SOLAR WEATHER
2 JUL 2024

Lewis Thompson
W5IFQ

October 30, 2022 @ Fairbanks

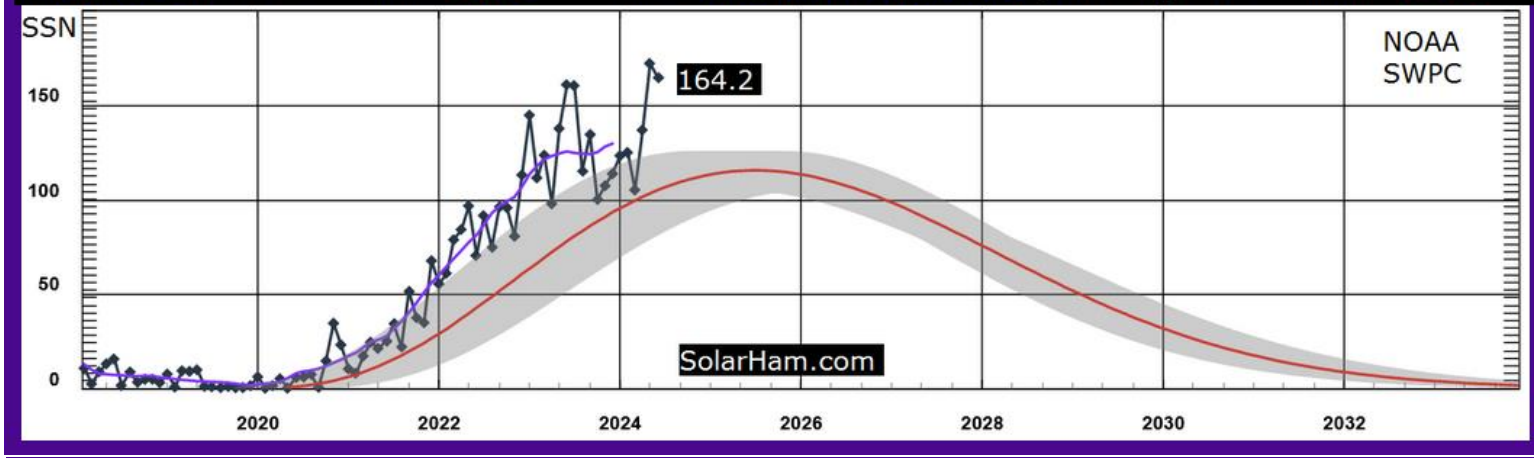
Taken by Matt Comerford on June 28, 2024 @ Hiawatha National Forest, Michigan

Solar Cycle 25 Progression

(Updated July 1, 2024)

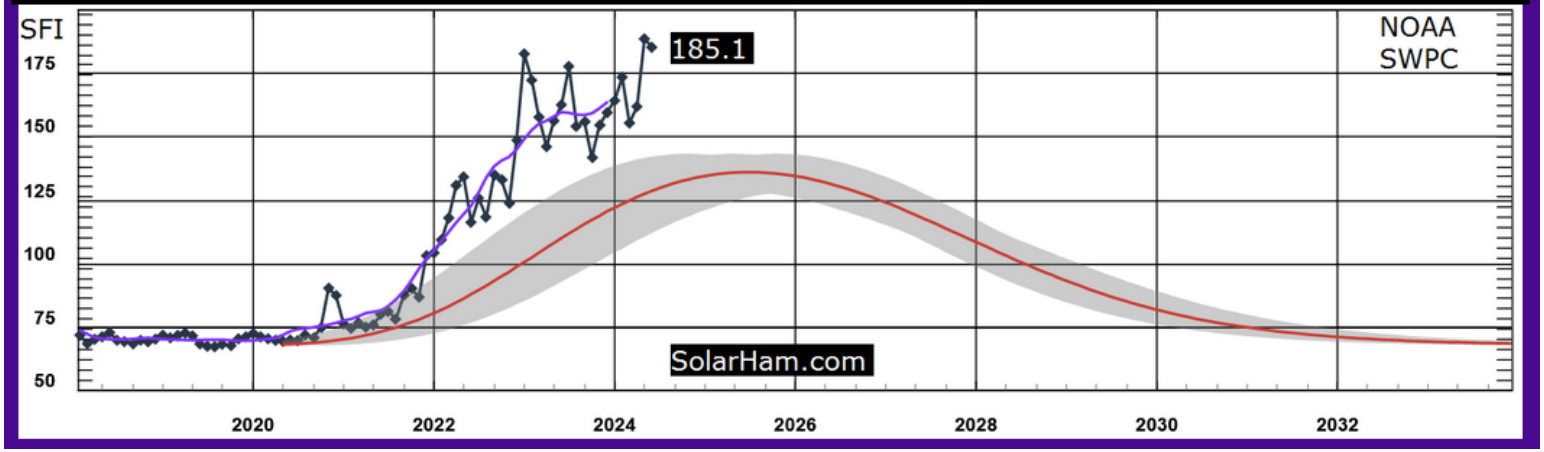
Sunspot Number Progression (June 2024)

Predicted SSN: **104.9** Actual: **164.2** Latest Smoothed Predicted SSN (12/2023): **93.2** Actual: **129.4**



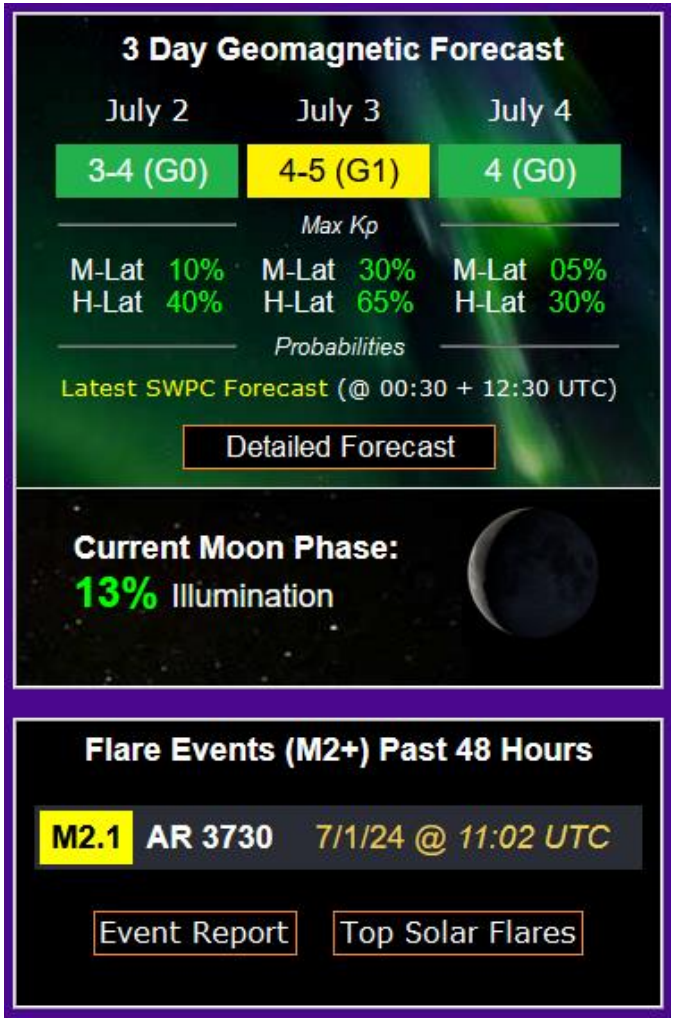
10.7cm Solar Flux Progression (June 2024)

Predicted SFI: **128.5** Actual: **185.1** Latest Smoothed Predicted SFI (12/2023): **120.4** Actual: **163.3**



