

PEGASUS FOR ICAO



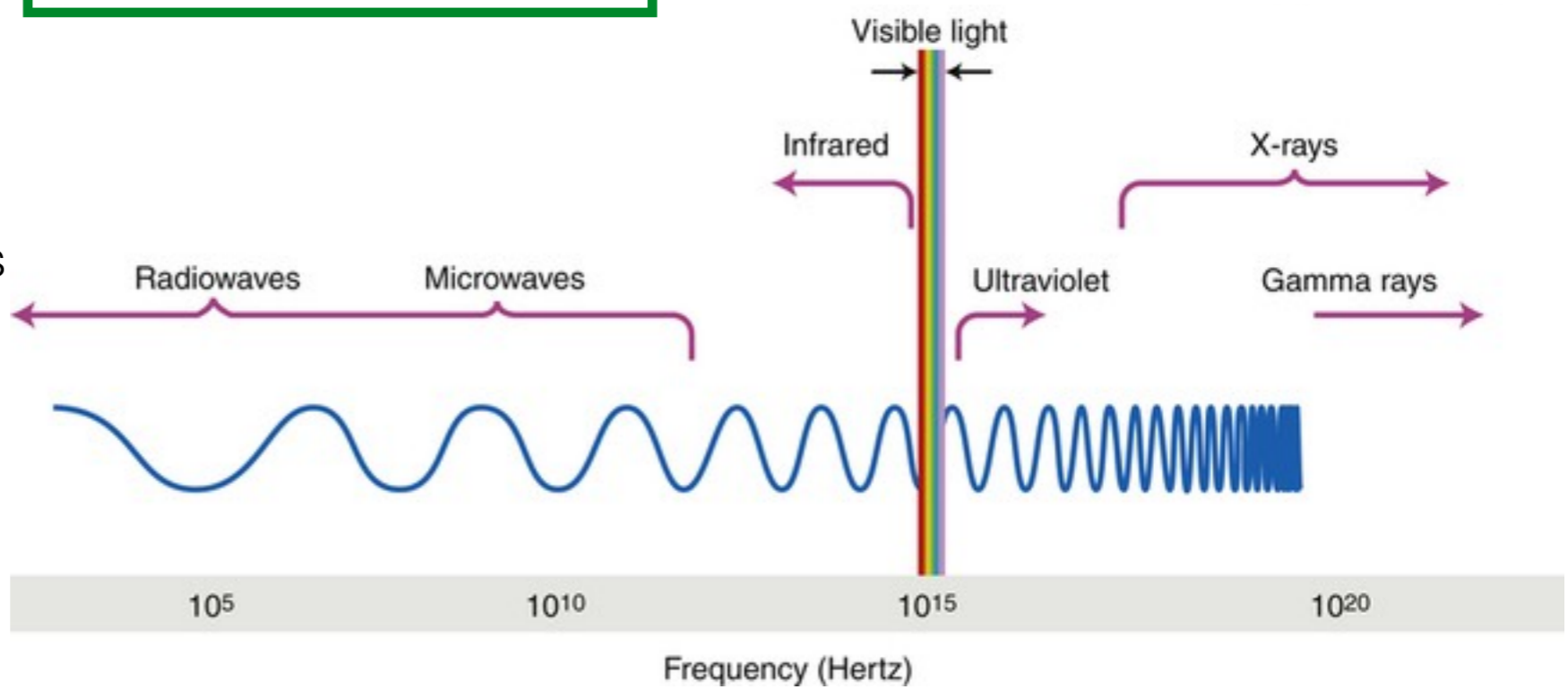
CASE STUDY - April 23, 2023



Electromagnetic radiation

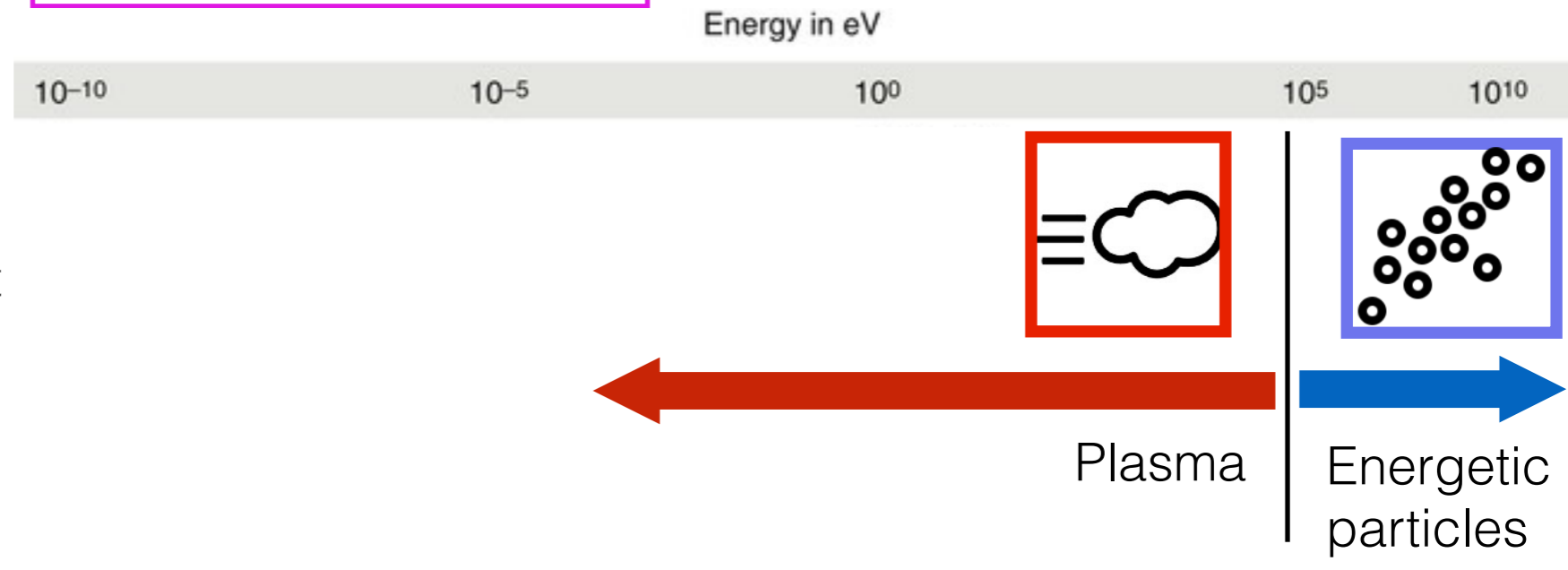


- Photons / electromagnetic waves
- Speed of light



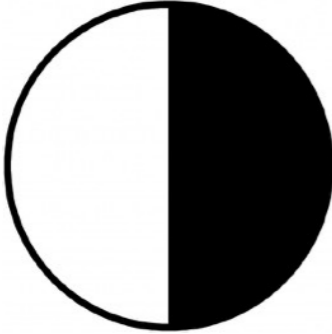
Particles

- Atomic & sub-atomic particles
- km/s to fractions of speed of light
- Magnetic Field

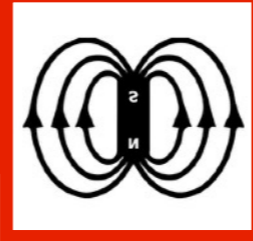


IMPACT

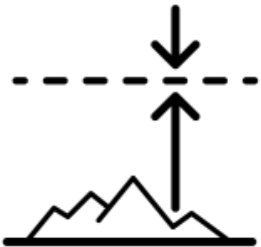
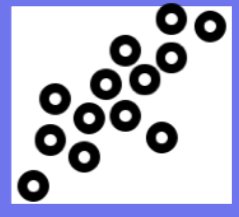
Light Storm



Geomagnetic storm



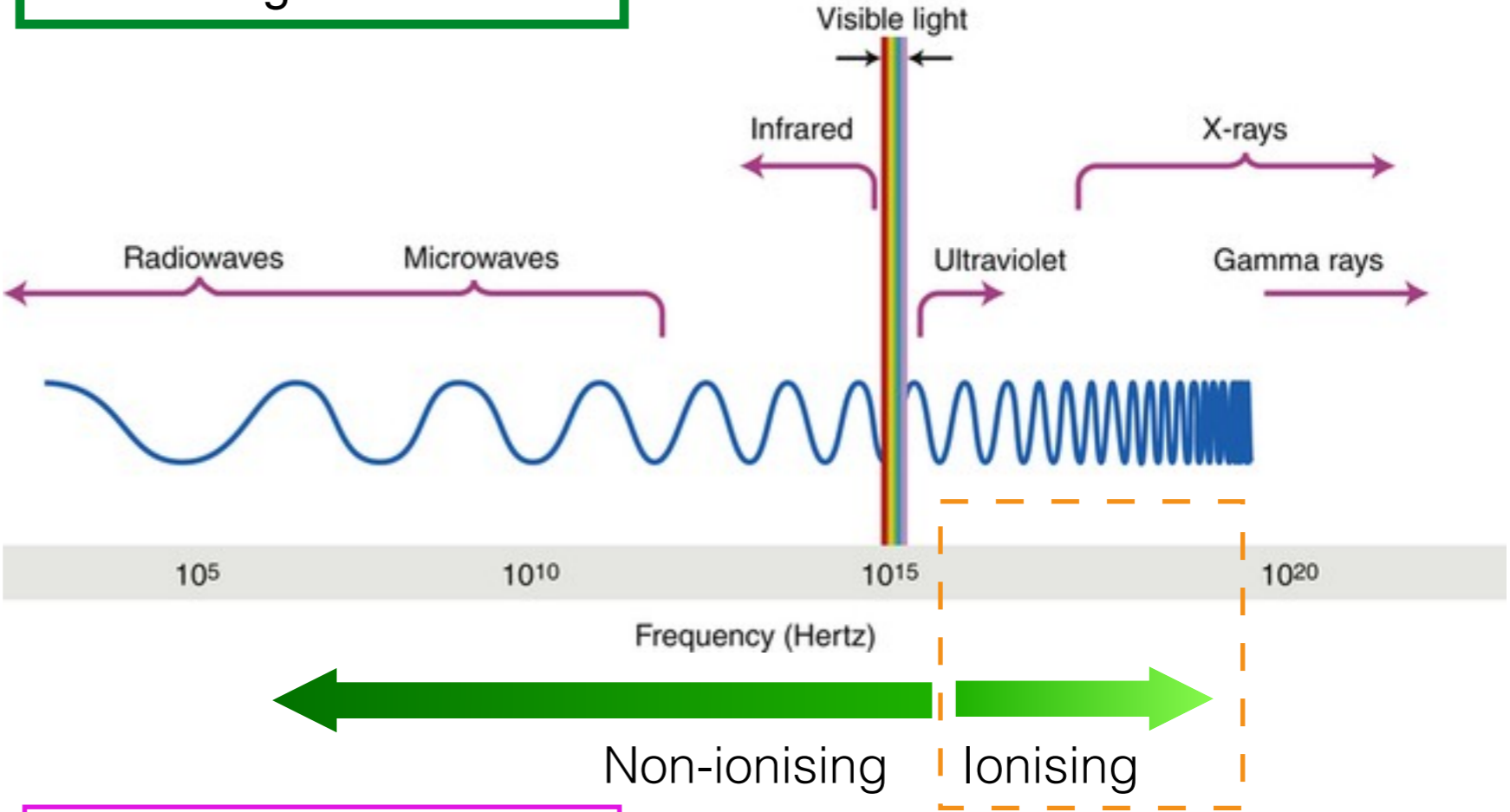
Particle Storm



Electromagnetic radiation

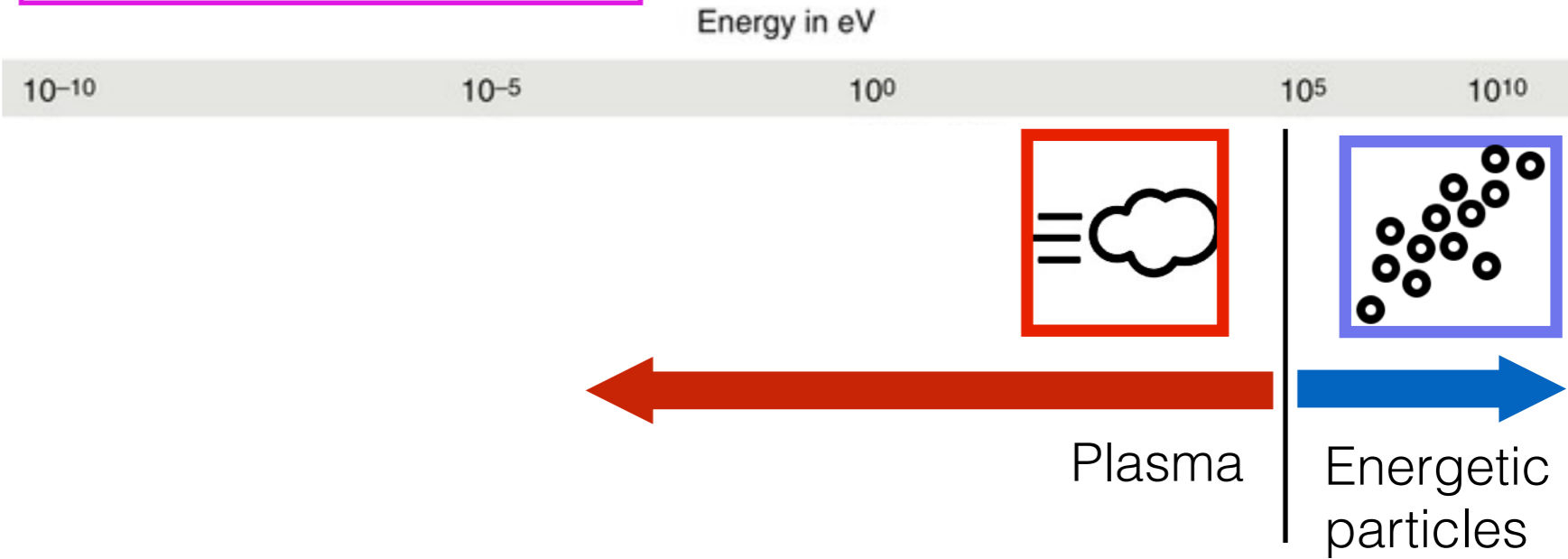


- Photons / electromagnetic waves
- Speed of light

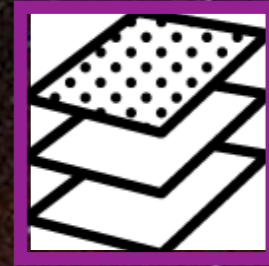


Particles

- Atomic & sub-atomic particles
- km/s to fractions of speed of light
- Magnetic Field



