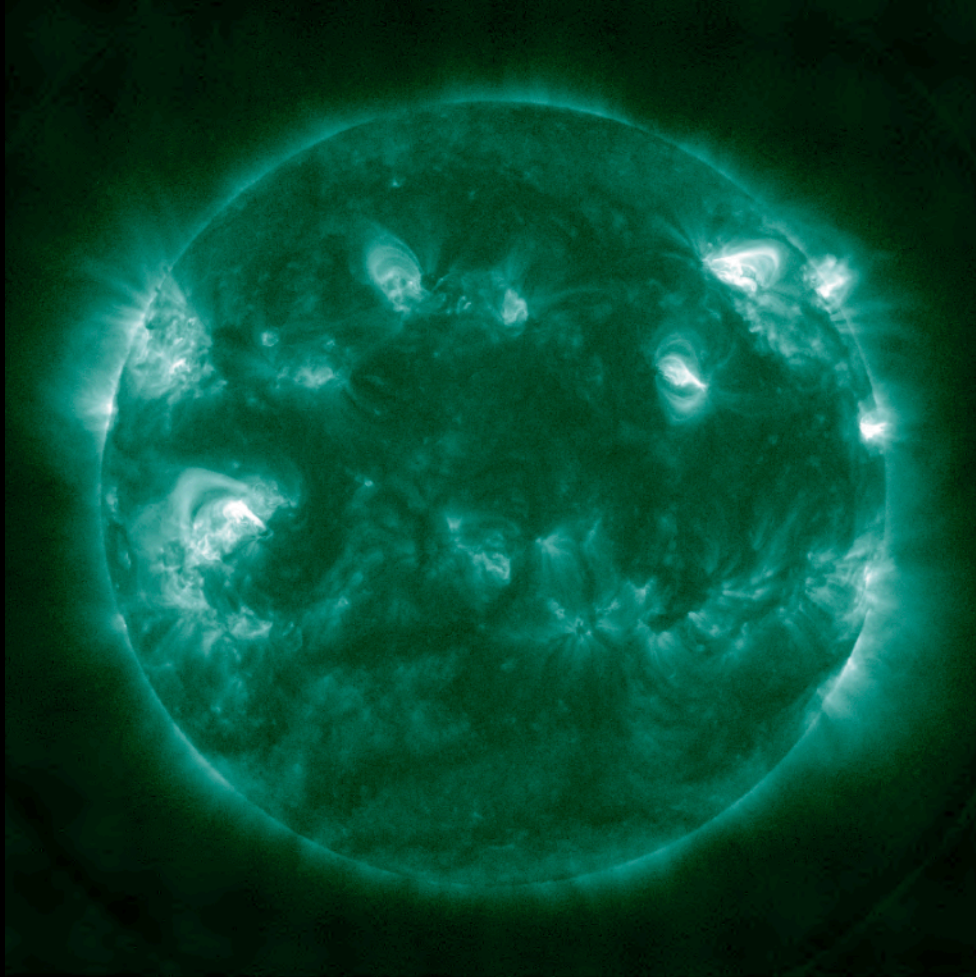
Flaring activity



Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

Issue date	2023-02-05	2023-02-06	2023-02-07	2023-02-08	2023-02-09	2023-02-10	2023-02-11	2023-02-12
Probability (%)	90 20 03	60 10 01	75 15 01	75 45 01	95 60 05	95 60 05	99 70 05	99 75 15
Observed (#)	02 00 00	11 00 00	10 05 00	05 06 00	07 05 00	05 05 00	06 05 01	04 02 00