Present Conditions and Forecast

SolarHam

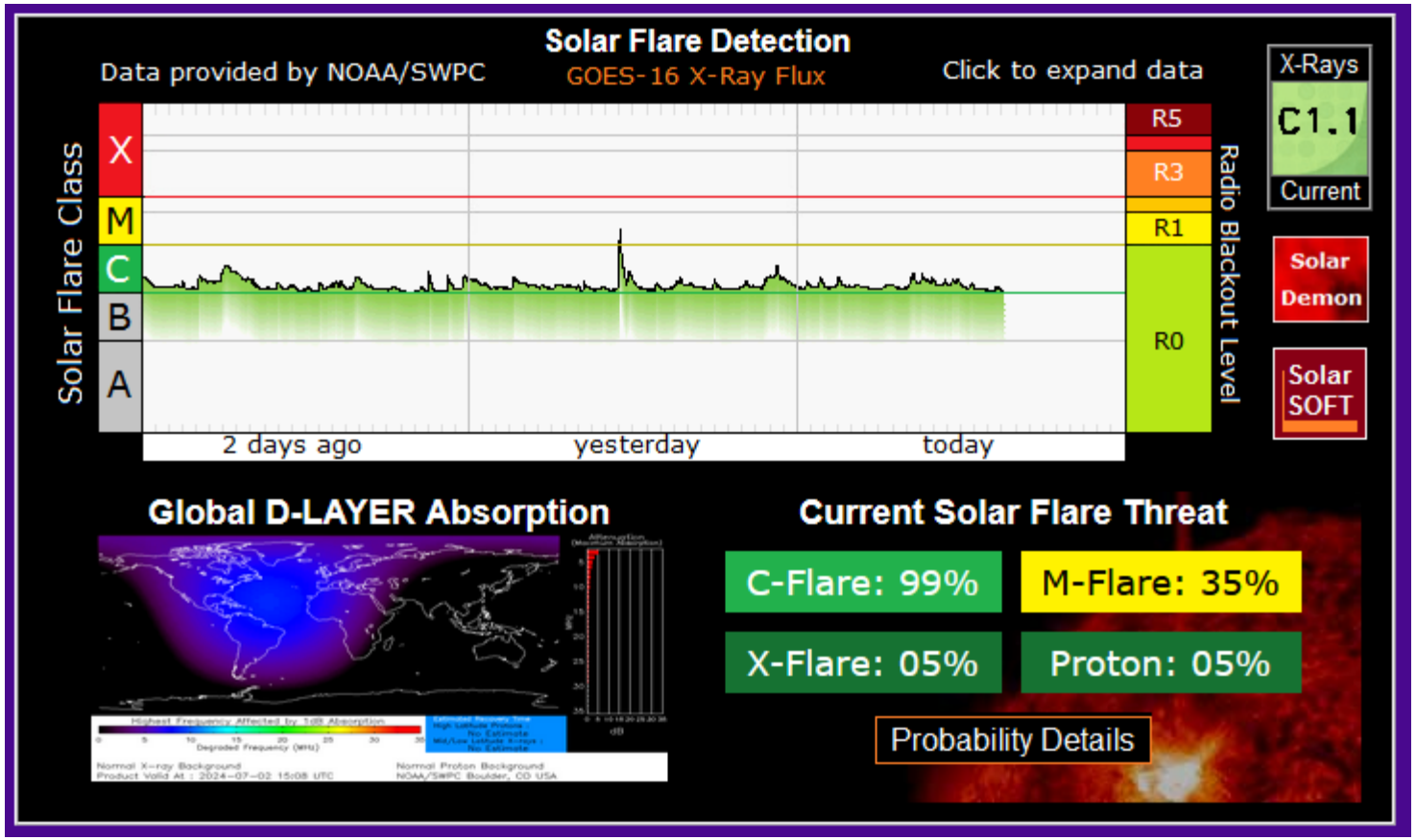


Visible Sunspot Regions

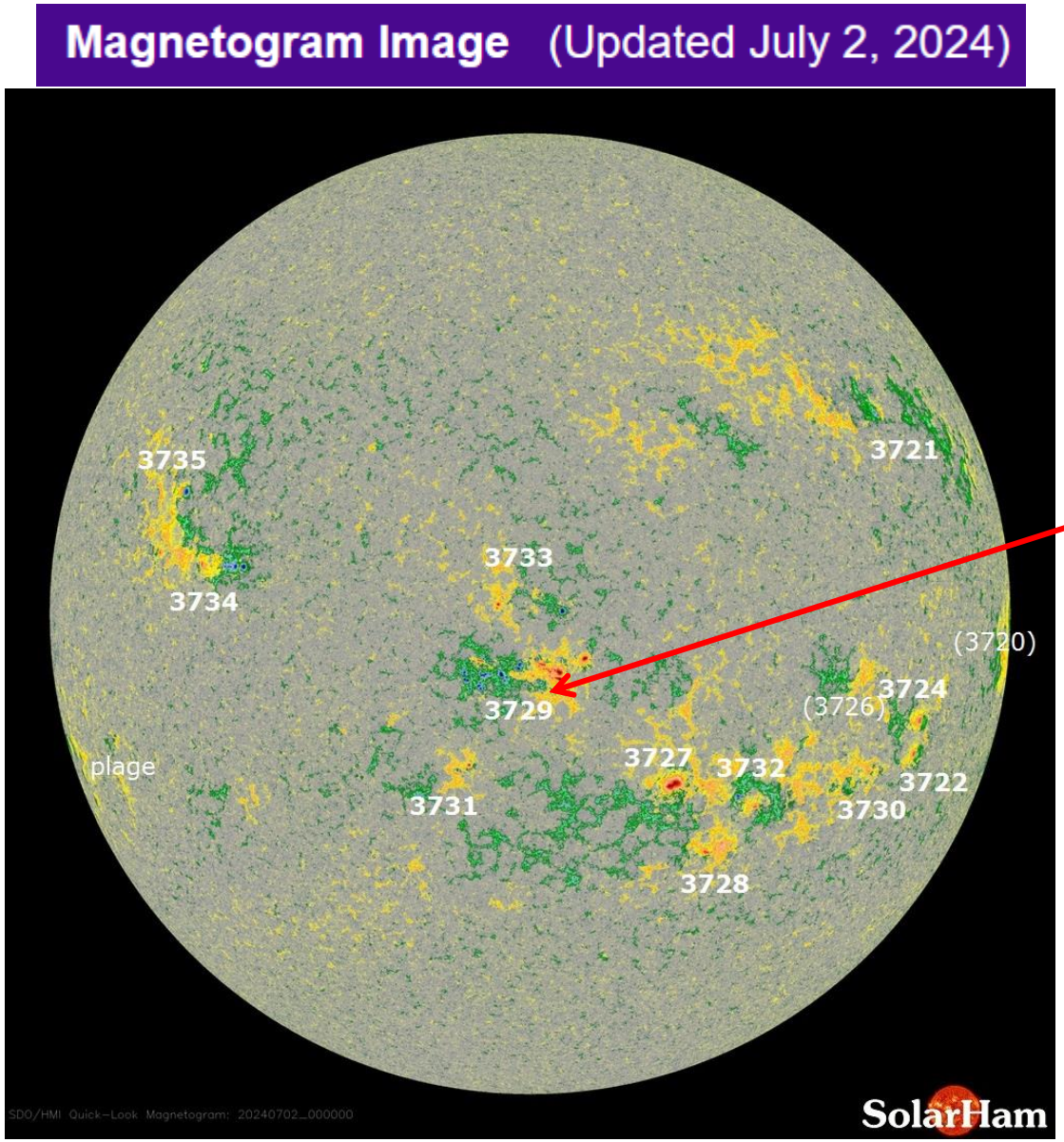
AR 3735	A	N17E47	*Declining*
AR 3734	B	N09E42	*Growing*
AR 3733	B	N05W00	*Stable*
AR 3732	B	S18W25	*Growing*
AR 3731	A	S15E07	*Stable*
AR 3730	B	S17W47	*Growing*
AR 3729	BG	S04W00	*Growing*
AR 3728	B	S27W22	*Declining*
AR 3727	B	S18W19	*Declining*
AR 3724	A	S16W56	*Stable*
AR 3722	A	S12W57	*Declining*
AR 3721	A	N26W55	*Stable*