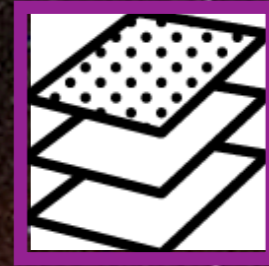
IONOSPHERE



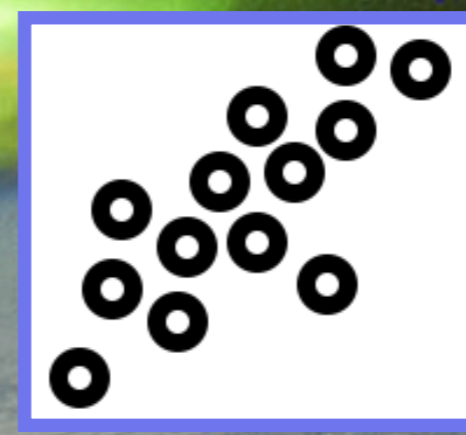
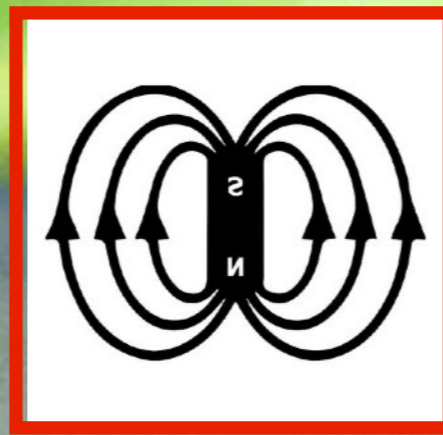
Atmospheric layer with free electrons due to

- Photo-ionisation by solar x-ray, extreme ultraviolet radiation
- Impact ionisation from energetic particles

IONOSPHERE

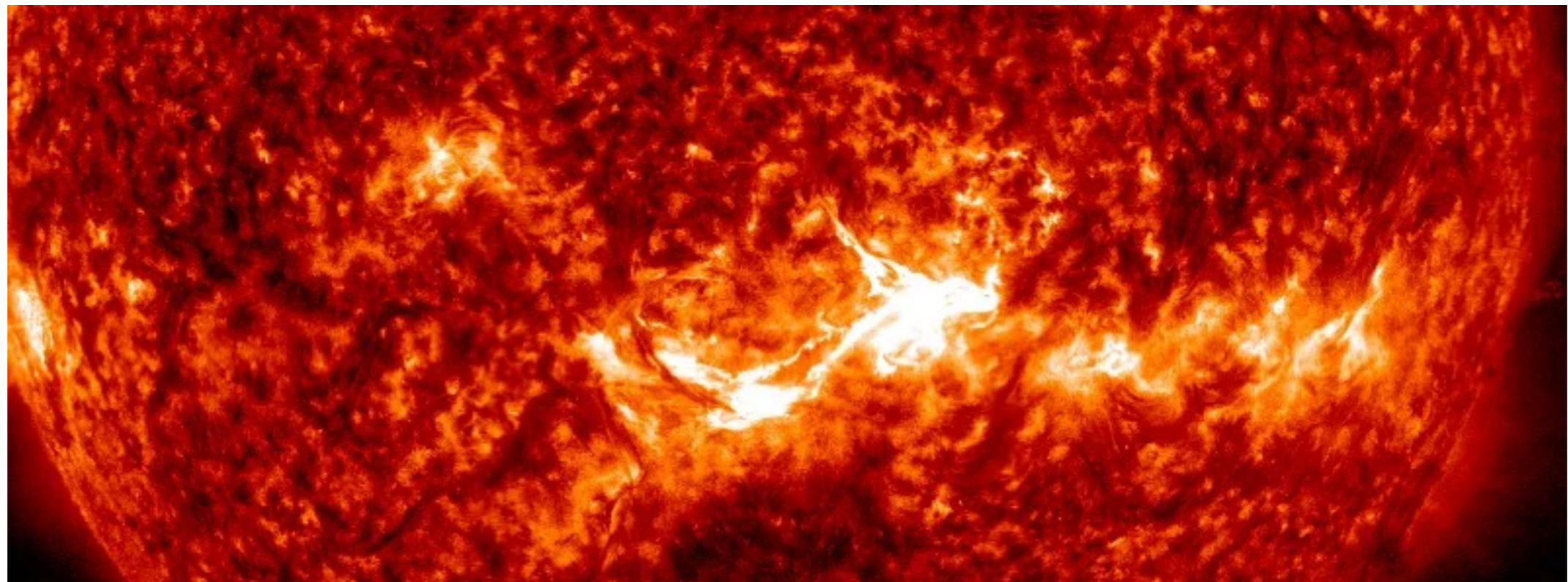


TROUBLE IN THE IONOSPHERE



Solar and heliospheric storms impacting aviation

CASE STUDY - April 21, 2023



GNSS	Moderate	Severe	Time UTC	Values	Status	Alert	Max-3h values	Max-3h status
<u>Amplitude Scintillation</u>	0.5	0.8	2020-10-12 14:15	0.25	QUIET		0.35	QUIET
<u>Phase Scintillation</u>	0.4	0.7	2020-10-12 14:15	0.13	QUIET		0.14	QUIET
<u>Vertical TEC</u>	125	175	2020-10-12 14:15	61.92	QUIET		61.93	QUIET

RADIATION	Moderate	Severe	Time UTC	Flags	Status	Alert	Max-3h flags	Max-3h status
<u>Effective Dose FL_{≤460}</u>	30	80	2020-10-12 14:20	0	QUIET		0	QUIET
<u>Effective Dose FL > 460</u>	/	80	2020-10-12 14:20	0	QUIET		0	QUIET

HF COM	Moderate	Severe	Time UTC	Values/Flags	Status	Alert	Max-3h values	Max-3h status
<u>Auroral Absorption (AA)</u>	8	9	2020-10-12 14:16	3.0	QUIET		3.0	QUIET
<u>Polar Cap Absorption (PCA)</u>	2	5	2020-10-12 14:20	0.00	QUIET		0.00	QUIET
<u>Shortwave Fadeout (SWF)</u>	x1.0	x10.0	2020-10-12 14:17	< M.5-flare	QUIET		< M.5-flare	QUIET
<u>Post-Storm Depression (PSD)</u>	30%	50%	2020-10-12 14:15	0	QUIET		0	QUIET








April 23, 17 UT





-24h -12h -6h -3h -1h -5m Submit 2023-04-23 17:00 now +5m +1h +3h +6h +12h +24h

PECASUS DASHBOARD on 2023-04-23 17:00 UTC

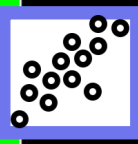
- 
- 05/03/2024
- 06:53 UTC
- STATUS
- SBC**
- MAIN
- GNSS
- RADIATION
- HF COM
- ARCHIVE
- Advisory
- Daily Brief
- Data
- Procedure
- Portfolio
- ICAO Docs
- RWC
- Contact
- Mute status

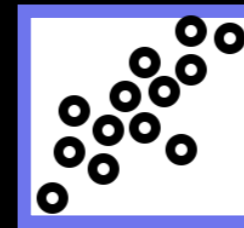
GNSS	Moderate	Severe	Time UTC	Values	Status	Alert	Max-3h values	Max-3h status
<u>Amplitude Scintillation</u>	0.5	0.8	2023-04-23 17:00	0.25	QUIET		0.36	QUIET
<u>Phase Scintillation</u>	0.4	0.7	2023-04-23 17:00	0.12	QUIET		0.14	QUIET
<u>Vertical TEC</u>	125	175	2023-04-23 17:00	96.98	QUIET		96.98	QUIET

RADIATION	Moderate	Severe	Time UTC	Flags	Status	Alert	Max-3h flags	Max-3h status
<u>Effective Dose FL ≤ 460</u>	30	80	2023-04-23 17:00	0	QUIET		0	QUIET
<u>Effective Dose FL > 460</u>	/	80	2023-04-23 17:00	0	QUIET		0	QUIET

HF COM	Moderate	Severe	Time UTC	Values/Flags	Status	Alert	Max-3h values	Max-3h status
<u>Auroral Absorption (AA)</u>	8	9	2023-04-23 17:00	5.3	QUIET		5.3	QUIET
<u>Polar Cap Absorption (PCA)</u>	2	5	2023-04-23 17:00	2.75	MODERATE		2.94	MODERATE
<u>Shortwave Fadeout (SWF)</u>	x1.0	x10.0	2023-04-23 17:00	< M5 flare	QUIET		< M5 flare	QUIET
<u>Post-Storm Depression (PSD)</u>	30%	50%	2023-04-23 17:00	0	QUIET		0	QUIET

Sound alarm is triggered when MOD or SEV thresholds are exceeded or in case of data outages.





April 23, 17 UT



10/10/2023
20:01 UTC

STATUS
ODC

MAIN

GNSS

RADIATION

HF COM

ARCHIVE

Advisory

Daily Brief

Data

Procedures

Portfolio

ICAO Docs

RWC

Contact

Mute status

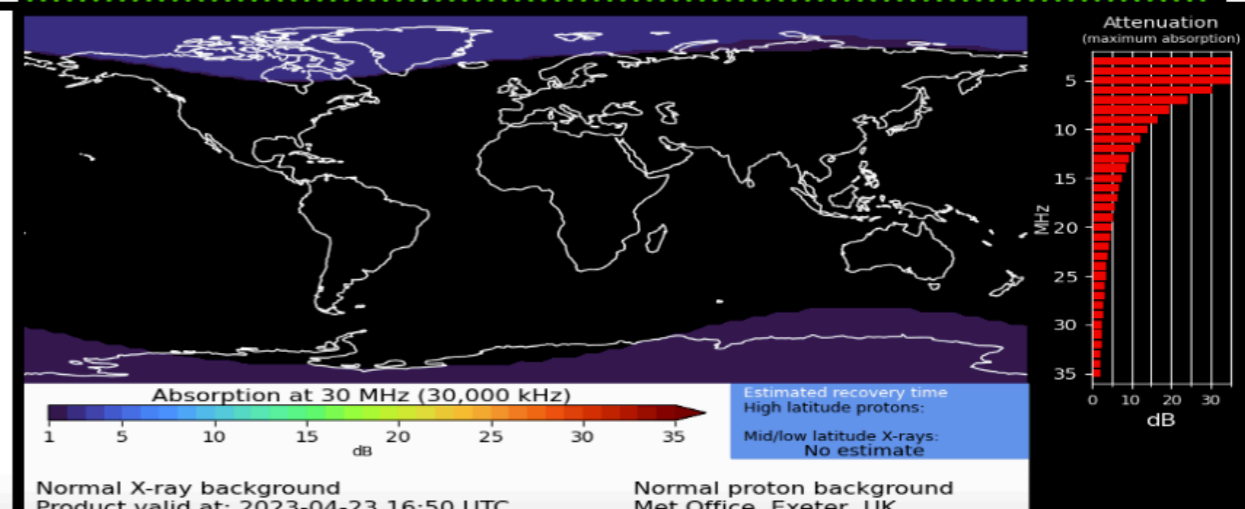
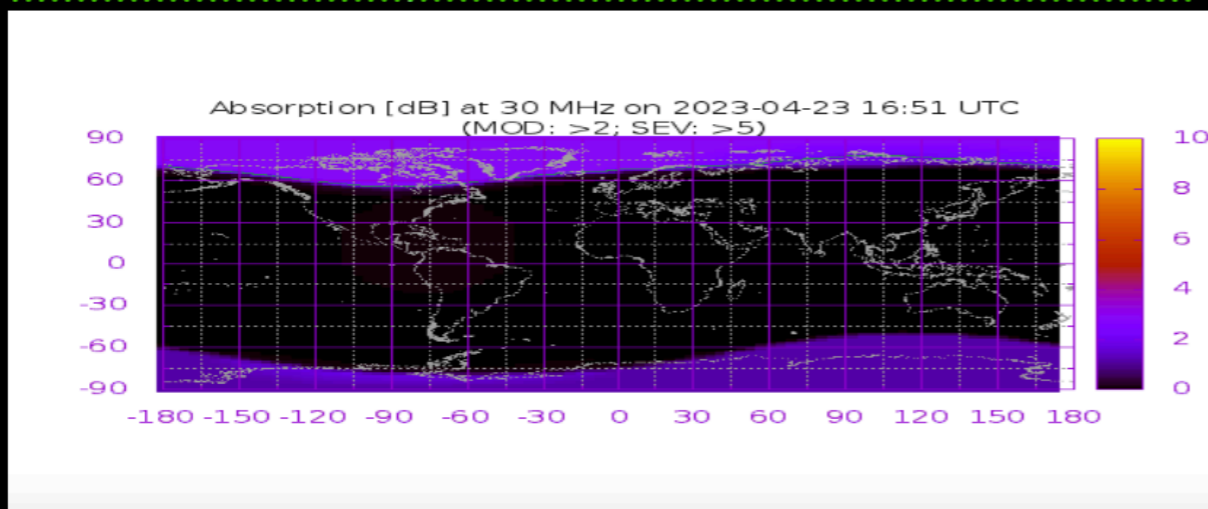
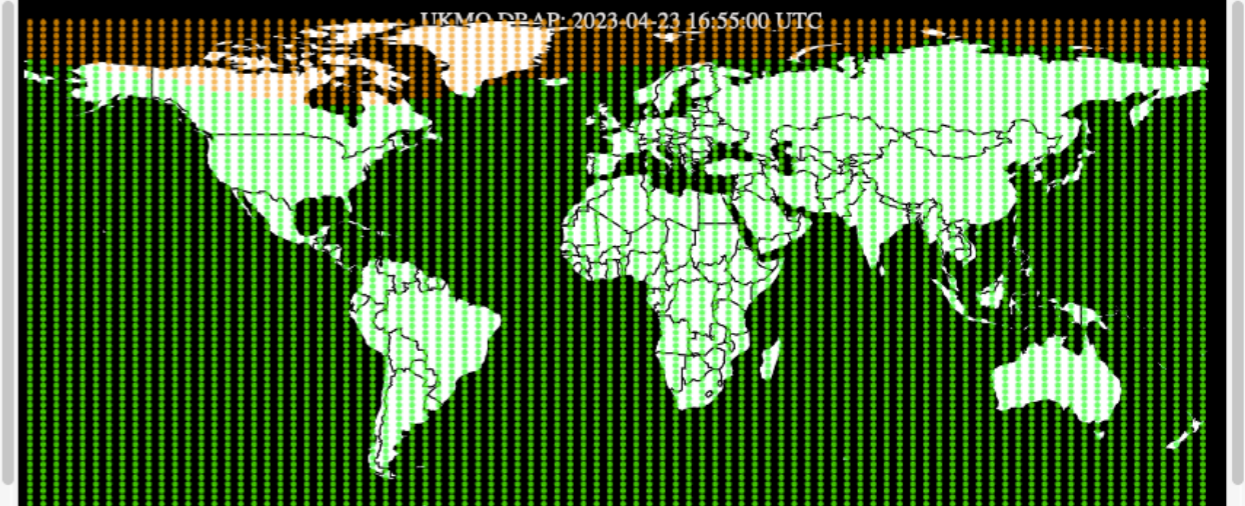
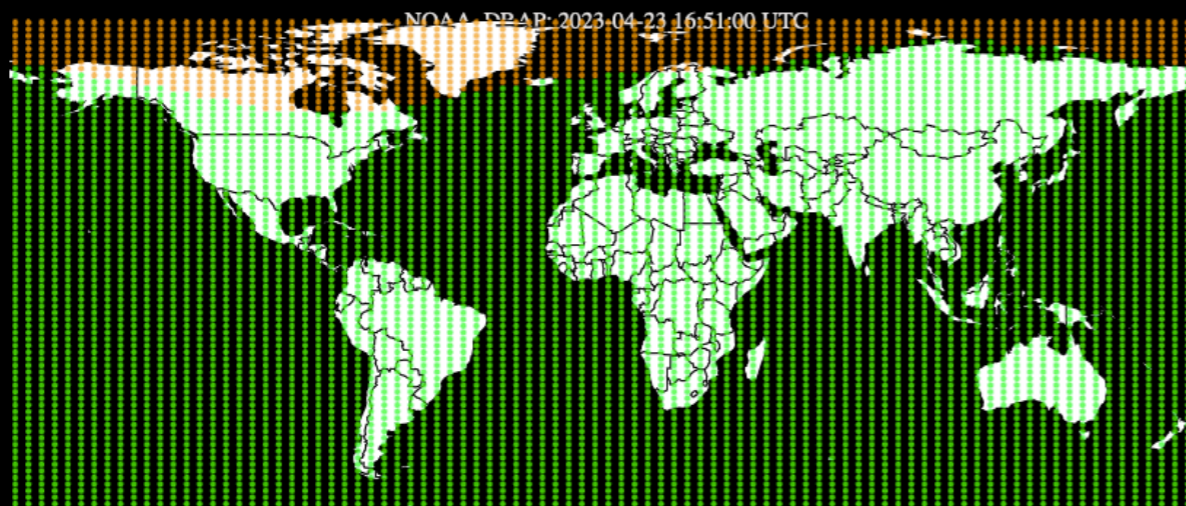
OnCall Report