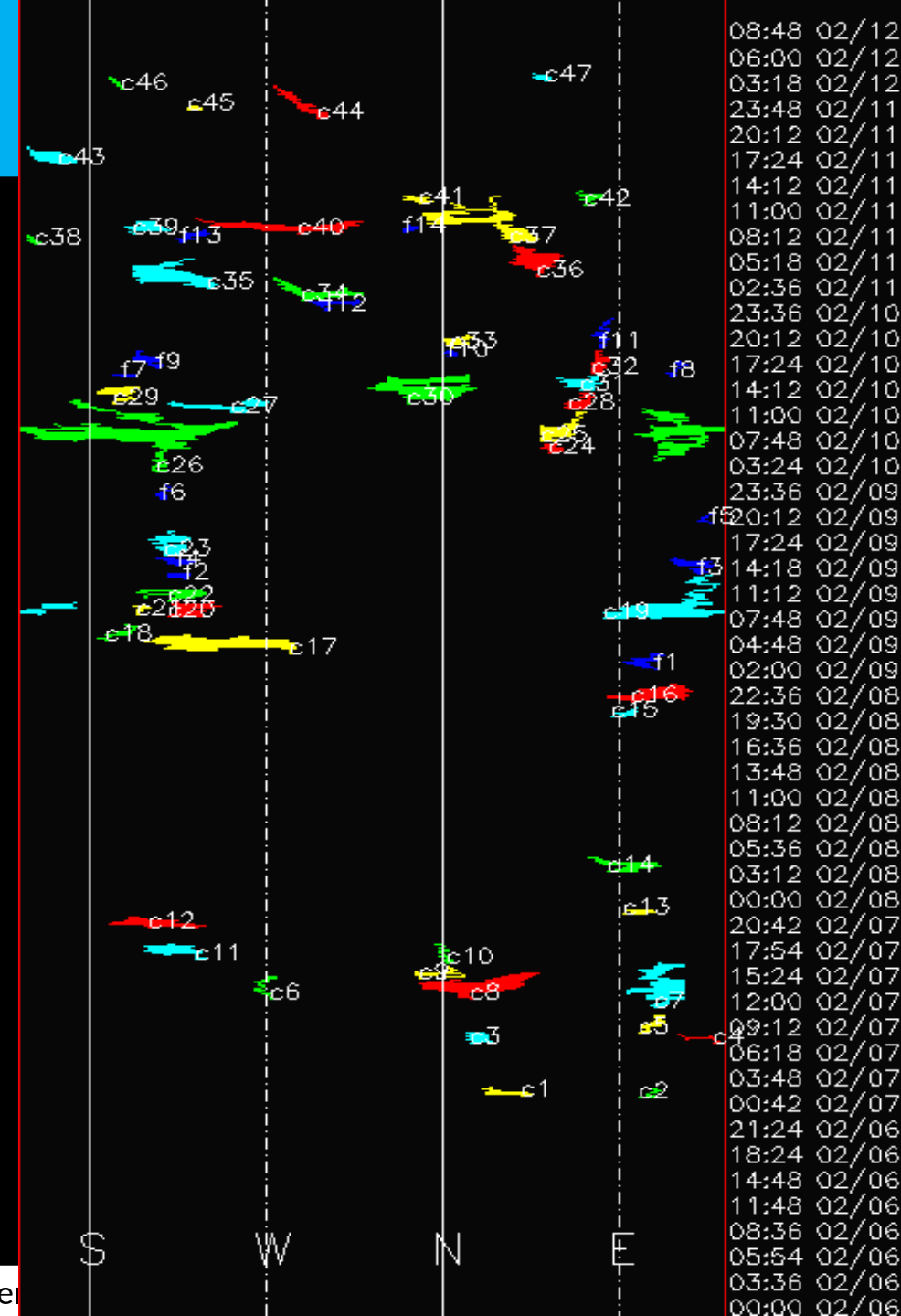
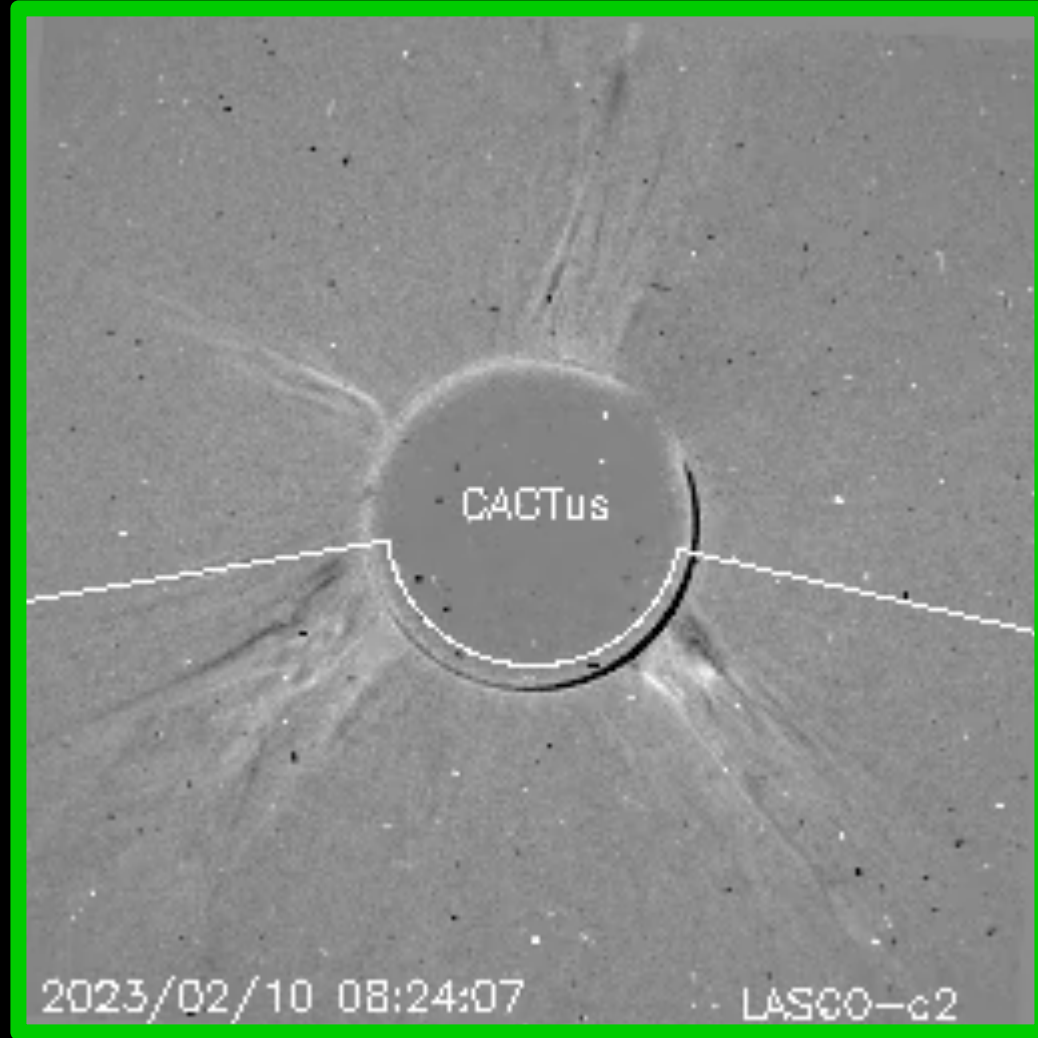
Flaring activity