Present Conditions and Forecast

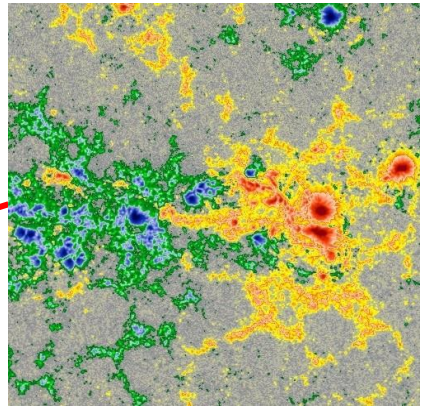
SolarHam



Solar Flare Activity

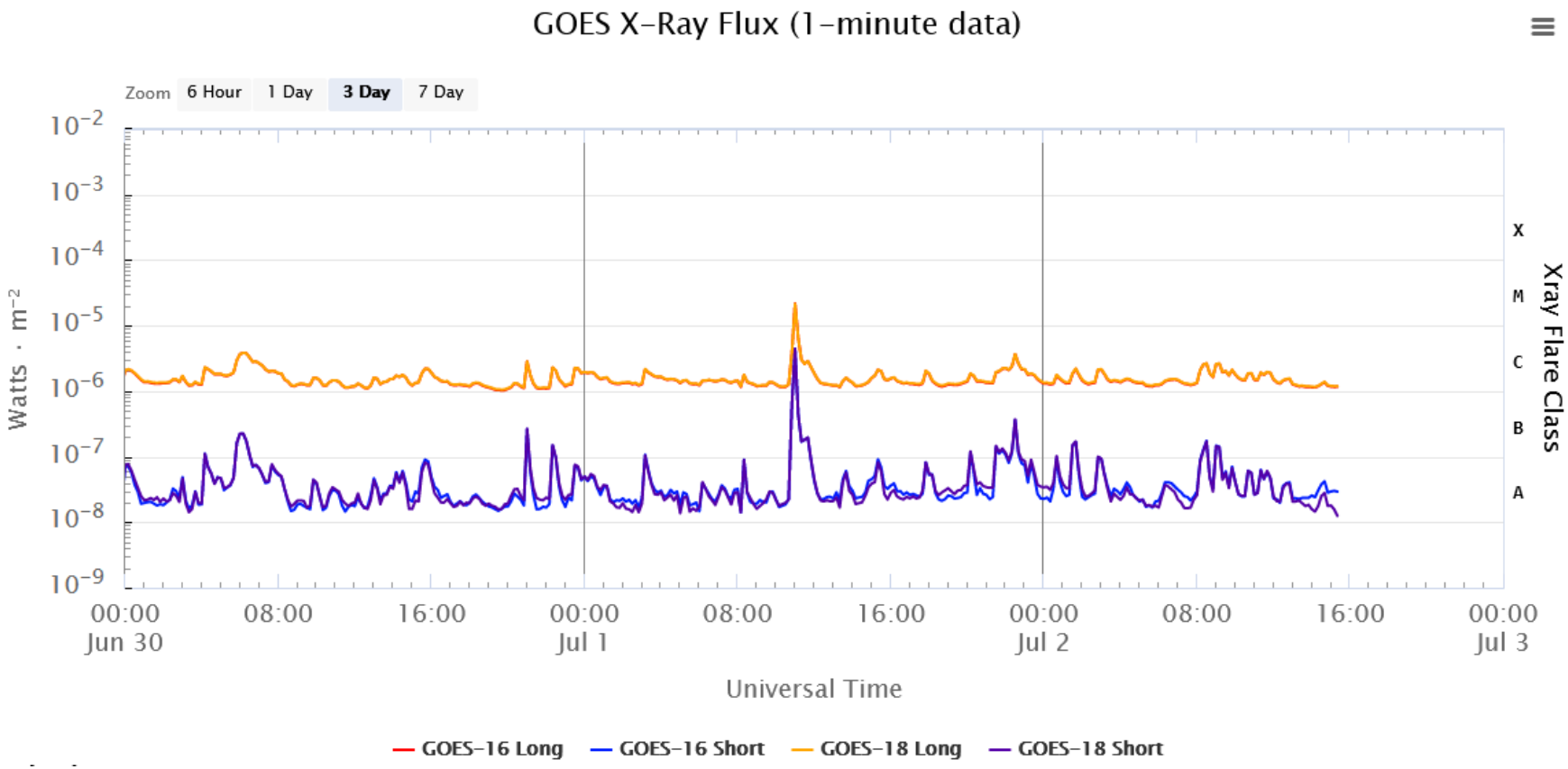


Uses Zeeman effect to measure polarity of magnetic fields

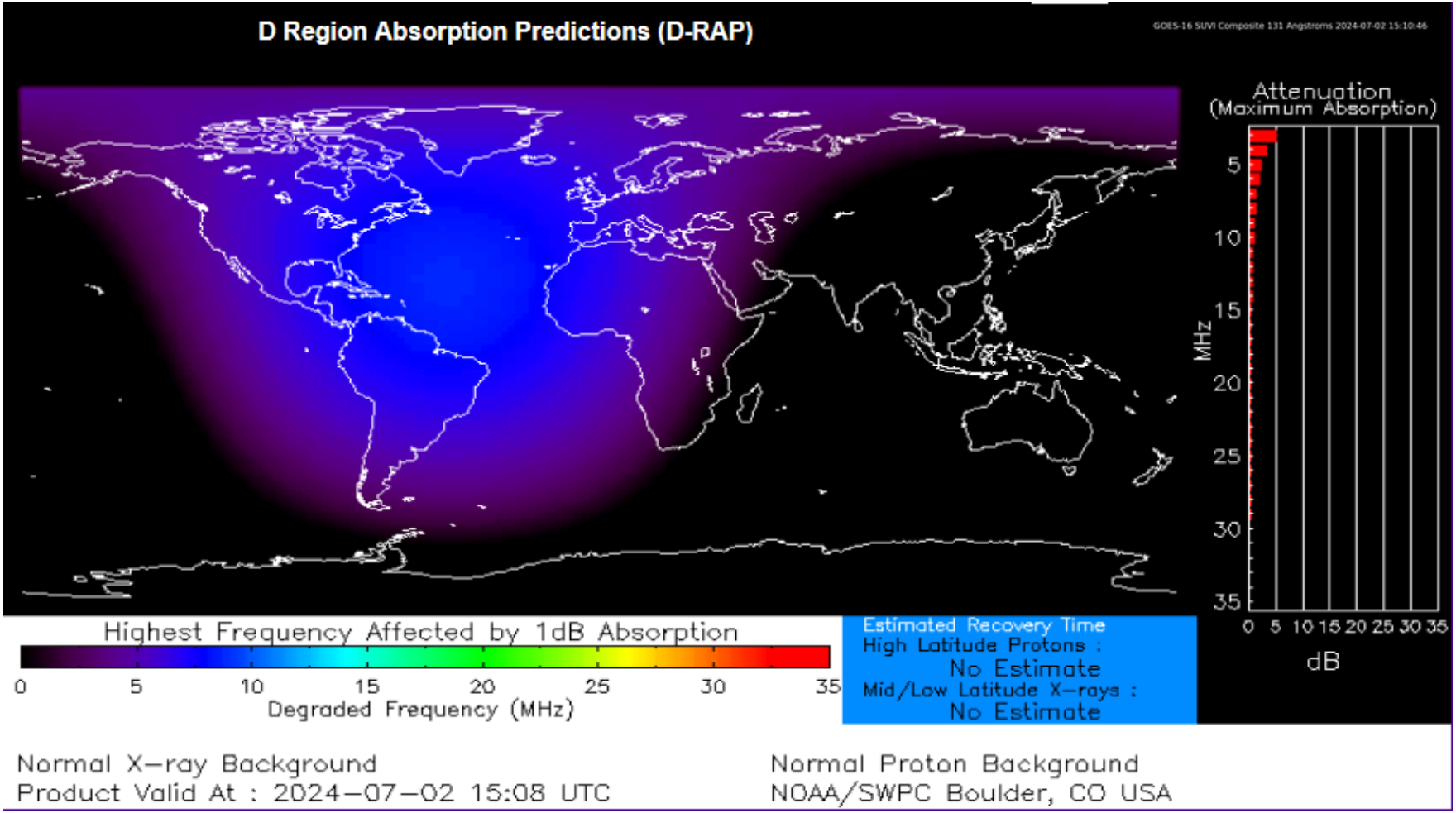


Beta-Gamma

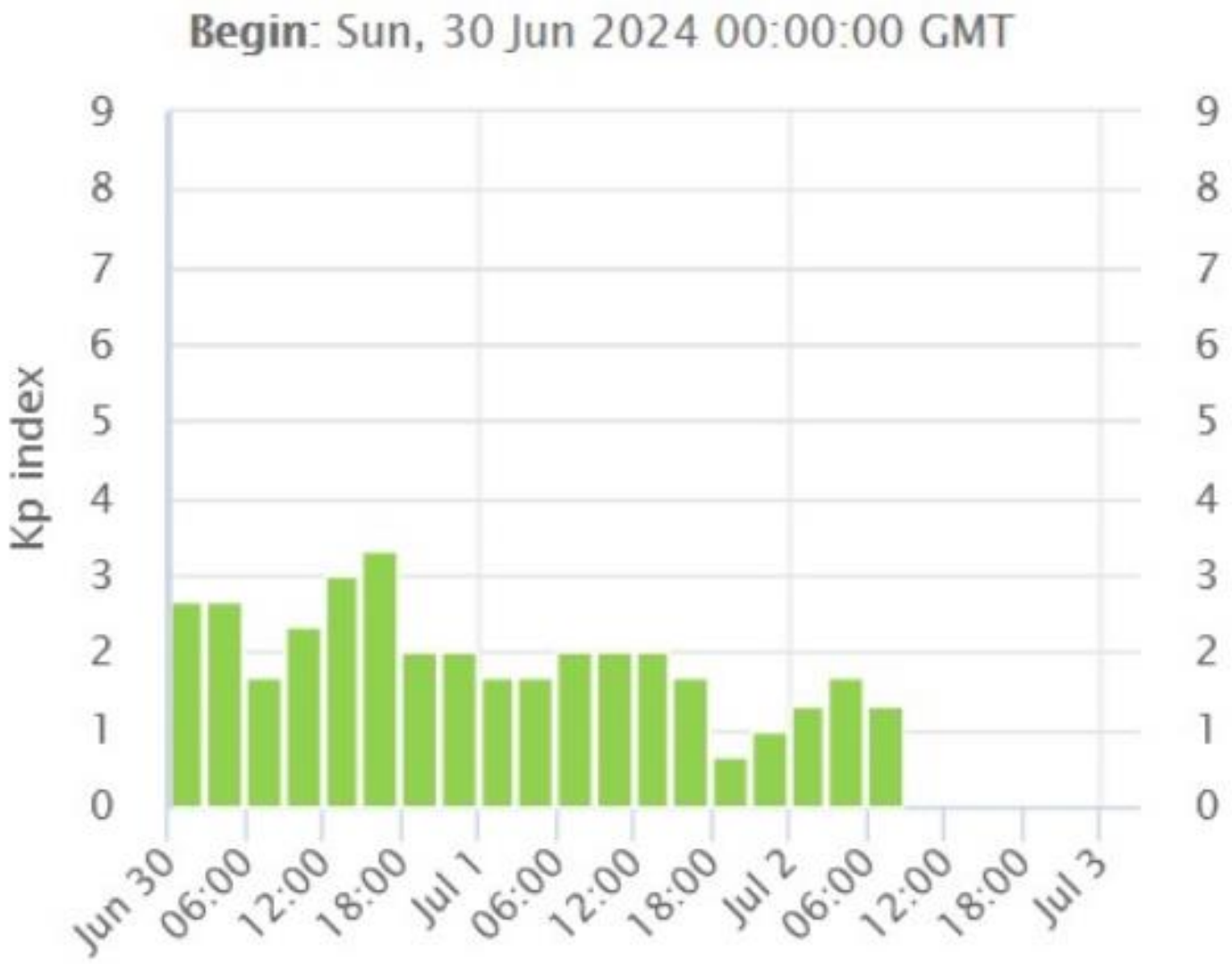