-24h -12h -6h -3h -1h -5m Submit 2023-04-23 16:55 now +5m +1h +3h +6h +12h +24h

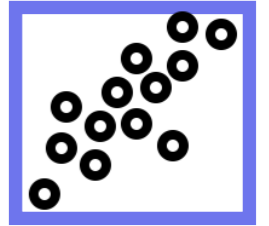
HF/PCA DASHBOARDS on 2023-04-23 16:55 UTC

HF/PCA (dB from 30MHz data) - NOAA

HF/PCA (dB from 30MHz data) - UKMO

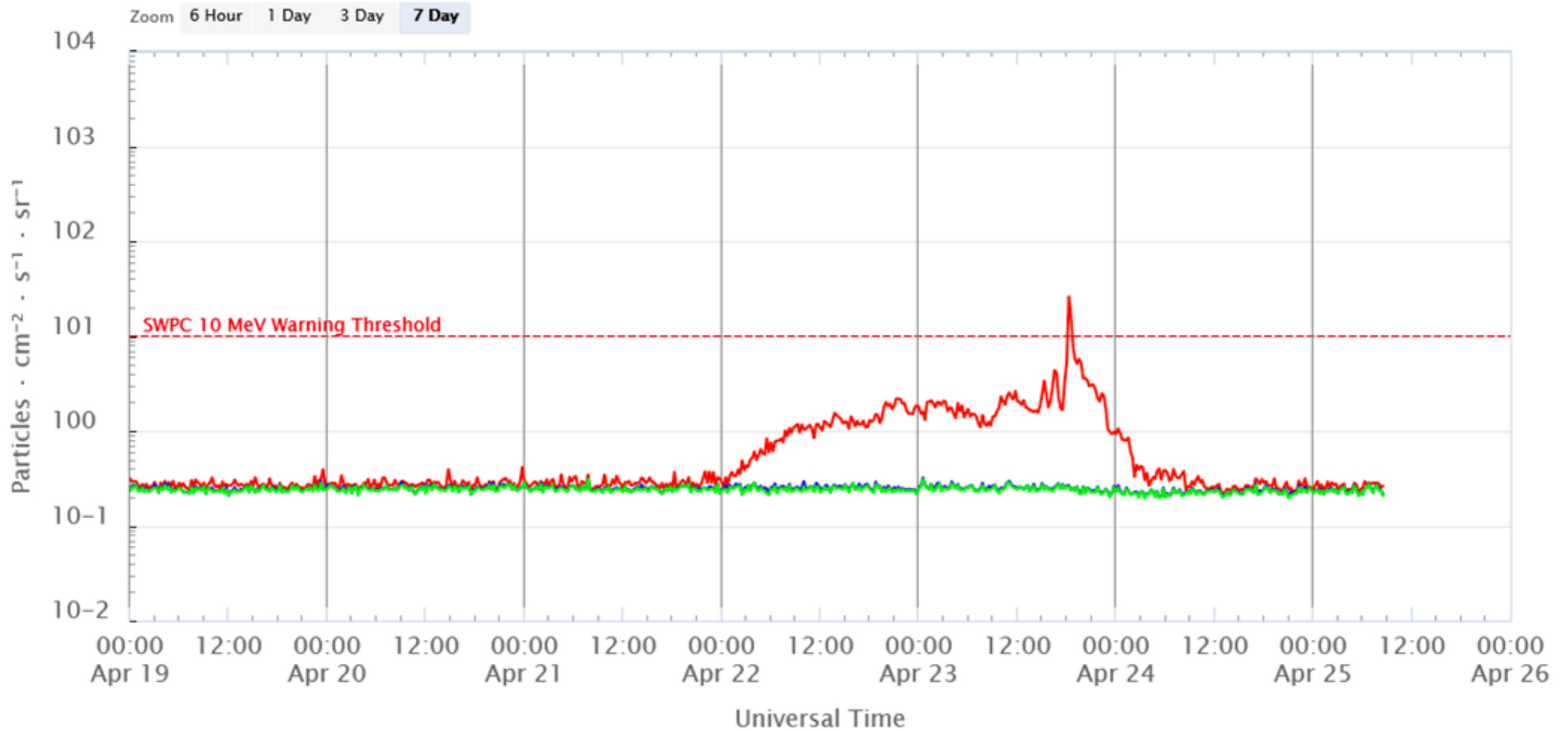


Proton Event



GOES Proton Flux (5-minute data)

April 23, 17 UT



— GOES-16 ≥ 10 MeV — GOES-16 ≥ 50 MeV — GOES-16 ≥ 100 MeV

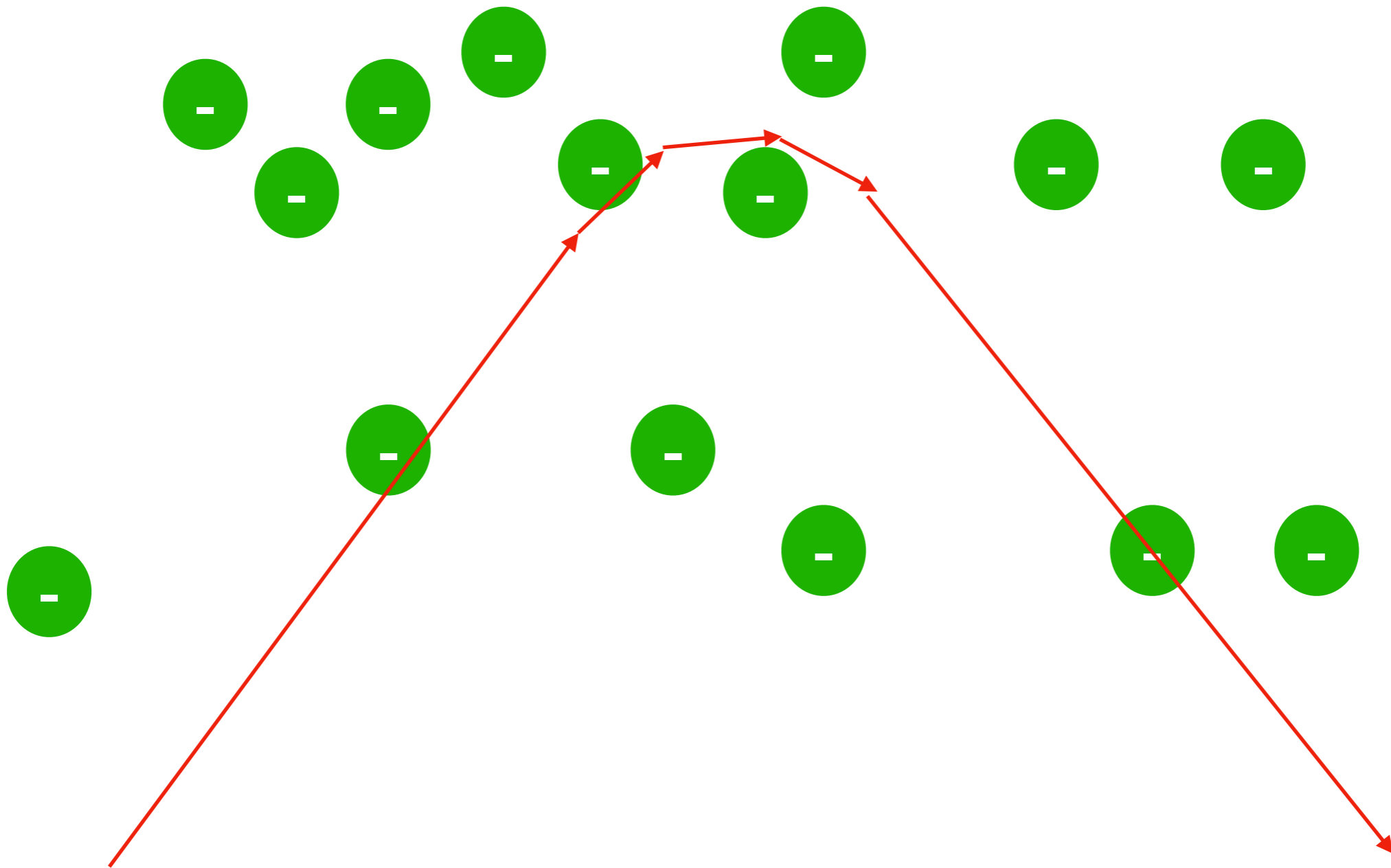
Updated 2023-04-25 08:40 UTC

Space Weather Prediction Center

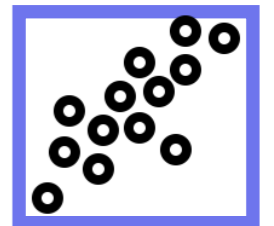
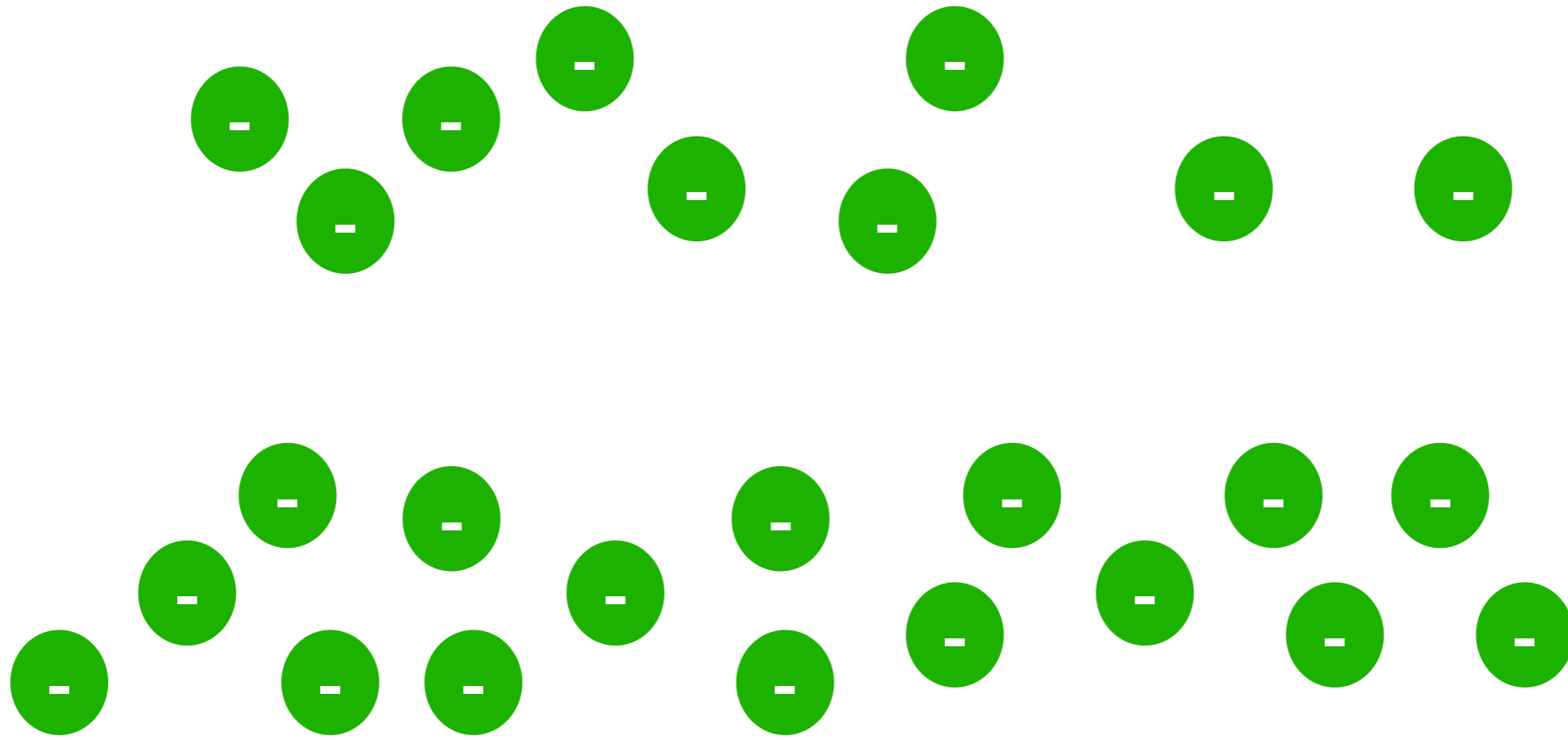


Quiet
Proton event expected (10 pfu at >10 MeV)
Major proton event expected (100 pfu at >100 MeV)
Proton event in progress (>10 MeV)
Warning condition (activity levels expected to increase, but no numeric forecast given)