2023-02-11T16:33:23

NOAA AR 3217 produced an X1.1-class flare, peaking at 15:48 UTC on February 11, 2023.

Coronal Mass Ejections



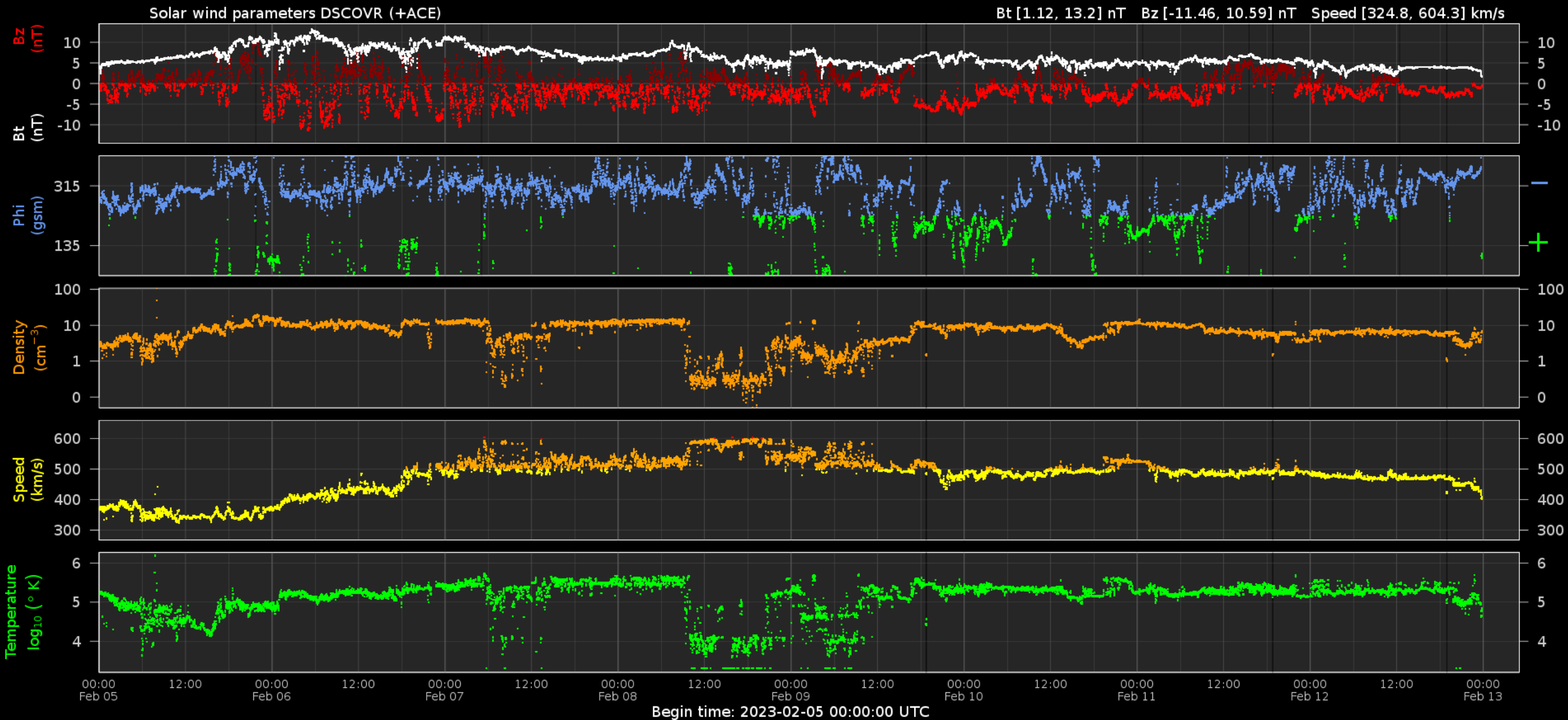
Solar Wind and Geomagnetic Activity