Solar X-Ray Flux: 30 JUN – 2 JUL 2024



NOAA – D-Region Absorption Predictions



Earth’s Geomagnetic Activity



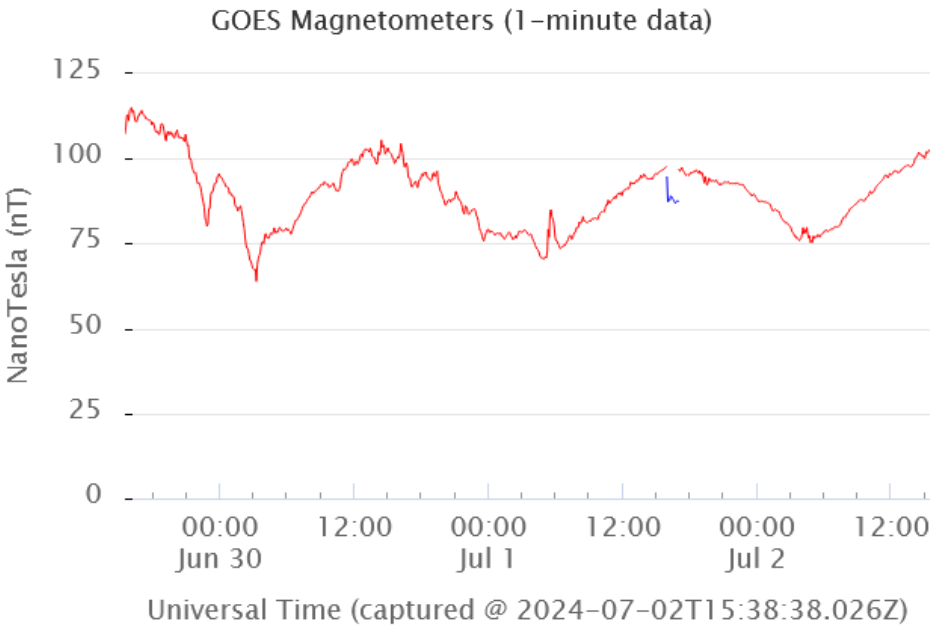
Geomagnetic Conditions: 2 JUL 2024

Solar wind:
Bz = 0 nT
speed = 386 km/sec
density = 1.50 protons/cm^3

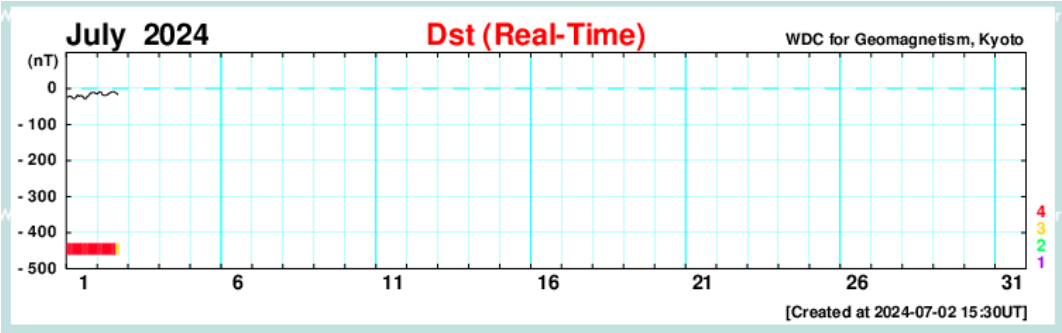
(From – NOAA DSCOVR
In L1, Lagrange Point)