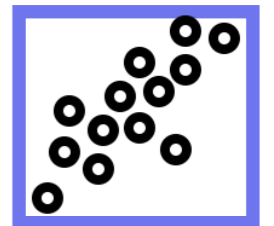
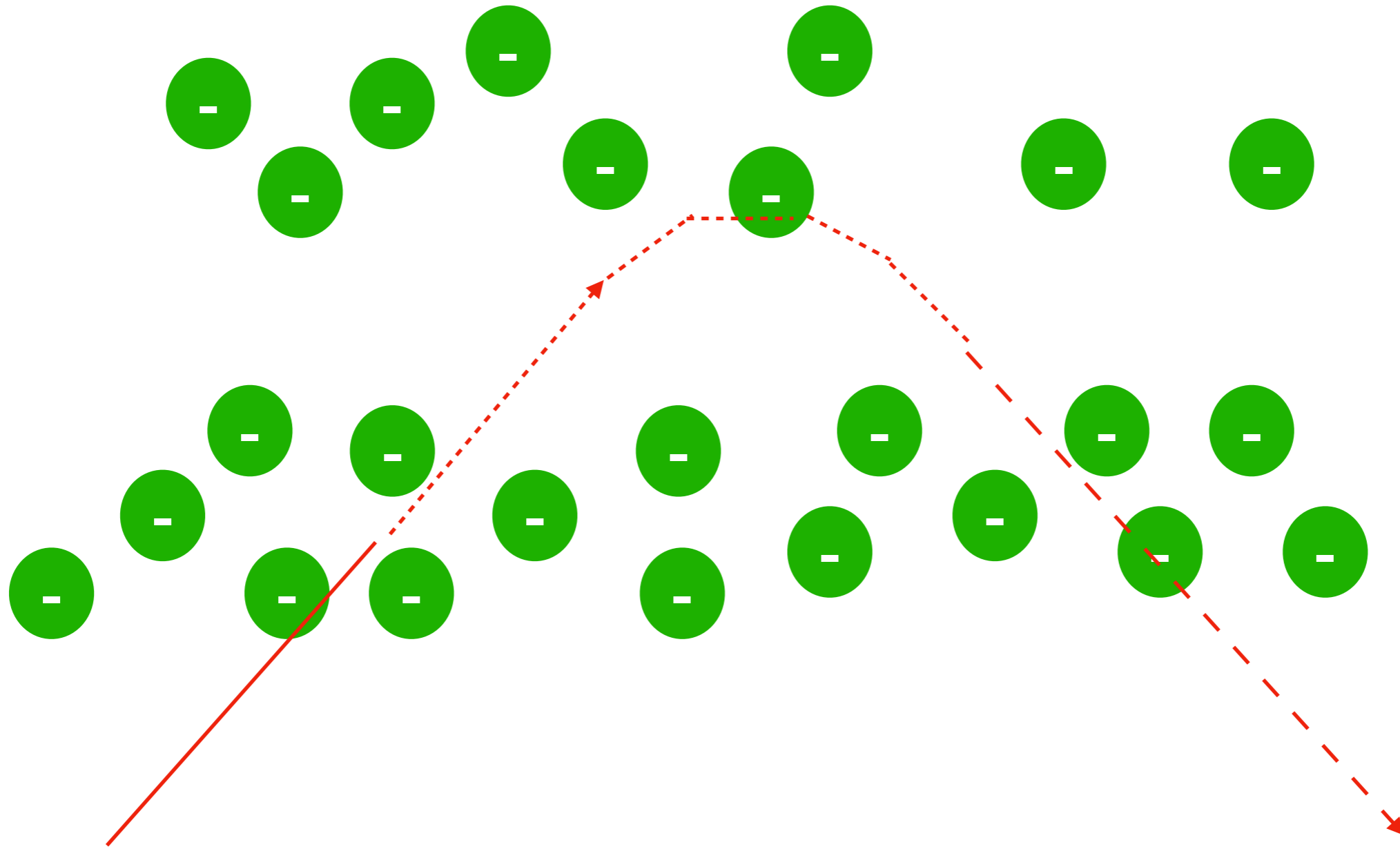




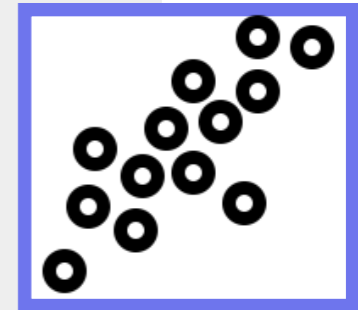
PCA



PCA



April 23, 17:06 UT



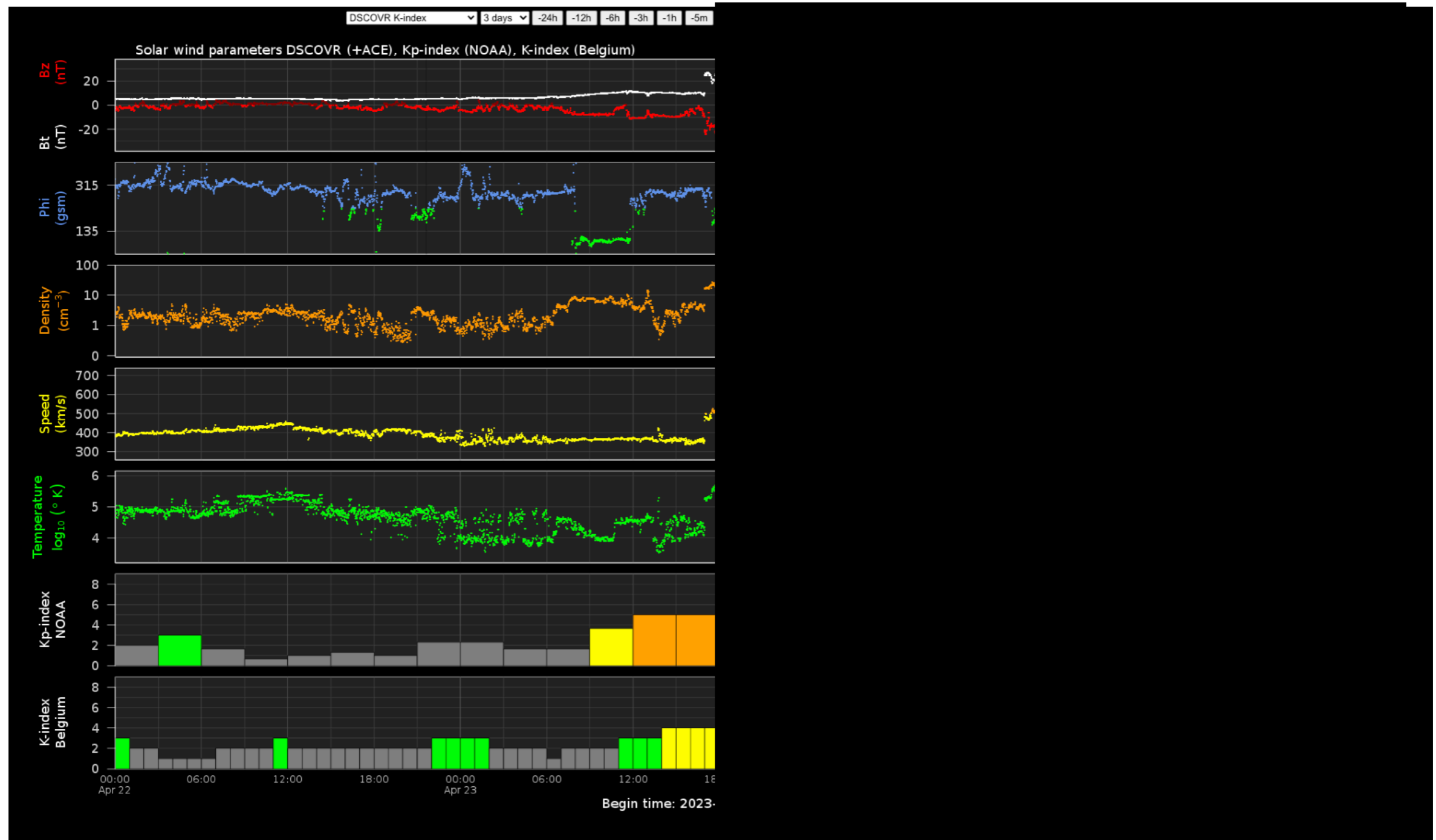
SWX ADVISORY
DTG: 20230423/1706Z
SWXC: PECASUS
ADVISORY NR: 2023/59
SWX EFFECT: HF COM MOD
OBS SWX: 23/1655Z HNH W150 - E000
FCST SWX +6 HR: 23/2300Z NOT AVBL
FCST SWX +12 HR: 24/0500Z NOT AVBL
FCST SWX +18 HR: 24/1100Z NOT AVBL
FCST SWX +24 HR: 24/1700Z NOT AVBL
RMK: SPACE WEATHER EVENT (HF COM POLAR CAP
ABSORPTION) IN PROGRESS. IMPACT ON LOWER HF COM FREQUENCY
BANDS EXPECTED AT HIGH LATITUDES.
NXT ADVISORY: WILL BE ISSUED BY 20230423/2255Z=





CME arrival

April 23, 17 UT



April 23, 18:50 UT

-24h -12h -6h -3h -1h -5m Submit 2023-04-23 18:50 now +5m +1h +3h +6h +12h +24h

PECASUS DASHBOARD on 2023-04-23 18:50 UTC

- 10/10/2023 20:05 UTC
- STATUS ODC
- MAIN
- GNSS
- RADIATION
- HF COM
- ARCHIVE
- Advisory
- Daily Brief
- Data
- Procedures
- Portfolio
- ICAO Docs
- RWC
- Contact
- Mute status
- OnCall Report

GNSS	Moderate	Severe	Time UTC	Values	Status	Alert	Max-3h values	Max-3h status
<u>Amplitude Scintillation</u>	0.5	0.8	2023-04-23 18:50	0.40	QUIET		0.40	QUIET
<u>Phase Scintillation</u>	0.4	0.7	2023-04-23 18:50	0.26	QUIET		0.26	QUIET
<u>Vertical TEC</u>	125	175	2023-04-23 18:50	124.06	QUIET		124.06	QUIET

RADIATION	Moderate	Severe	Time UTC	Flags	Status	Alert	Max-3h flags	Max-3h status
<u>Effective Dose FL ≤ 460</u>	30	80	2023-04-23 18:50	0	QUIET		0	QUIET
<u>Effective Dose FL > 460</u>	/	80	2023-04-23 18:50	0	QUIET		0	QUIET

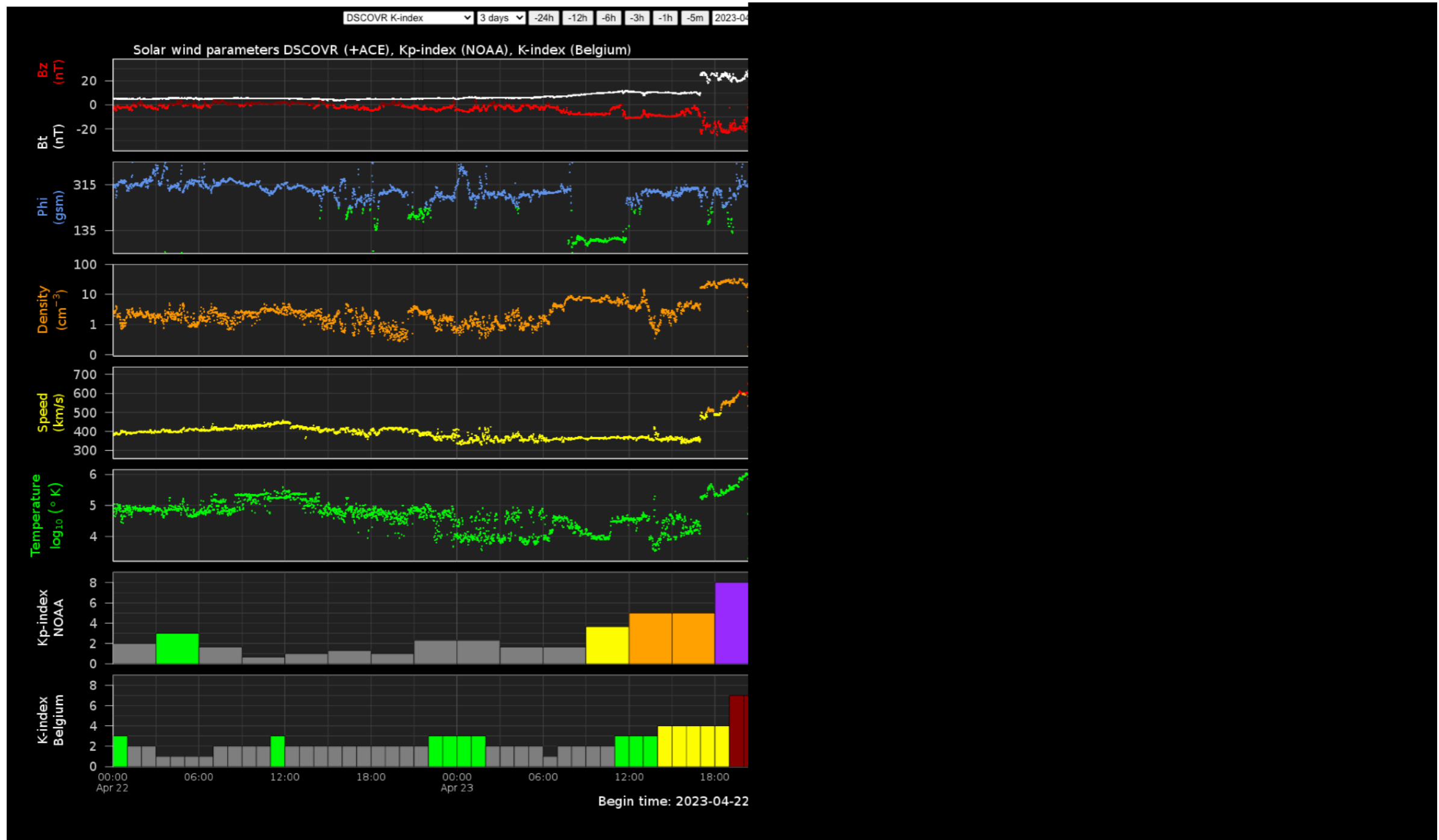
HF COM	Moderate	Severe	Time UTC	Values/Flags	Status	Alert	Max-3h values	Max-3h status
<u>Auroral Absorption (AA)</u>	8	9	2023-04-23 18:50	8.0	MODERATE		8.0	MODERATE
<u>Polar Cap Absorption (PCA)</u>	2	5	2023-04-23 18:50	3.13	MODERATE		4.64	MODERATE
<u>Shortwave Fadeout (SWF)</u>	x1.0	x10.0	2023-04-23 18:50	< M5 flare	QUIET		< M5 flare	QUIET
<u>Post-Storm Depression (PSD)</u>	30%	50%	2023-04-23 18:00	2	SEVERE		2	SEVERE



Sound alarm is triggered when MOD or SEV thresholds are exceeded or in case of data outages.