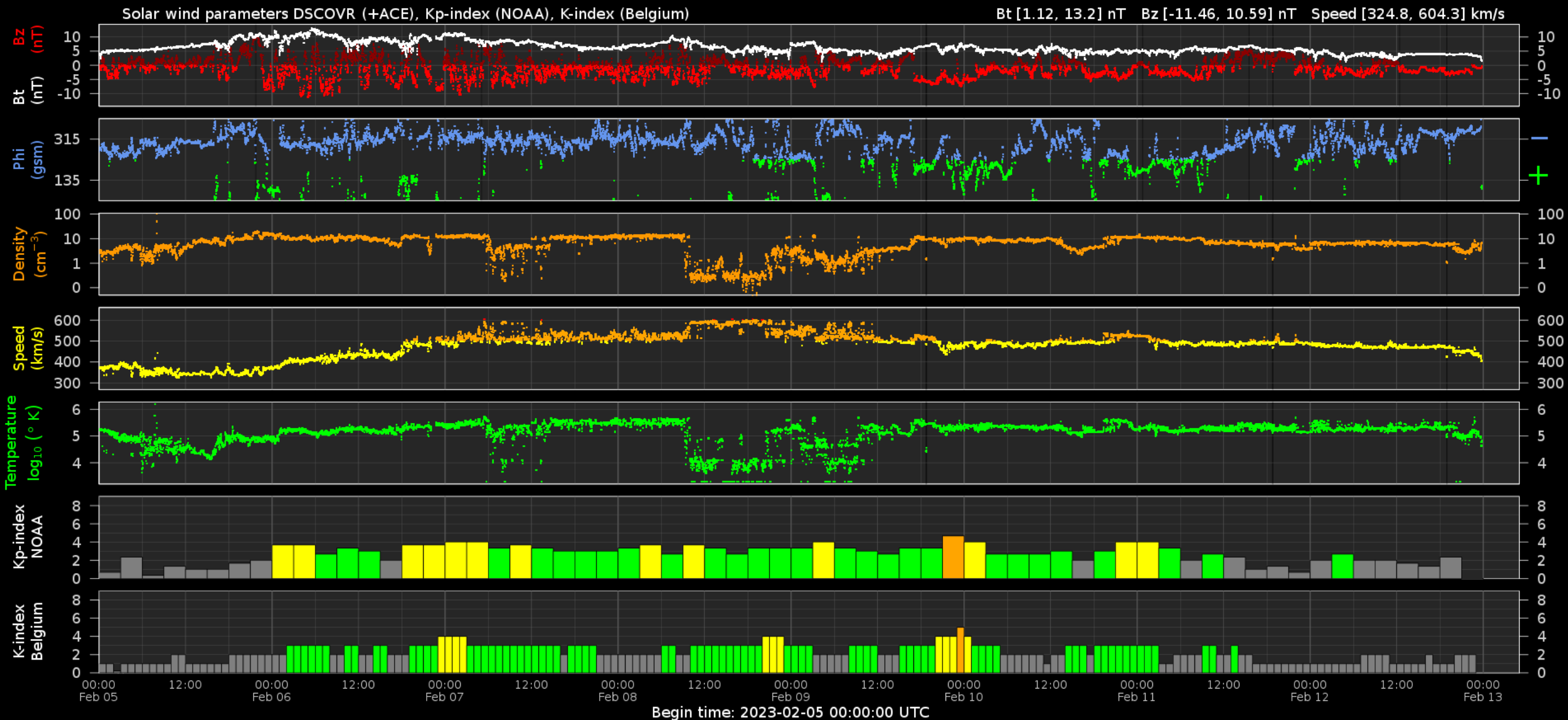
Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Solar wind parameters



Solar wind parameters & K-indices



Geomagnetic activity (K-indexes)