Dst = -17 nT (Ring Field)

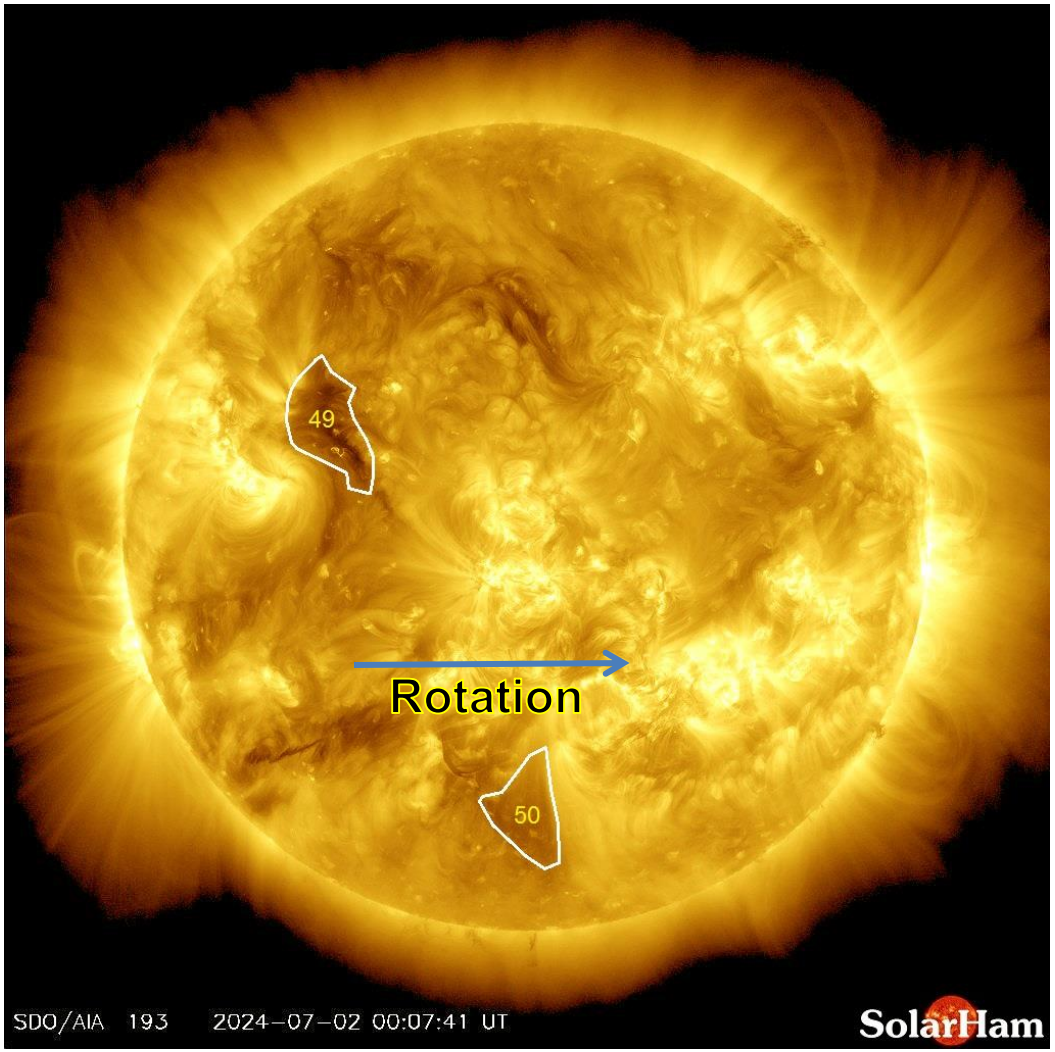
(From – Data Analysis Center
For Geomagnetics and Space
Magnetism – Kyoto University)



From – GOES 16
In geostationary orbit



Coronal Holes – 2 JUL 2024

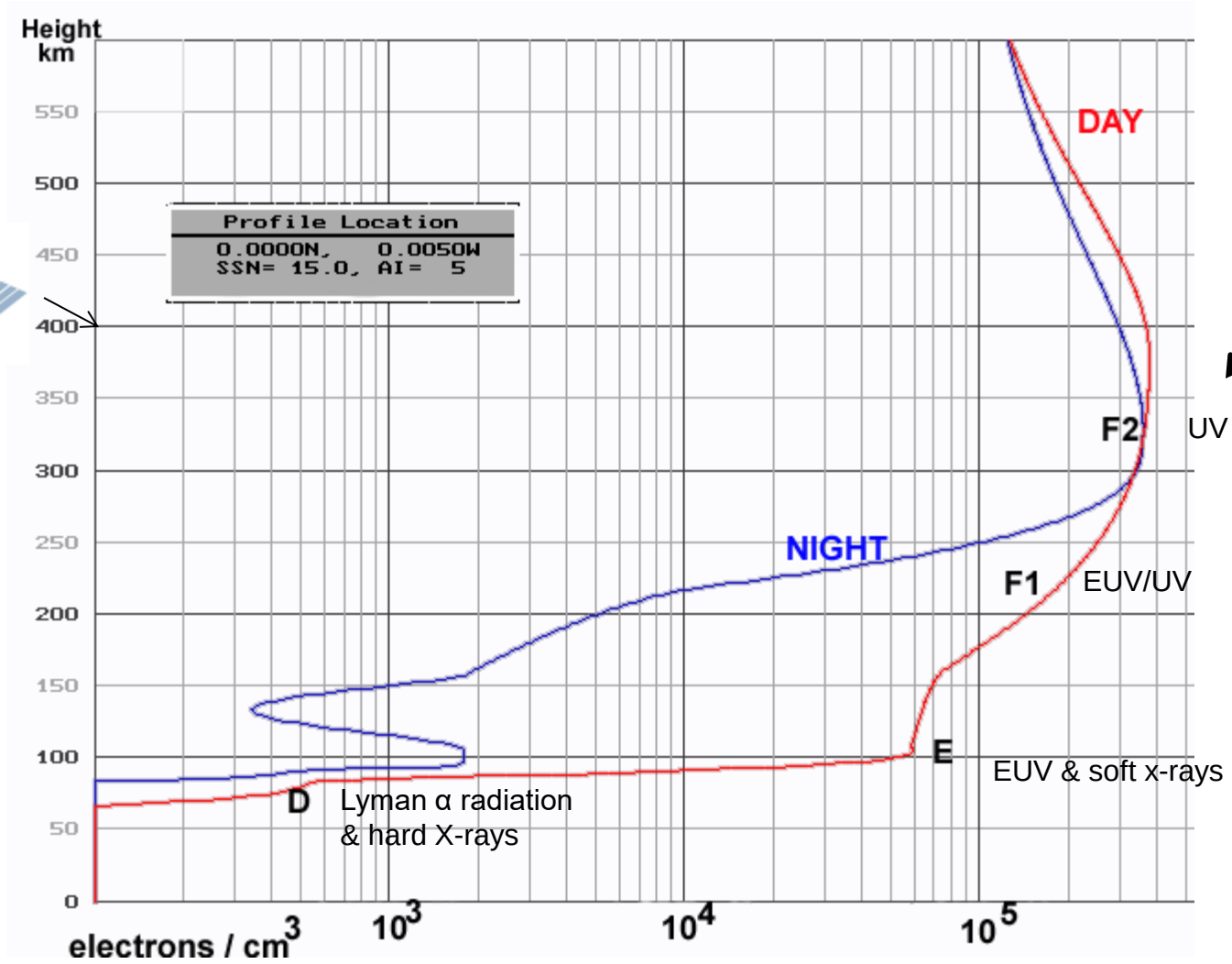


Analysis

There are currently no large coronal holes facing Earth.