CME arrival





10/10/2023
20:09 UTC

STATUS
ODC

MAIN

GNSS

RADIATION

HF COM

ARCHIVE

Advisory

Daily Brief

Data

Procedures

Portfolio

ICAO Docs

RWC

Contact

Mute status

OnCall Report

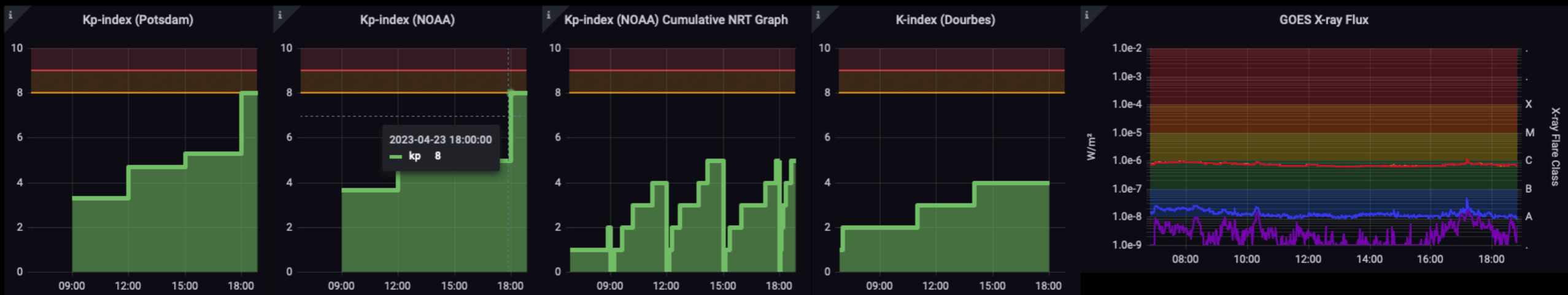
-24h -12h -6h -3h -1h -5m Submit 2023-04-23 18:50 now +5m +1h +3h +6h +12h +24h

HF COM DASHBOARD on 2023-04-23 18:50 UTC

Kp (Potsdam)	Kp (NOAA)	Kp RT (NOAA)	K Bel	X-ray Flux	PCA (UKMO)	PCA (NOAA)	foF2 (SRCPAS)	MUF Ratio (INGV)
Current value:	Current value:	Current value:	Current value:	Current value:	Current value:	Current value:	Current flag:	Current value:
2023-04-23 18:00-21:00	2023-04-23 18:00-21:00	2023-04-23 18:50	2023-04-23 18:00	2023-04-23 18:50	2023-04-23 18:50	2023-04-23 18:47	2023-04-23 18:45	2023-04-23 18:00
MODERATE: 8.0	MODERATE: 8	QUIET: 5	QUIET: 4	QUIET: < M5 flare	MODERATE: 3.10	MODERATE: 3.13	MODERATE: 1.00	SEVERE: 0.49
Max 9h value:	Max 9h value:	Max 1h value:	Max 3h value:	Max 3h value:	Max 3h value:	Max 3h value:	Max 3h flag:	Max 3h value:
MODERATE: 8.0	MODERATE: 8	QUIET: 5	QUIET: 4	QUIET: < M5 flare	MODERATE: 4.64	MODERATE: 4.29	MODERATE: 1.00	SEVERE: 0.46

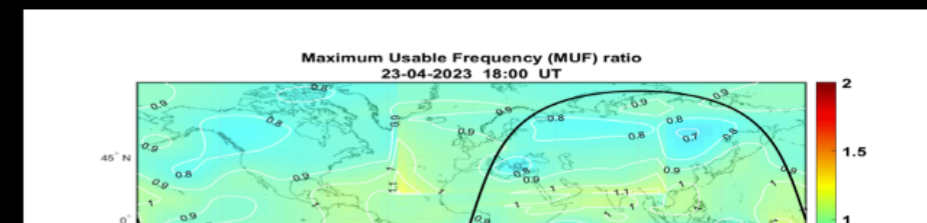
HF COM: Auroral Absorption (Kp)

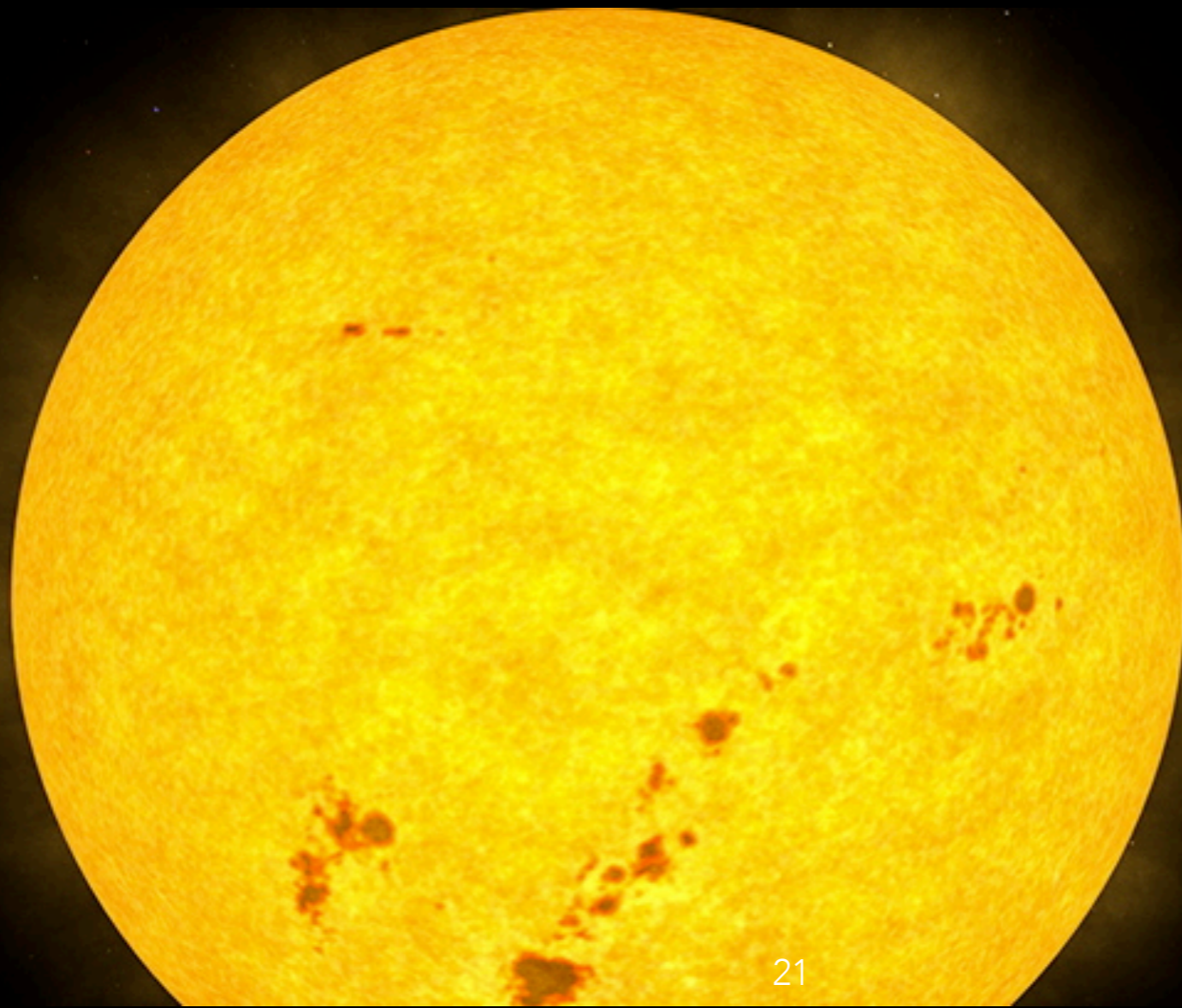
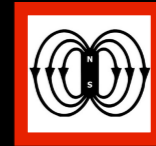
HF COM: Solar X-ray flux (NOAA)

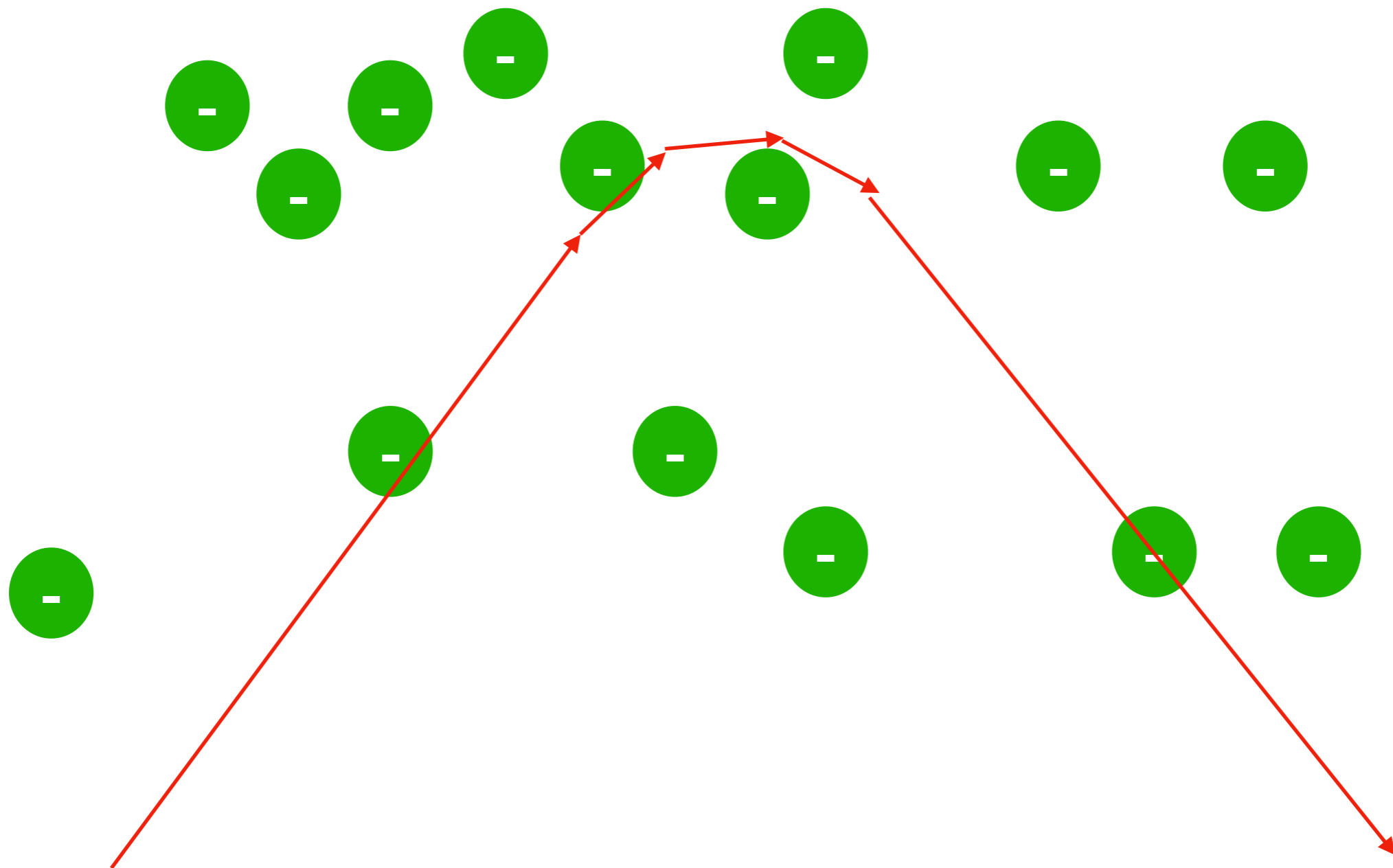


HF COM: Post-Storm Depression foF2 warnings and depression (SRCPAS) [more](#)

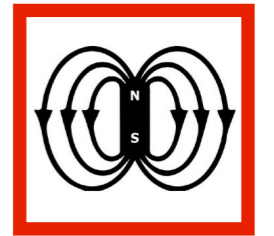
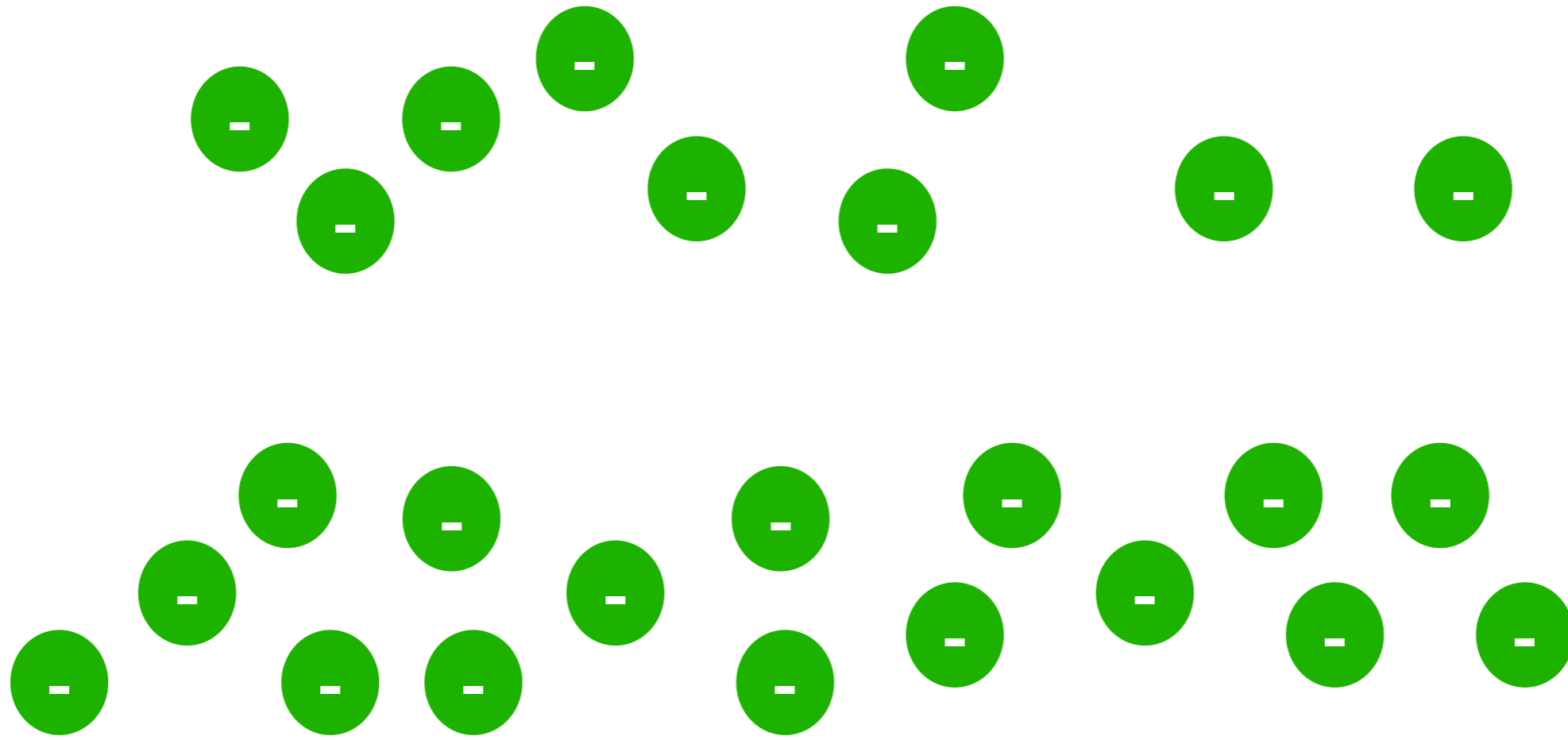
HF COM: Post-Storm Depression: MUF ratio forecast (INGV) [more](#)