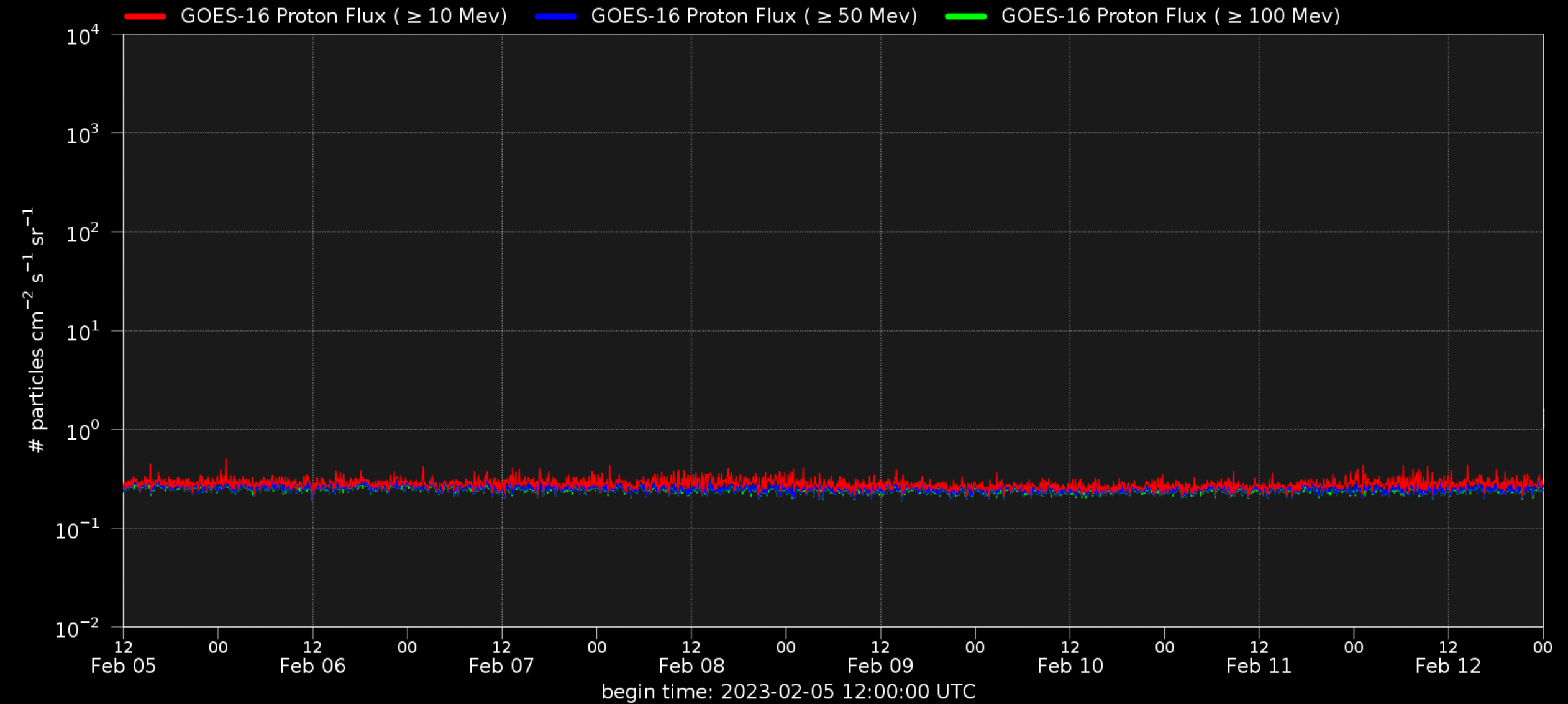
Energetic Particles



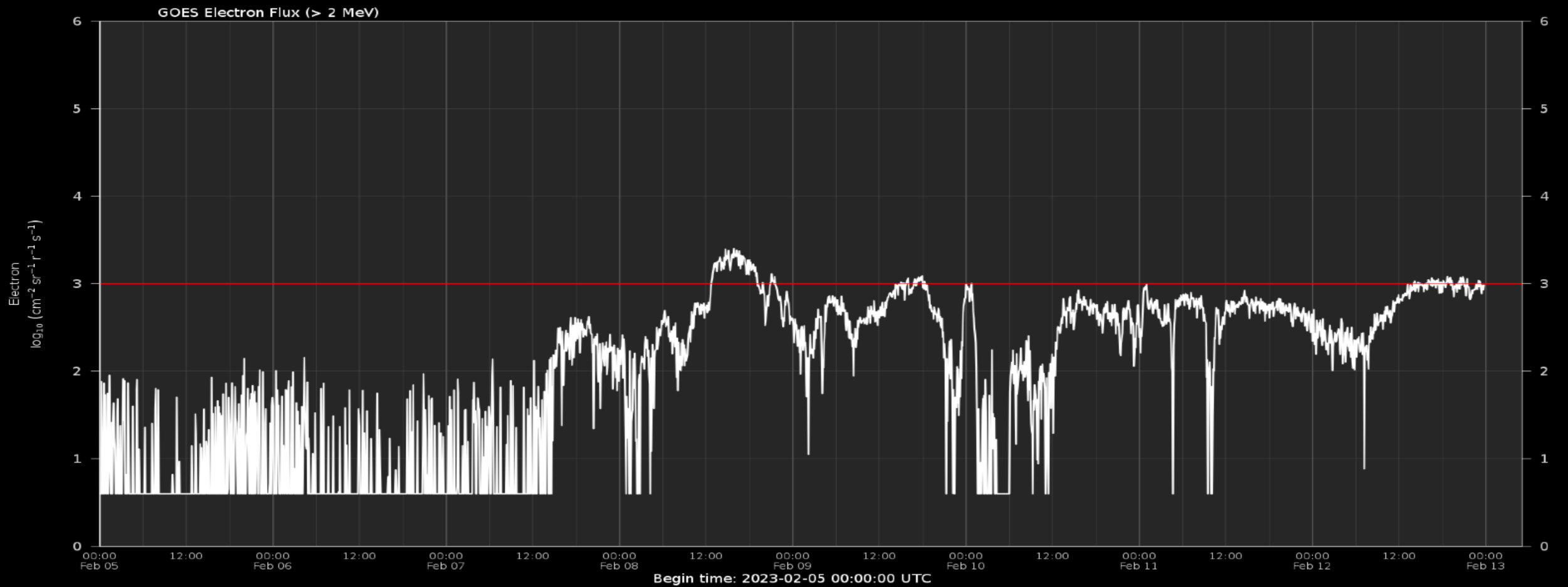
Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Solar proton flux