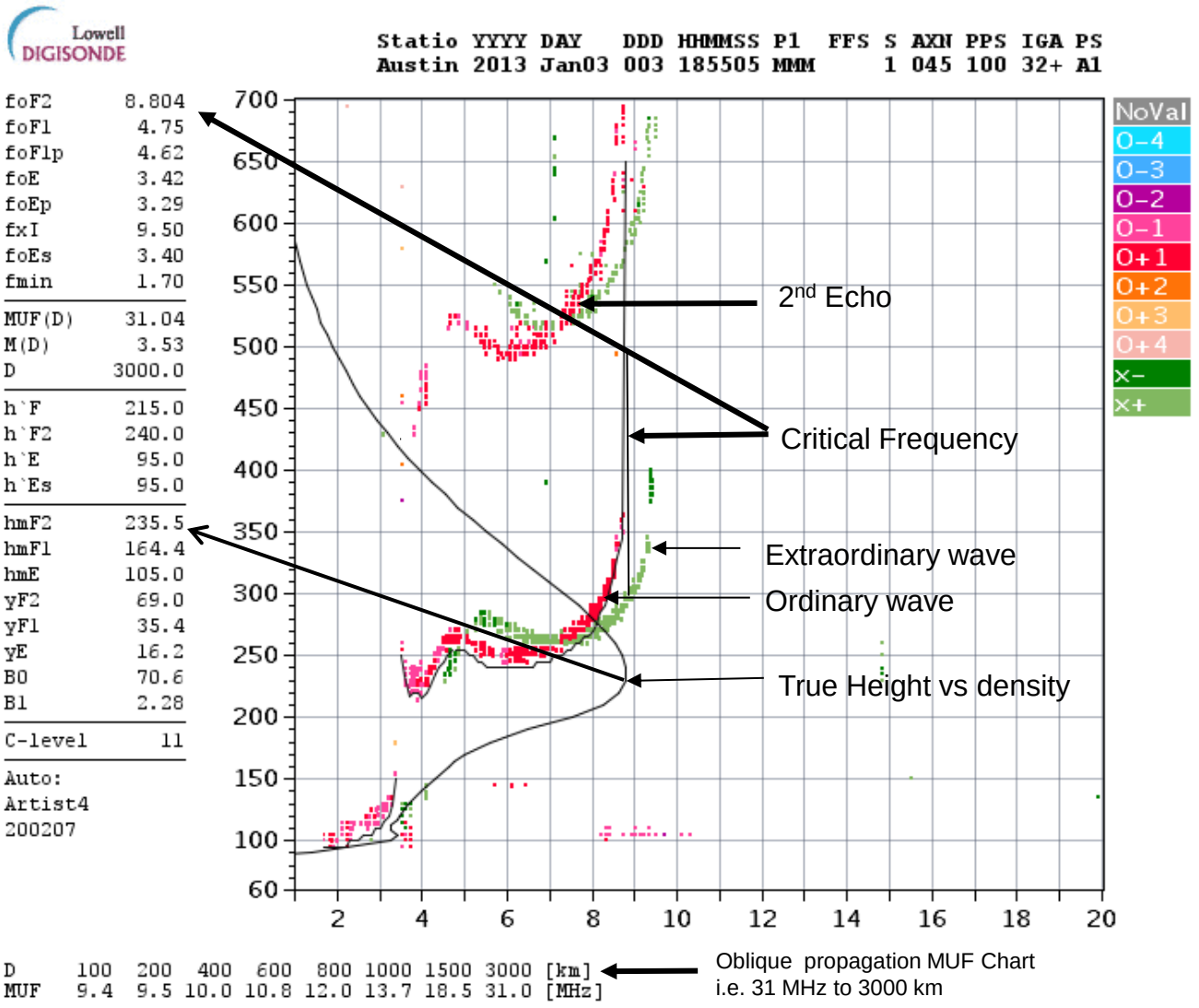
Ionospheric Conditions

Gravity

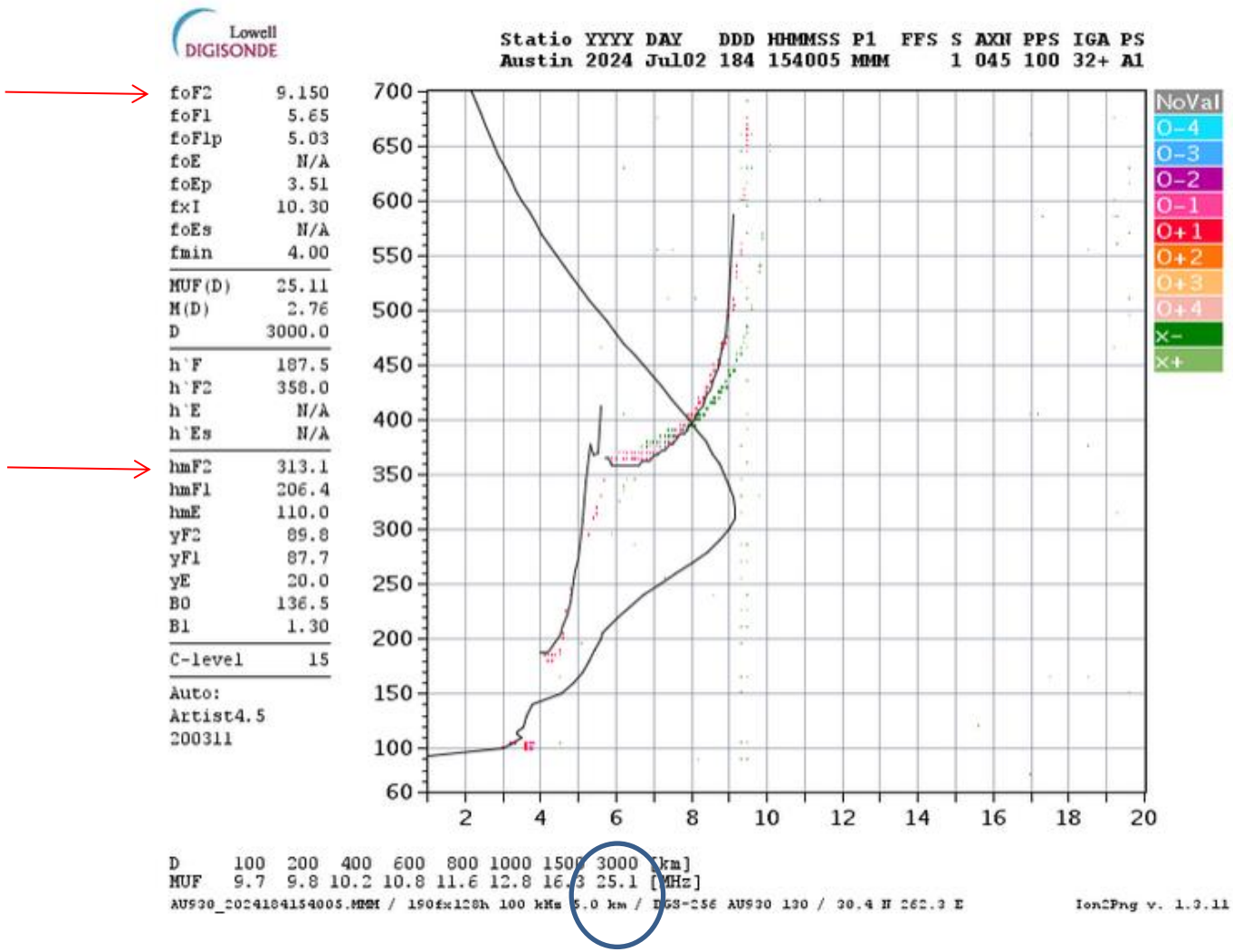


Solar Radiation

Ionogram Interpretation



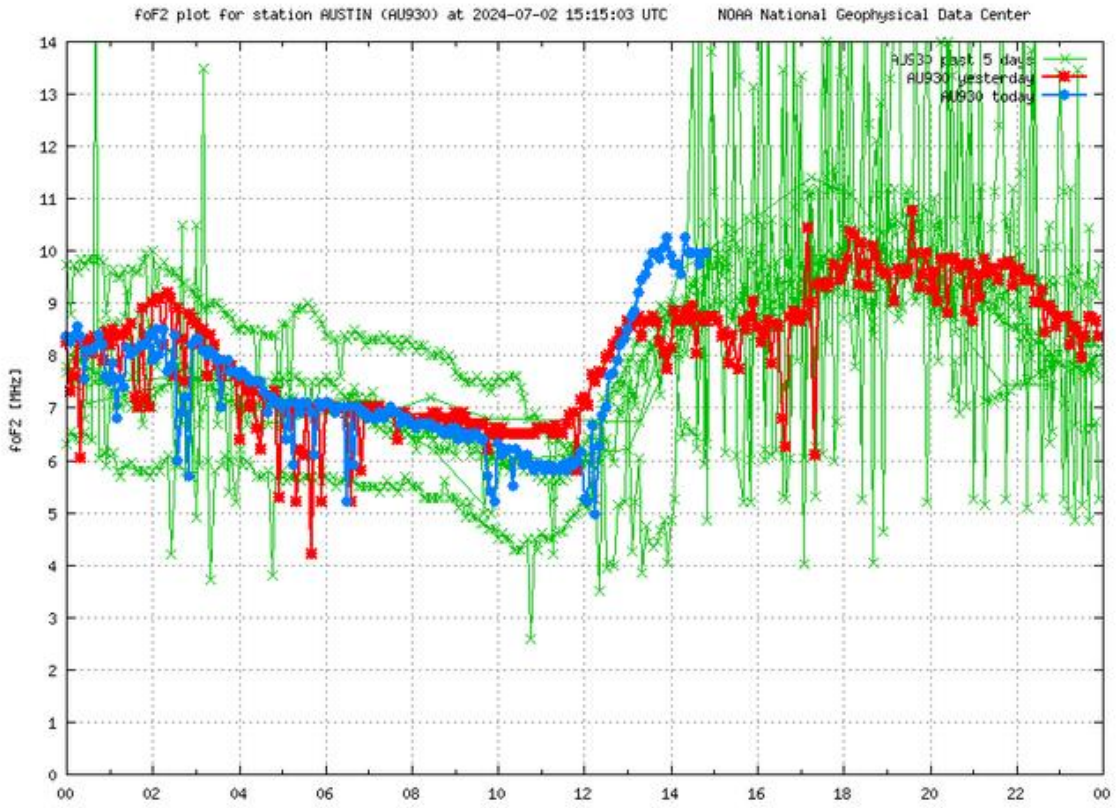
Austin Ionosonde – 2 JUL (1043 CDT)



foF2 Trend – Austin Ionosonde

AUSTIN IONOSONDE FOF2 TREND