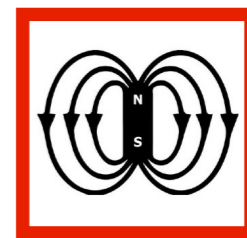
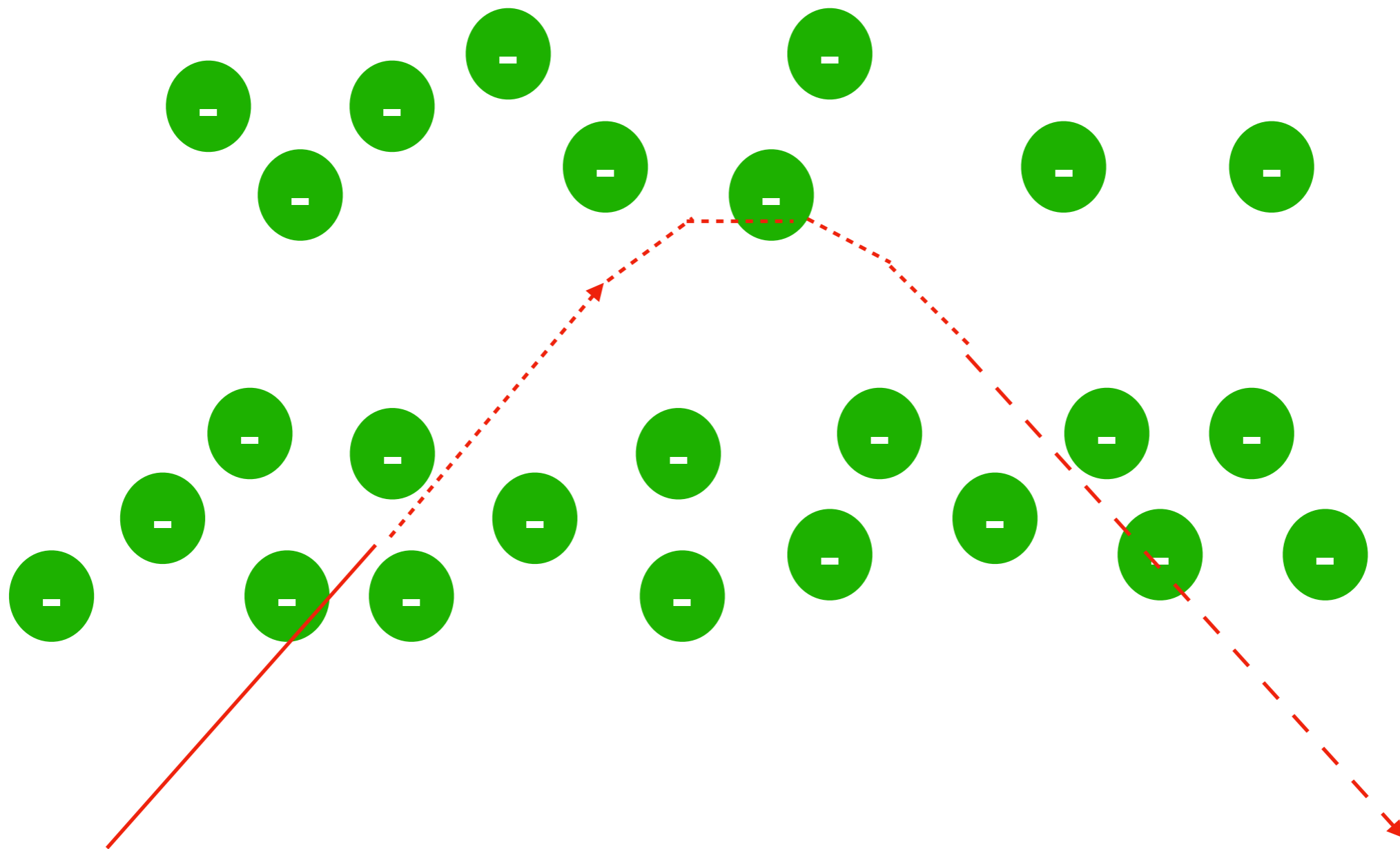




AA



AA



April 23, 19:57 UT



SWX ADVISORY
DTG: 20230423/1957Z
SWXC: PECASUS
ADVISORY NR: 2023/61
NR RPLC: 2023/60
SWX EFFECT: HF COM MOD
OBS SWX: 23/1950Z HNH HSH W180 - E180
FCST SWX +6 HR: 24/0200Z NOT AVBL
FCST SWX +12 HR: 24/0800Z NOT AVBL
FCST SWX +18 HR: 24/1400Z NOT AVBL
FCST SWX +24 HR: 24/2000Z NOT AVBL
RMK: SPACE WEATHER EVENT (HF COM AURORAL
ABSORPTION) IN PROGRESS. IMPACT ON LOWER HF COM FREQUENCY
BANDS EXPECTED AT HIGH LATITUDES.
NXT ADVISORY: WILL BE ISSUED BY 20230424/0150Z=



10/10/2023
20:05 UTC

STATUS
ODC

MAIN

GNSS

RADIATION

HF COM

ARCHIVE

Advisory

Daily Brief

Data

Procedures

Portfolio

ICAO Docs

RWC

Contact

Mute status

OnCall Report



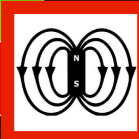
-24h -12h -6h -3h -1h -5m Submit 2023-04-23 18:50 now +5m +1h +3h +6h +12h +24h

PECASUS DASHBOARD on 2023-04-23 18:50 UTC

GNSS	Moderate	Severe	Time UTC	Values	Status	Alert	Max-3h values	Max-3h status
<u>Amplitude Scintillation</u>	0.5	0.8	2023-04-23 18:50	0.40	QUIET		0.40	QUIET
<u>Phase Scintillation</u>	0.4	0.7	2023-04-23 18:50	0.26	QUIET		0.26	QUIET
<u>Vertical TEC</u>	125	175	2023-04-23 18:50	124.06	QUIET		124.06	QUIET

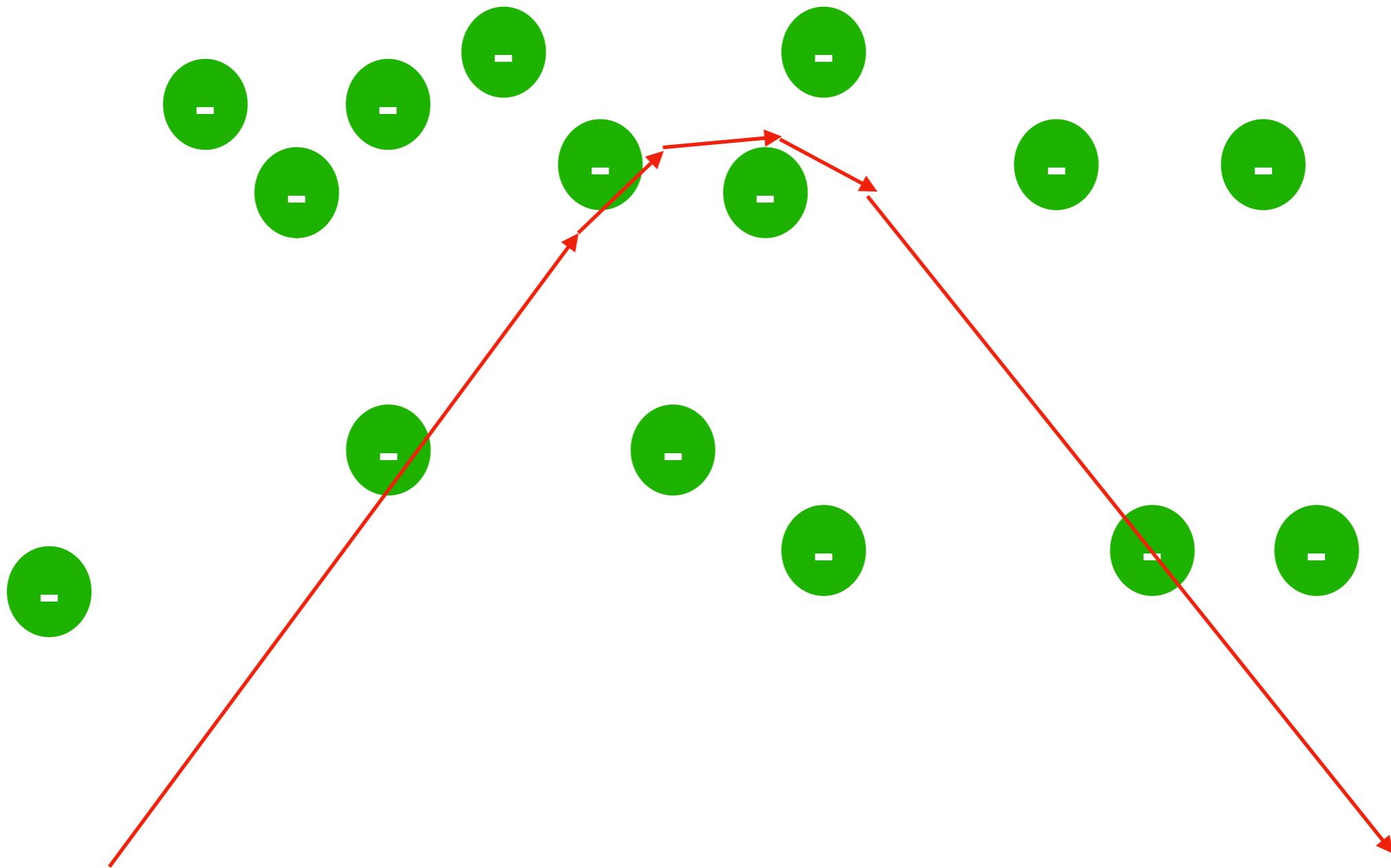
RADIATION	Moderate	Severe	Time UTC	Flags	Status	Alert	Max-3h flags	Max-3h status
<u>Effective Dose FL ≤ 460</u>	30	80	2023-04-23 18:50	0	QUIET		0	QUIET
<u>Effective Dose FL > 460</u>	/	80	2023-04-23 18:50	0	QUIET		0	QUIET

HF COM	Moderate	Severe	Time UTC	Values/Flags	Status	Alert	Max-3h values	Max-3h status
<u>Auroral Absorption (AA)</u>	8	9	2023-04-23 18:50	8.0	MODERATE		8.0	MODERATE
<u>Polar Cap Absorption (PCA)</u>	2	5	2023-04-23 18:50	3.13	MODERATE		4.64	MODERATE
<u>Shortwave Fadeout (SWF)</u>	x1.0	x10.0	2023-04-23 18:50	< M5 flare	QUIET		< M5 flare	QUIET
<u>Post-Storm Depression (PSD)</u>	30%	50%	2023-04-23 18:00	2	SEVERE		2	SEVERE

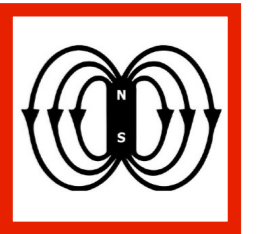
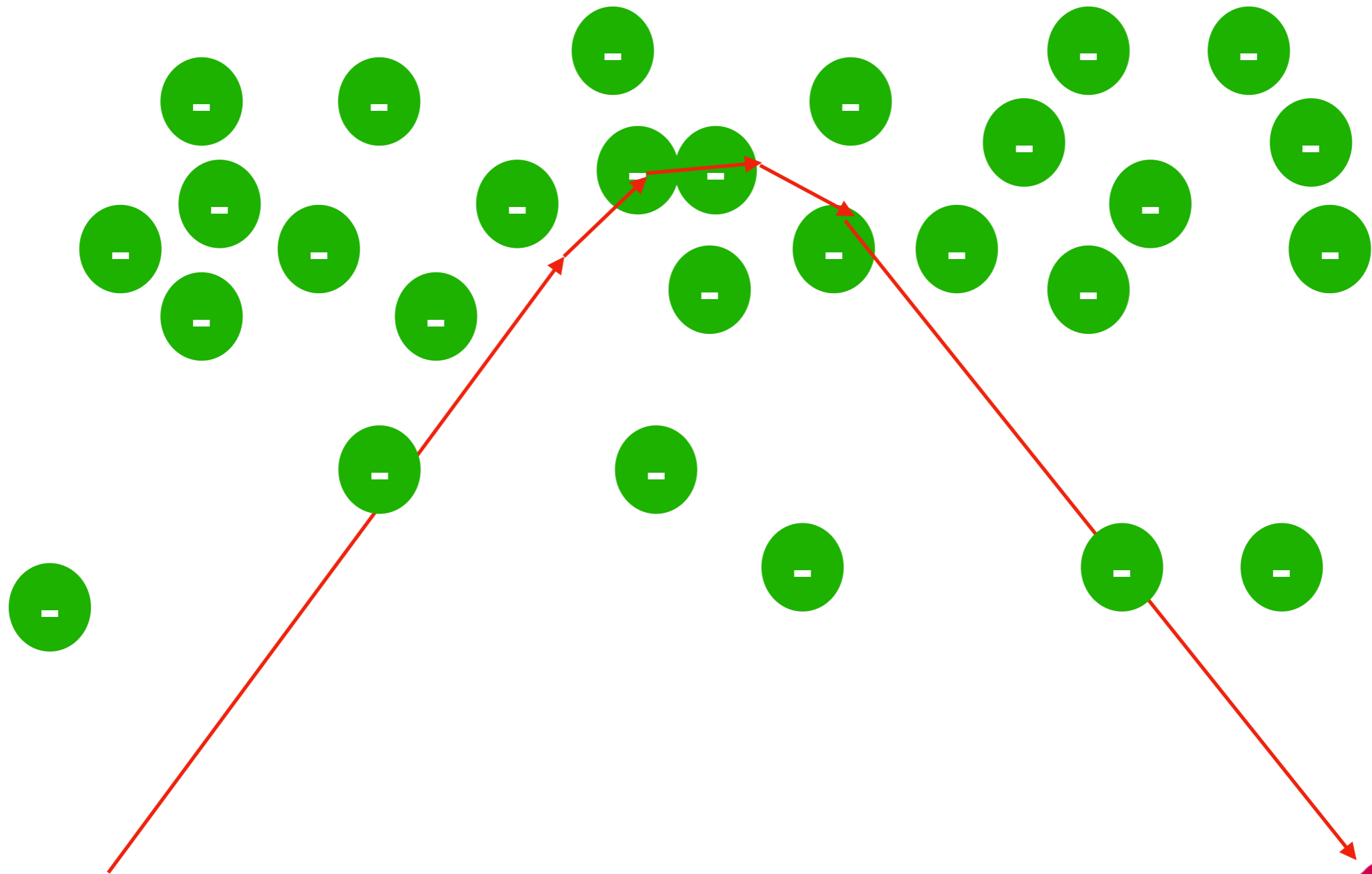


Sound alarm is triggered when MOD or SEV thresholds are exceeded or in case of data outages.