Electron flux at GEO



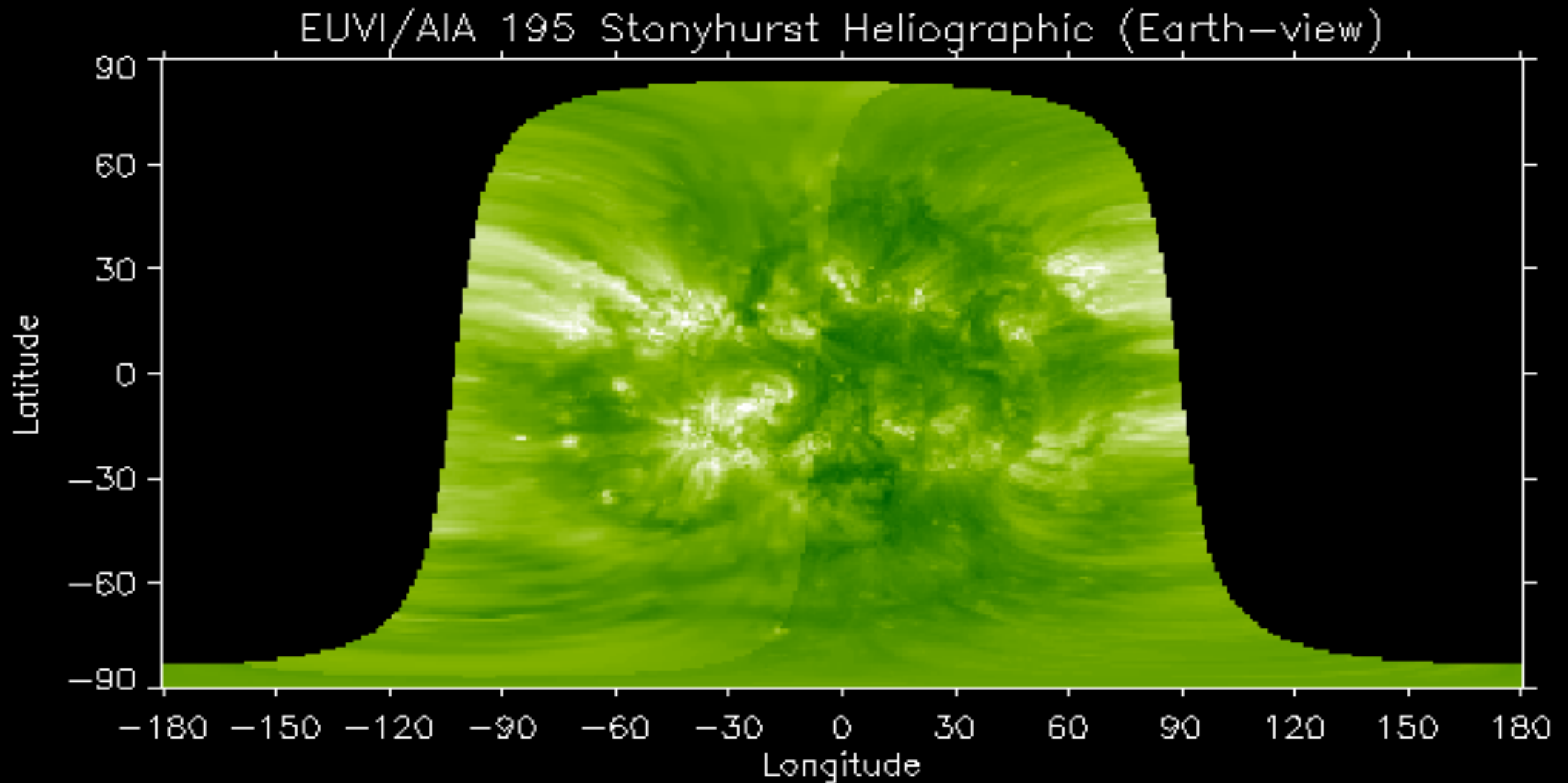
Outlook



Royal Observatory