This is a graph of real-time data from the Austin, TX ionosonde in comparison with historic data from the same site. Updated every 15 minutes.



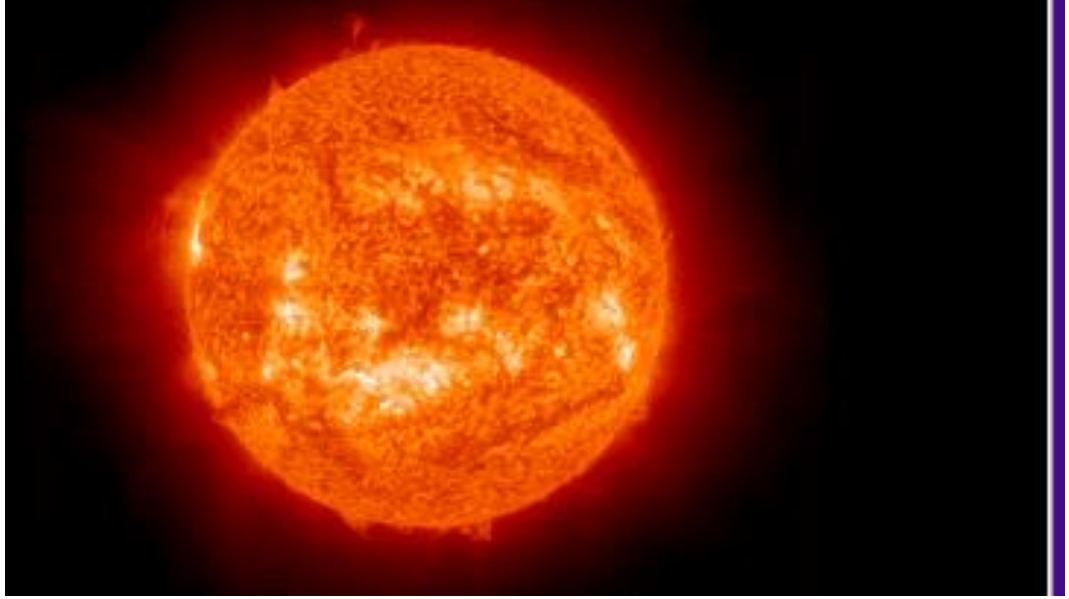
Notable Recent Events

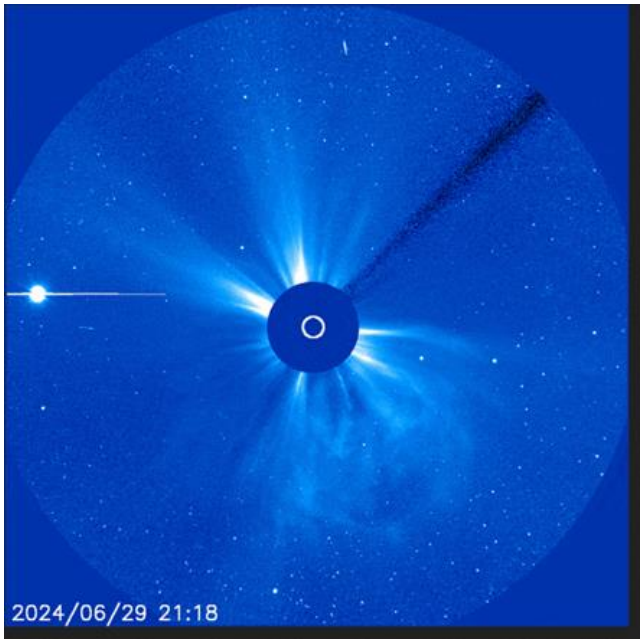
Filament Eruption

June 29, 2024 @ 17:00 UTC (UPDATED)