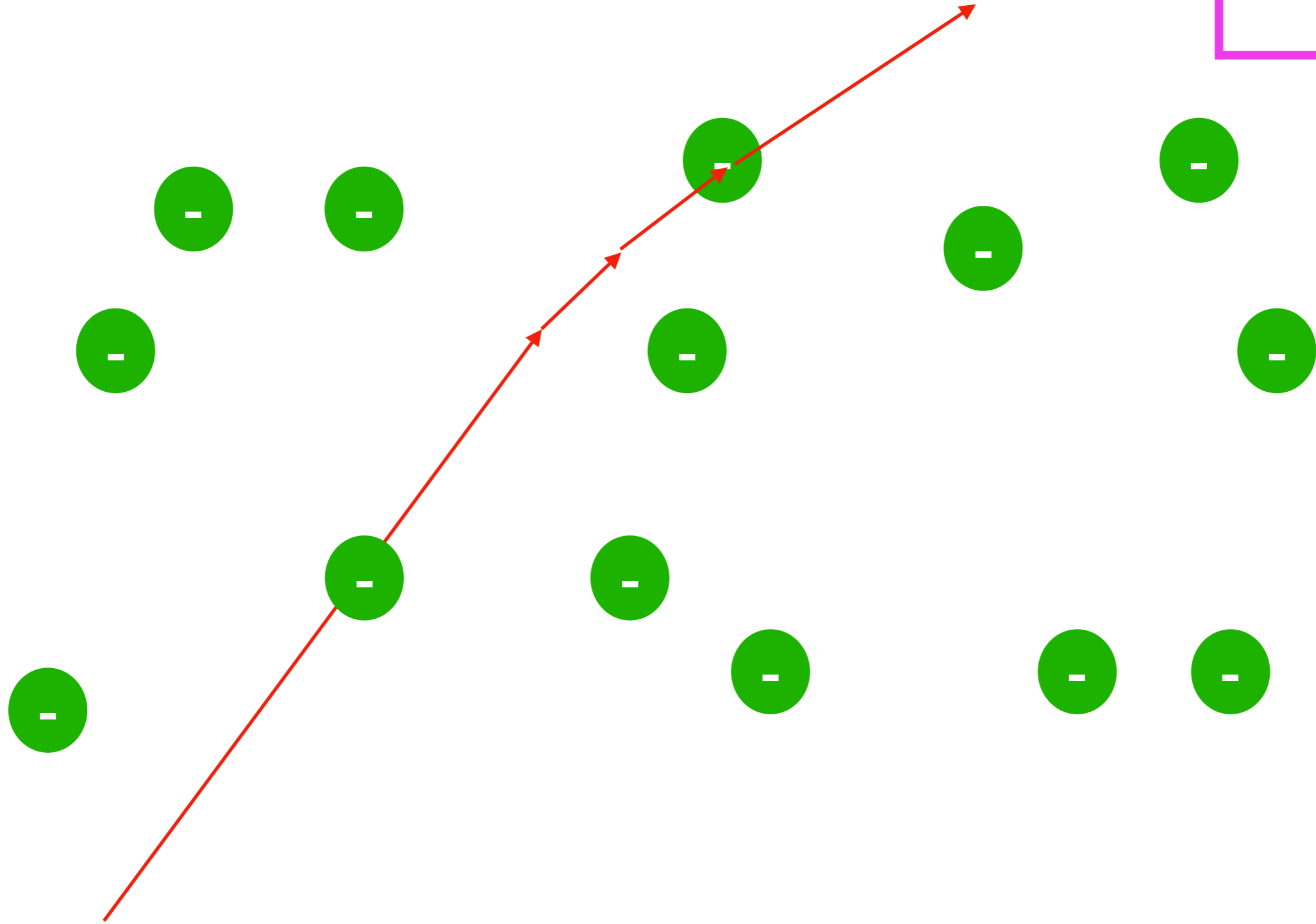
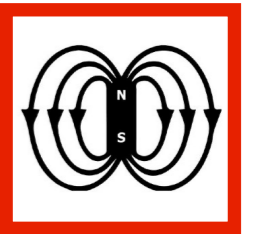


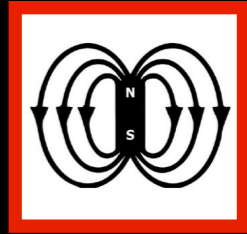


FIRST PHASE



PSD





-24h -12h -6h -3h -1h -5m Submit 2023-04-23 20:30 now +5m +1h +3h +6h +12h +24h

FoF2/MUF DASHBOARD on 2023-04-23 20:30 UTC

See worldmap with latest ionosondes data ([here](#)) Find EU maps ([here](#))

10/10/2023
20:18 UTC

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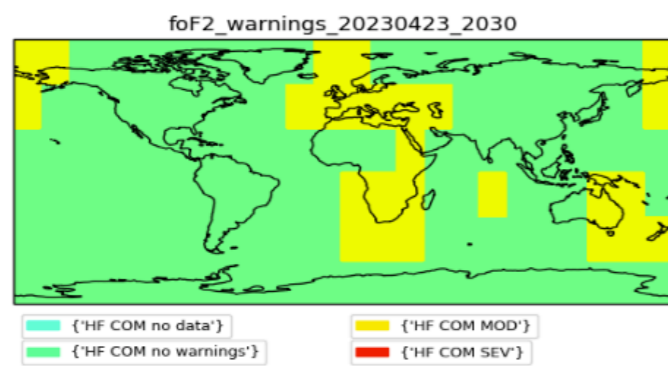
RWC

Contact

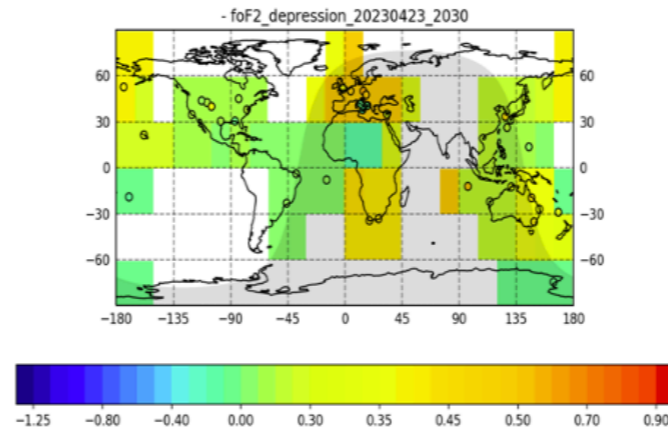
Mute status

OnCall Report

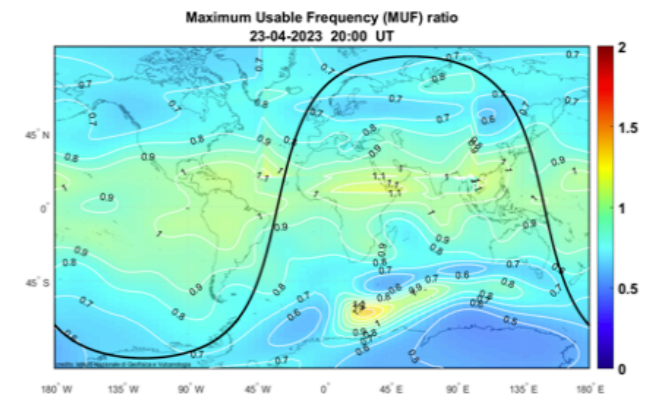
Post-Storm Depression: foF2 Warnings (SRCPAS)



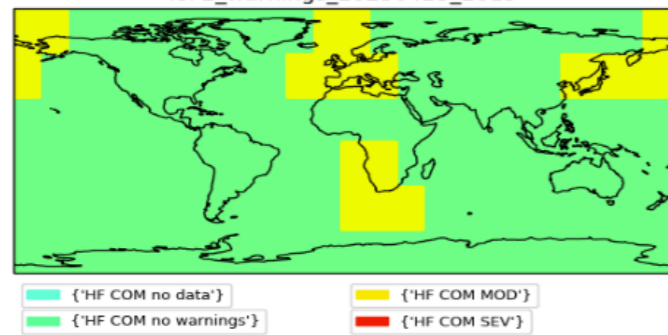
Post-Storm Depression: foF2 Ratio NowCast (SRCPAS)



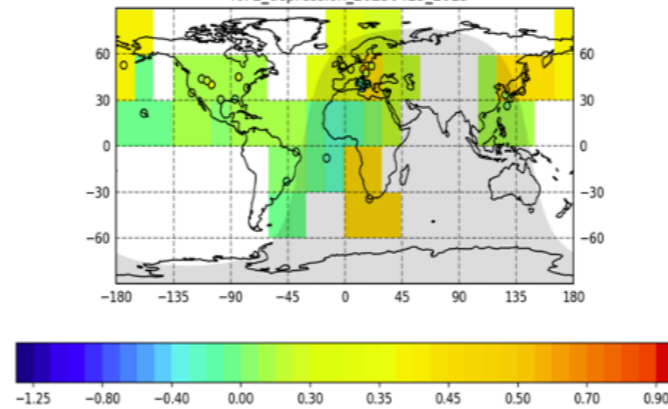
Post-Storm Depression: MUF Ratio NowCast (INGV)



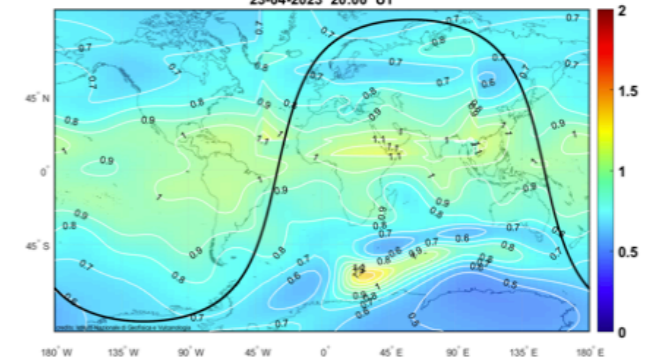
foF2_warnings_20230423_2015



- foF2_depression_20230423_2015



Maximum Usable Frequency (MUF) ratio 23-04-2023 20:00 UT



April 23, 20:29 UT



FNXX02 EFKL 232029

SWX ADVISORY

DTG: 20230423/2029Z

SWXC: PECASUS

ADVISORY NR: 2023/62

SWX EFFECT: HF COM MOD

OBS SWX: 23/2021Z EQS MSH E000 - E045

FCST SWX +6 HR: 24/0300Z NOT AVBL

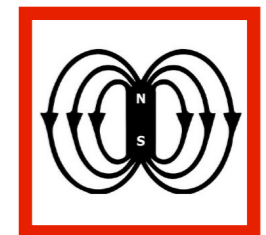
FCST SWX +12 HR: 24/0900Z NOT AVBL

FCST SWX +18 HR: 24/1500Z NOT AVBL

FCST SWX +24 HR: 24/2100Z NOT AVBL

RMK: SPACE WEATHER EVENT (MAXIMUM USABLE FREQUENCY DEPRESSION) IS IN PROGRESS. IMPACT ON HIGHER HF COM FREQUENCY BANDS EXPECTED.

NXT ADVISORY: WILL BE ISSUED BY 20230424/0221Z=



April 23, 20:36 UT



- 10/10/2023 20:34 UTC
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-24h
-12h
-6h
-3h
-1h
-5m
Submit
2023-04-23 20:36
now
+5m
+1h
+3h
+6h
+12h
+24h

PECASUS DASHBOARD on 2023-04-23 20:36 UTC

GNSS	Moderate	Severe	Time UTC	Values	Status	Alert	Max-3h values	Max-3h status
<u>Amplitude Scintillation</u>	0.5	0.8	2023-04-23 20:36	1.08	SEVERE	🔔	1.08	SEVERE
<u>Phase Scintillation</u>	0.4	0.7	2023-04-23 20:36	0.30	QUIET	🔔	1.06	SEVERE
<u>Vertical TEC</u>	125	175	2023-04-23 20:35	131.84	QUIET	🔔	134.83	MODERATE

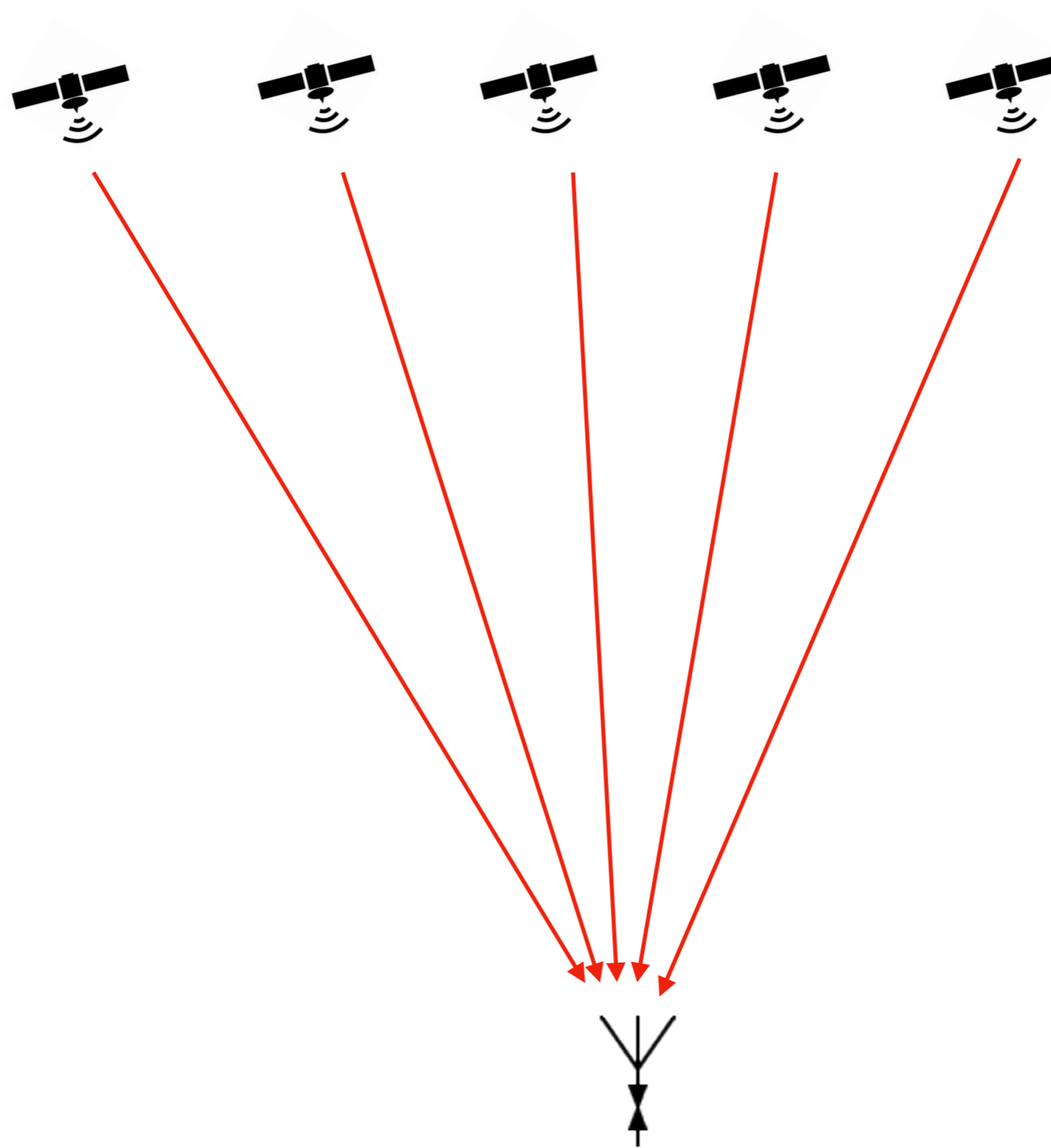


RADIATION	Moderate	Severe	Time UTC	Flags	Status	Alert	Max-3h flags	Max-3h status
<u>Effective Dose FL ≤ 460</u>	30	80	2023-04-23 20:35	0	QUIET	🔔	0	QUIET
<u>Effective Dose FL > 460</u>	/	80	2023-04-23 20:35	0	QUIET	🔔	0	QUIET