of Belgium

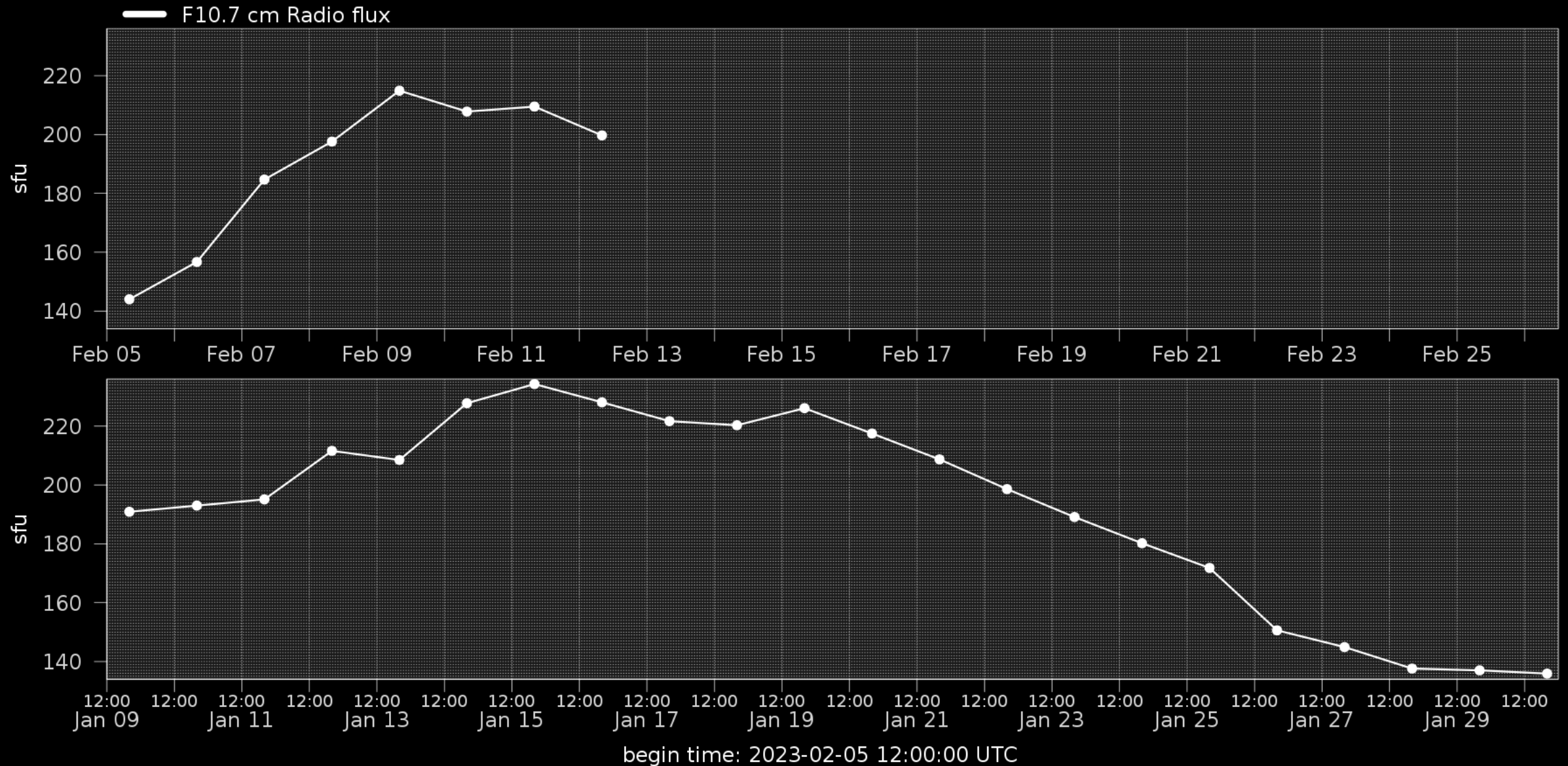
Solar Influences
Data analysis Centre
www.sidc.be