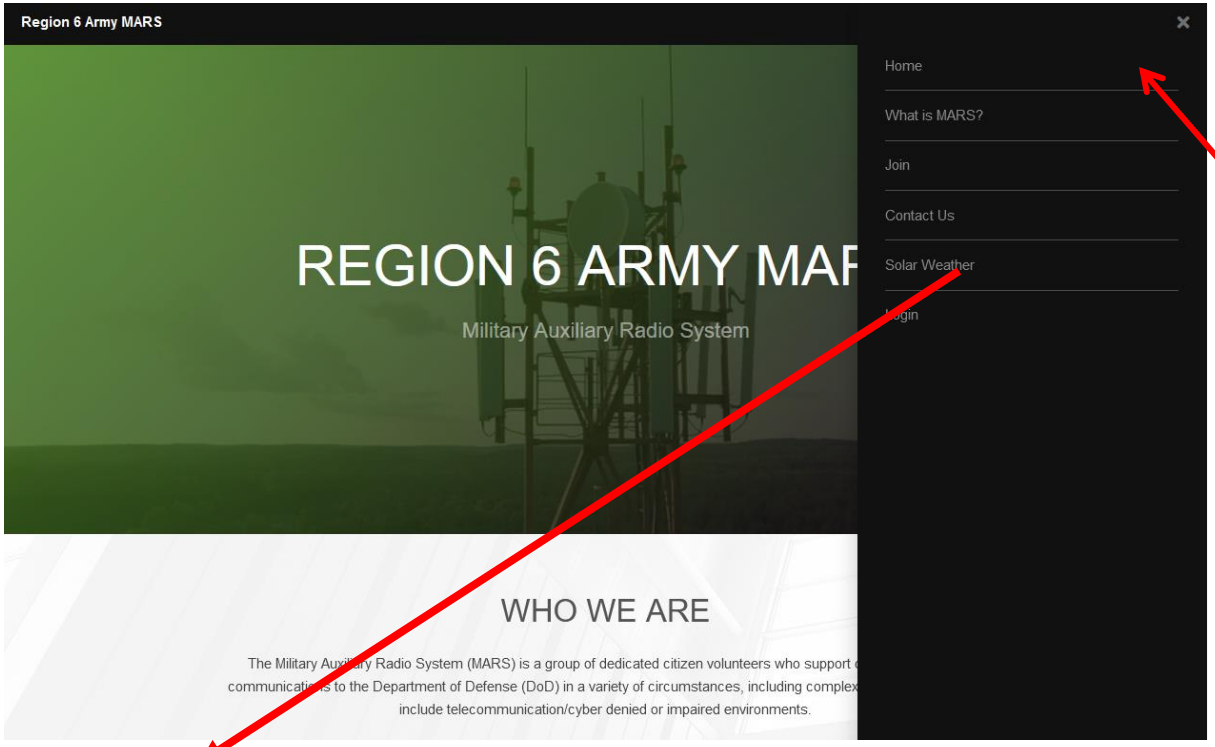
A filament located in the southern hemisphere lifted off the Sun beginning around 15:00 UTC (Jun 29). This will likely fling a coronal mass ejection into space, however the trajectory should be mostly south of the Sun-Earth line. A further update will be provided once updated coronagraph imagery is available.

UPDATE #2: A coronal mass ejection (CME) was produced and is predicted to possibly deliver a glancing blow to our geomagnetic field on July 3rd.





Solar Weather Data



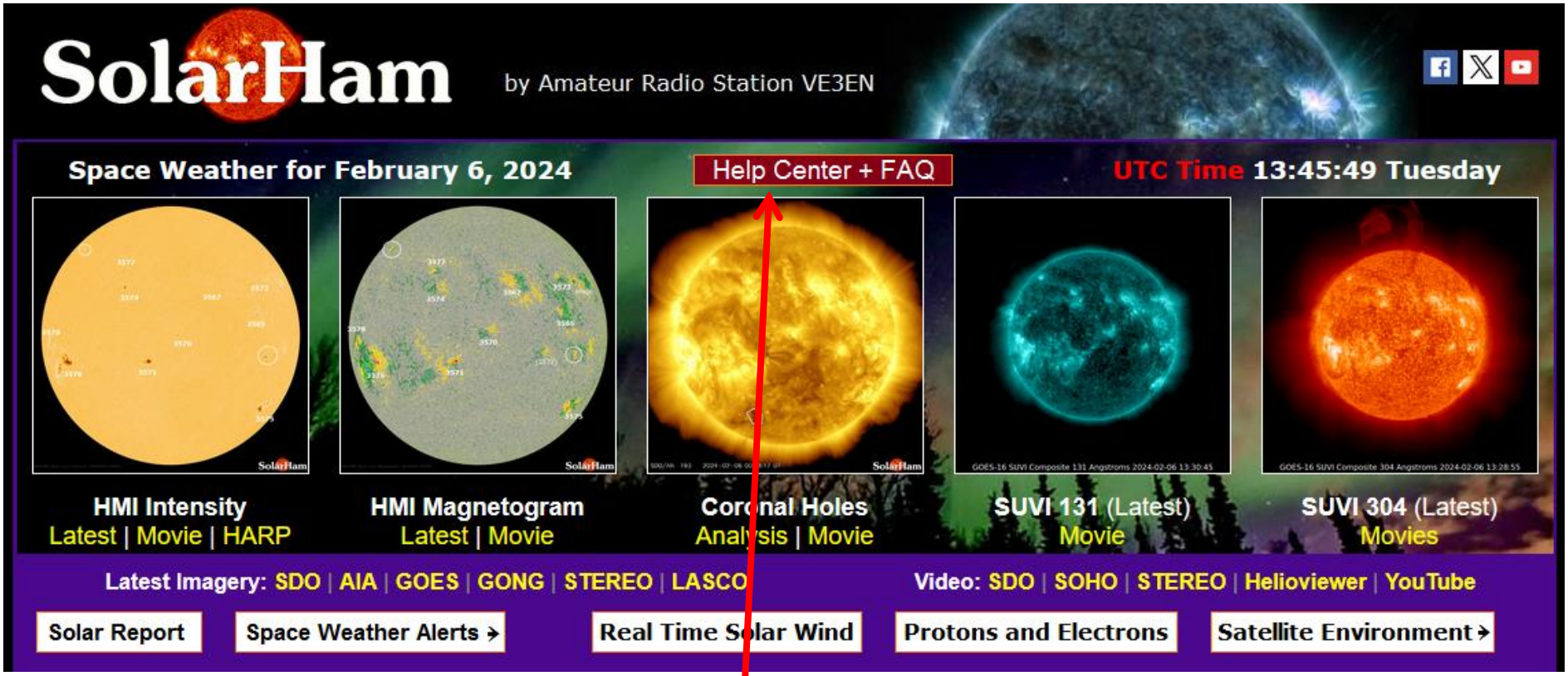
Menu

Solar Weather

Other Solar Weather Links of Interest

All Ionosondes

- DIDBase - Select Station List then EGLIN then year/month/day/time for Ionosonde plot.
- NOAA Solar Weather - Solar Weather plots of Kp and X-Ray and other solar emissions.
- Solen Solar Weather - Good general solar forecast from an individual.
- Solar Ham - SolarHam provides real time solar news, as well as consolidated data from various sources.



Note: URL is now https://solarham.com/

See New Addition

Welcome to the SolarHam Help Center

Below you will find an explanation of frequency used terms regarding space weather used on the SolarHam website.
Please note that this section is currently being built and will contain more information and answers to frequently asked questions soon.

spaceweather.com

News and information about the Sun-Earth environment

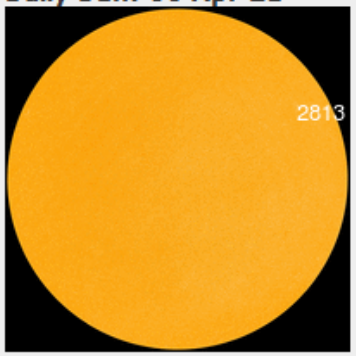
https://www.spaceweather.com/

Current Conditions

Solar wind
speed: **314.8** km/sec
density: **9.9** protons/cm^3
more data: ACE, DSCOVR
Updated: Today at 1225 UT

X-ray Solar Flares
6-hr max: **A1** 1027 UT Apr06
24-hr: **A1** 1515 UT Apr05
explanation | more data
Updated: Today at: 1230 UT

Daily Sun: 06 Apr 21



Sunspot AR2813 is decaying, and poses no threat for strong flares.
Credit: SDO/HMI

FLYING TO THE VOLCANO: Iceland's Geldingadalur volcano has turned into an popular tourist attraction---especially since auroras were sighted above the glowing lava. Early this morning, Tuesday, April 6th, Brian Emfinger saw auroras before he even reached the Reykjanes peninsula:

QUESTIONS?

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