Outlook: Solar activity

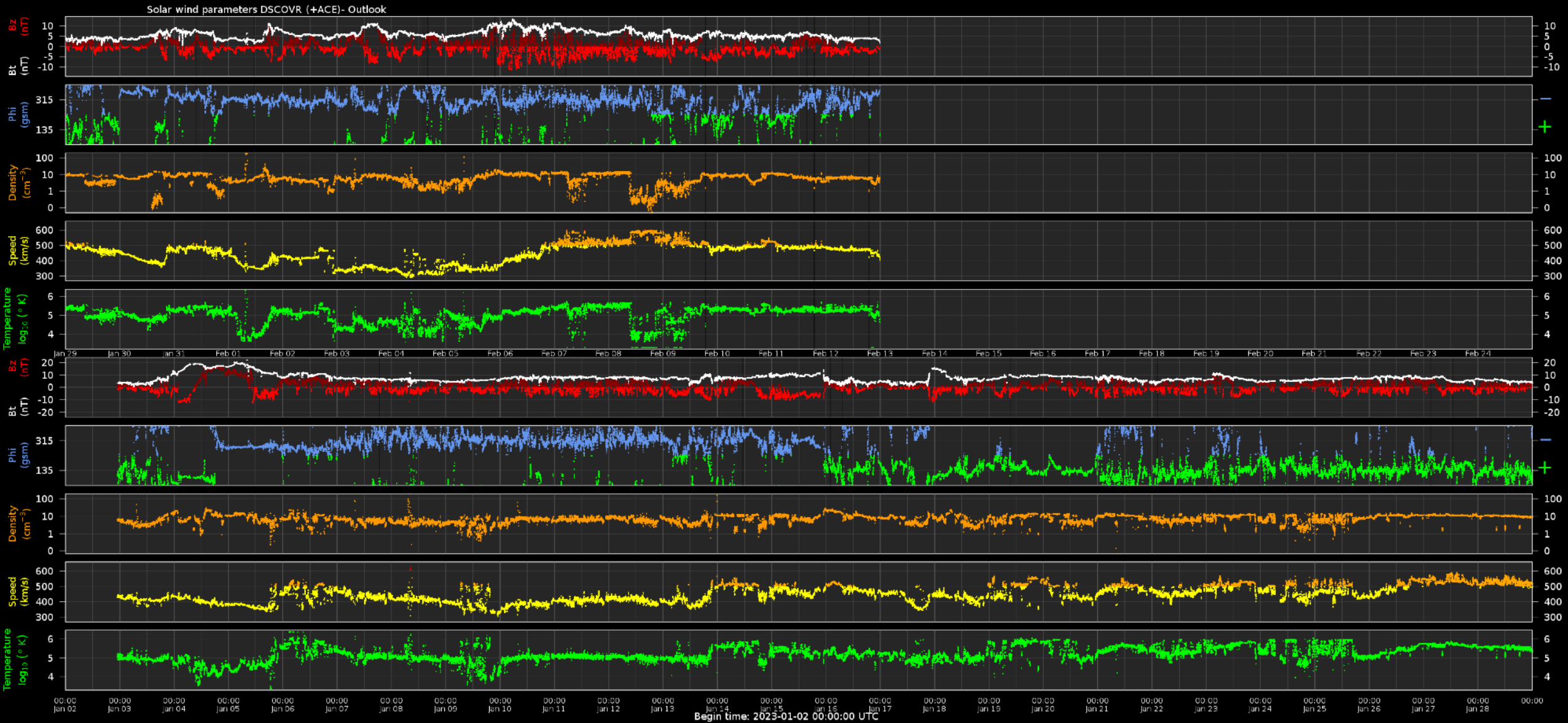


Observation date: 2023/02/12 23:05:00

Outlook: Solar F10.7cm radio flux



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Pegasus



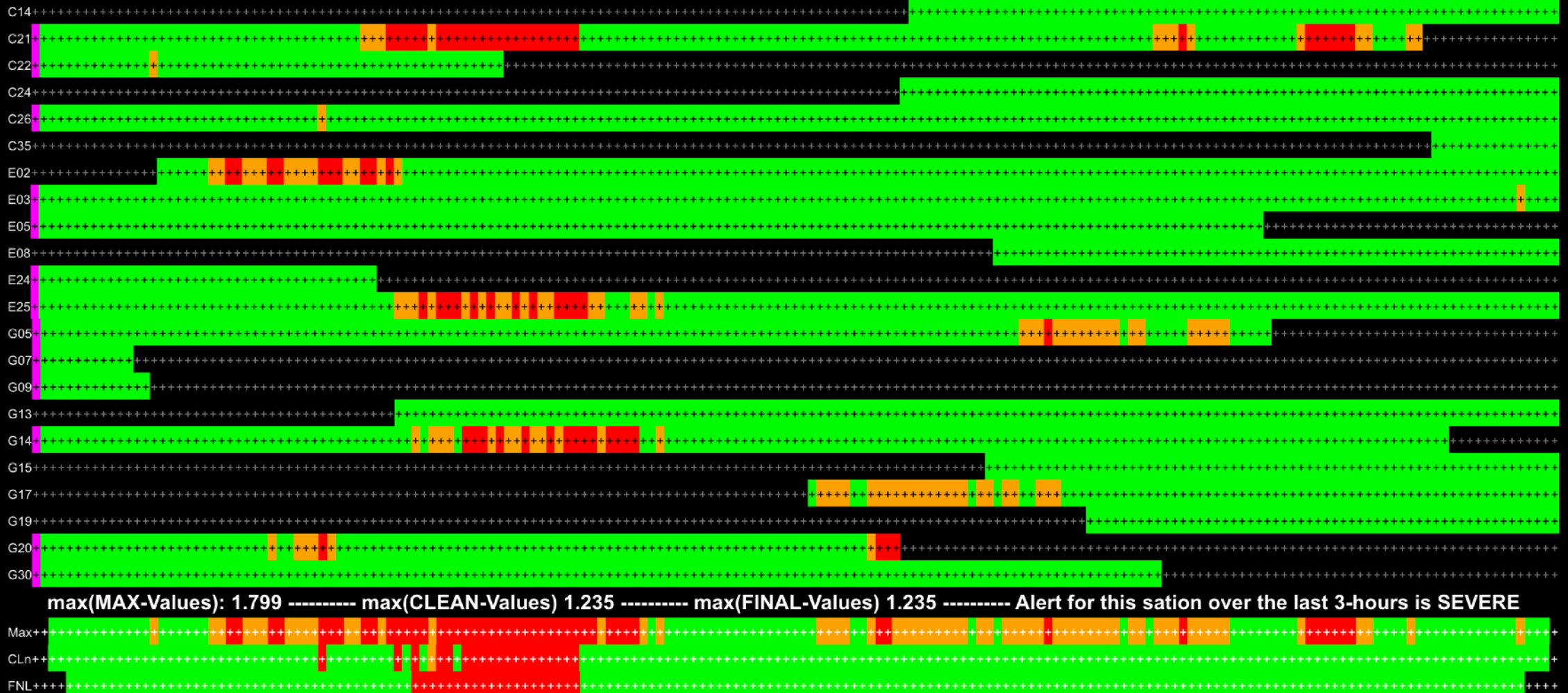
Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Pegasus related events: Regular nightly EQ scintillations

INGV STATION TUC0P (#satellite=22)

From 2023-Feb-10 00:20 To 2023-Feb-10 03:20



SIDC Space Weather Briefing

See you at our next briefing!

Or visit us at www.sidc.be



Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be