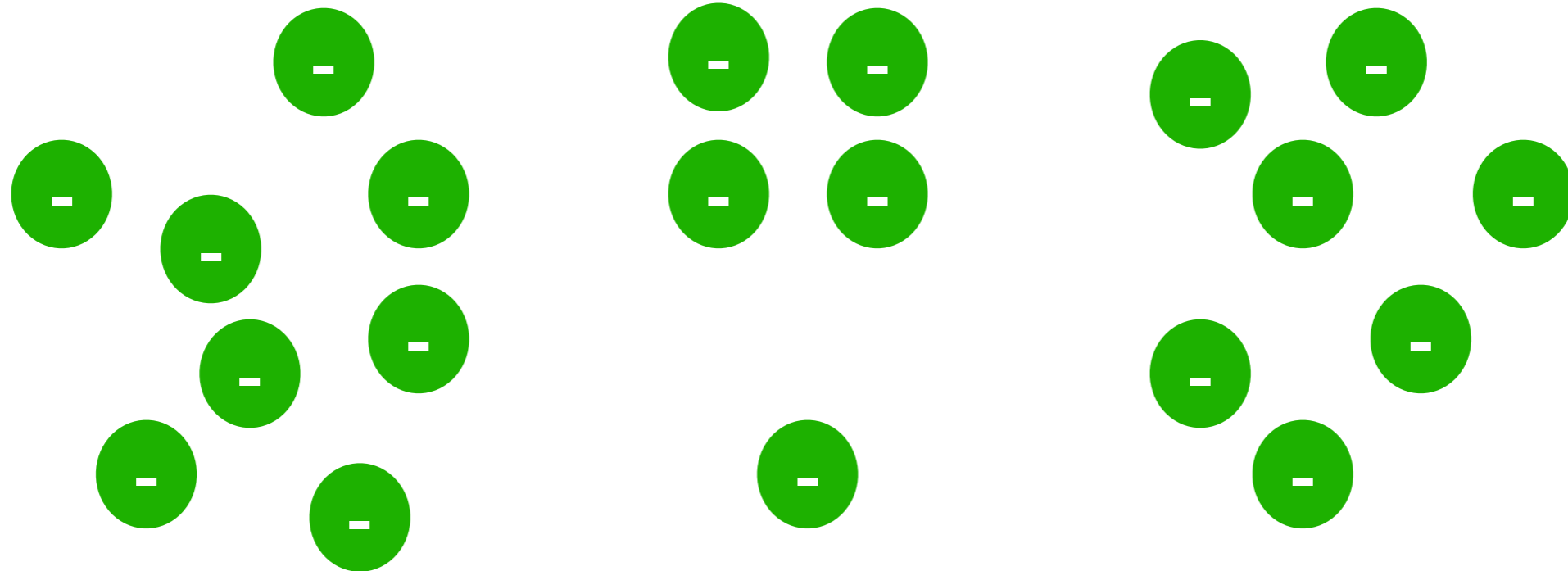
HF COM	Moderate	Severe	Time UTC	Values/Flags	Status	Alert	Max-3h values	Max-3h status
<u>Auroral Absorption (AA)</u>	8	9	2023-04-23 20:36	8.0	MODERATE	🔔	8.0	MODERATE
<u>Polar Cap Absorption (PCA)</u>	2	5	2023-04-23 20:35	1.97	QUIET	🔔	4.64	MODERATE
<u>Shortwave Fadeout (SWF)</u>	x1.0	x10.0	2023-04-23 20:36	< M5 flare	QUIET	🔔	< M5 flare	QUIET
<u>Post-Storm Depression (PSD)</u>	30%	50%	2023-04-23 20:00	2	SEVERE	🔔	2	SEVERE

Sound alarm is triggered when MOD or SEV thresholds are exceeded or in case of data outages.

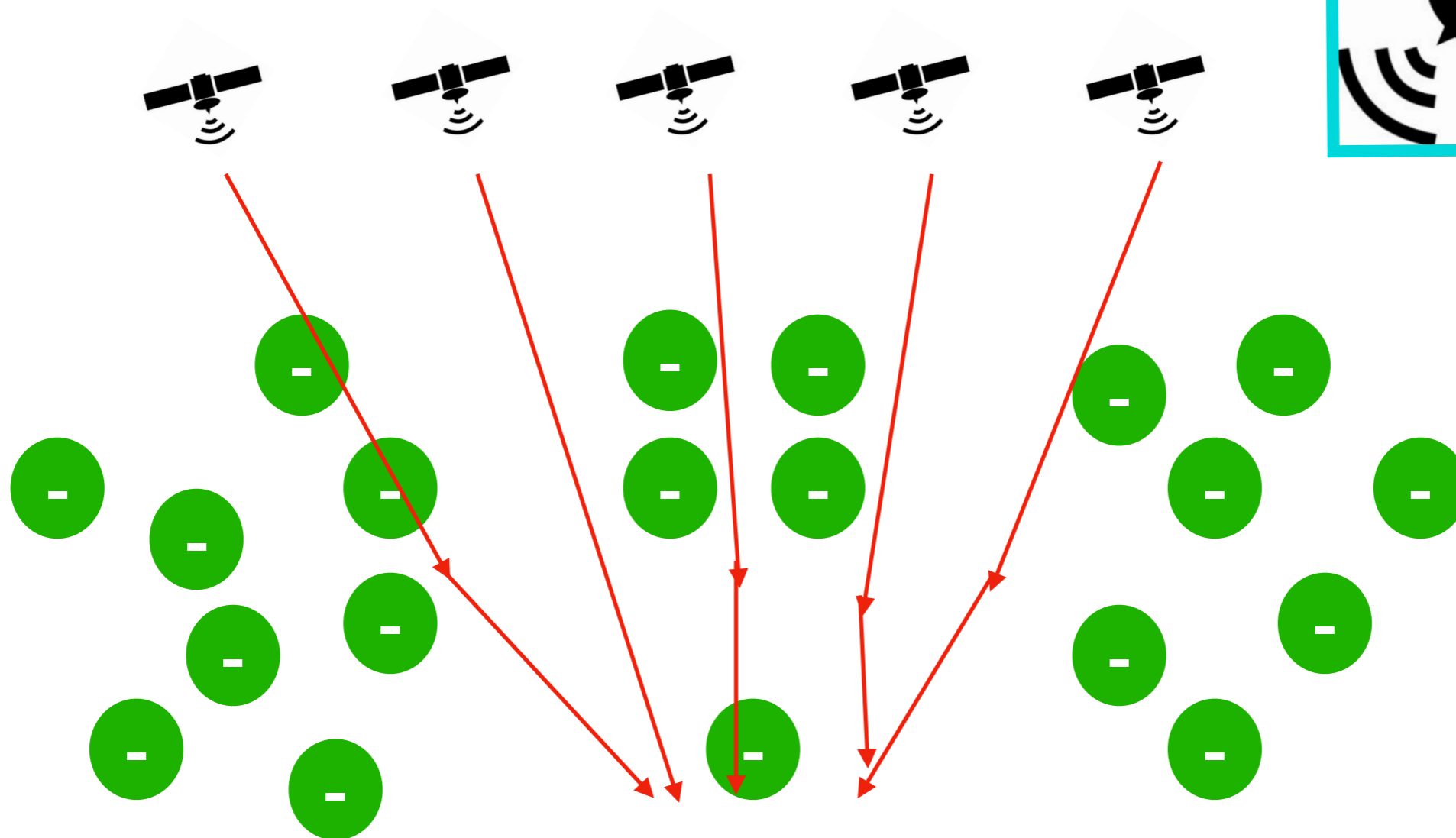
SCINTILLATION



SCINTILLATION



SCINTILLATION

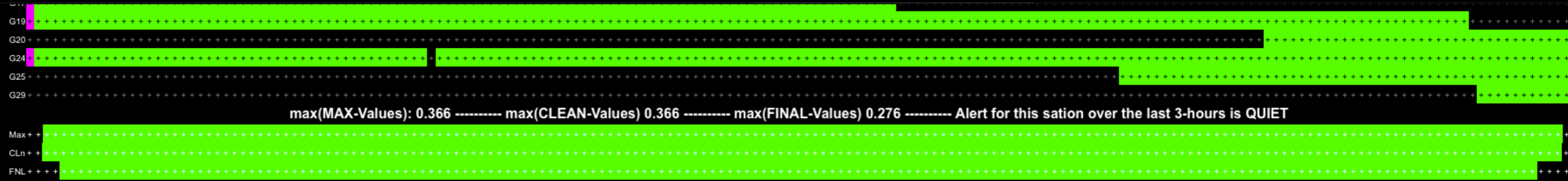


April 23, 20:36 UT



10/10/2023
20:36 UTC

STATUS
ODC



MAIN

DLR STATION MSTE (#satellite=16)

From 2023-Apr-23 17:36 To 2023-Apr-23 20:36

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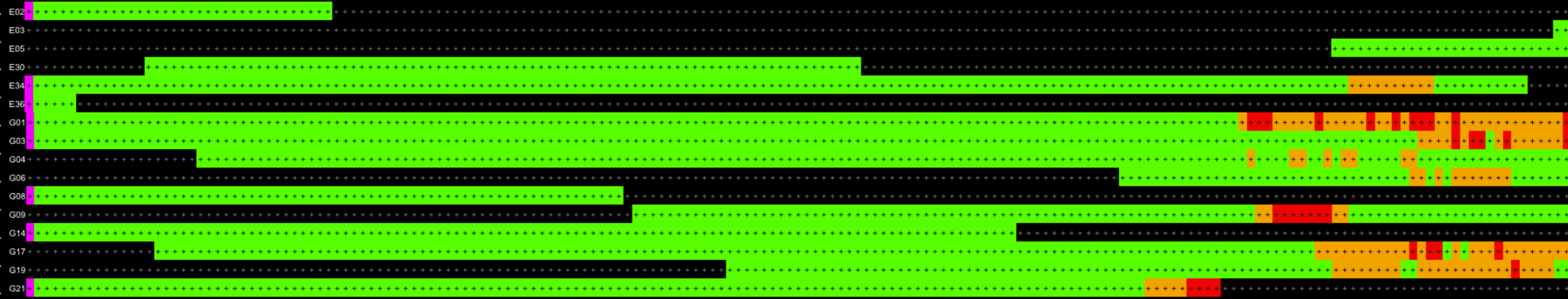
ICAO Docs

RWC

Contact

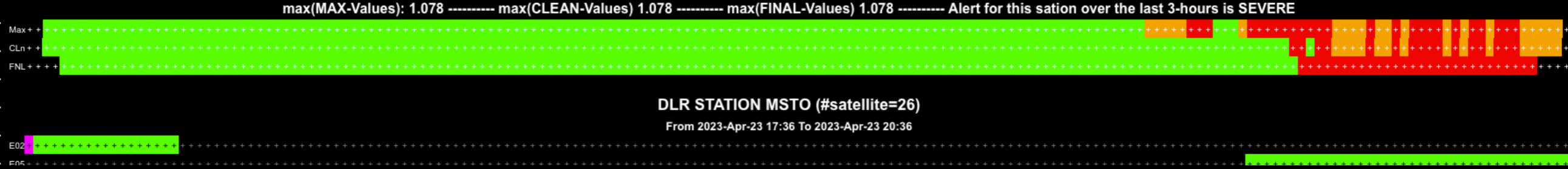
Mute status

OnCall Report

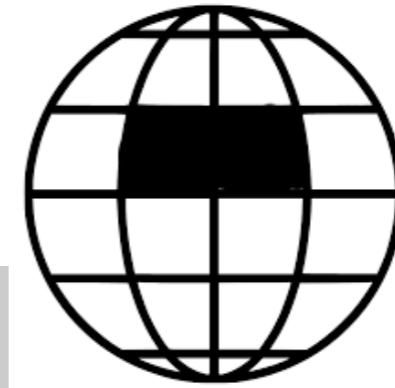


DLR STATION MSTO (#satellite=26)

From 2023-Apr-23 17:36 To 2023-Apr-23 20:36



April 23, 20:36 UT



SWX ADVISORY

DTG: 20230423/2036Z

SWXC: PECASUS

ADVISORY NR: 2023/141

SWX EFFECT: GNSS SEV

OBS SWX: 23/2029Z EQN W030 - E000

FCST SWX +6 HR: 24/0300Z NOT AVBL

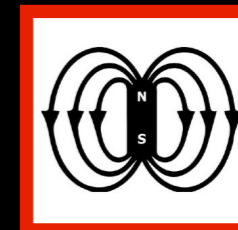
FCST SWX +12 HR: 24/0900Z NOT AVBL

FCST SWX +18 HR: 24/1500Z NOT AVBL

FCST SWX +24 HR: 24/2100Z NOT AVBL

RMK: SPACE WEATHER EVENT (IONOSPHERIC
DISTURBANCE) IN PROGRESS. IMPACT ON GNSS PERFORMANCE
POSSIBLY LEADING TO LOSS OF GNSS SIGNALS AND/OR DEGRADATION
OF TIMING AND POSITIONING PERFORMANCE.

NXT ADVISORY: WILL BE ISSUED BY 20230424/0229Z=



10/10/2023
20:34 UTC

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Mute status

-24h -12h -6h -3h -1h -5m Submit 2023-04-23 20:36 now +5m +1h +3h +6h +12h +24h

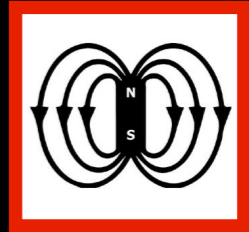
PECASUS DASHBOARD on 2023-04-23 20:36 UTC

GNSS	Moderate	Severe	Time UTC	Values	Status	Alert	Max-3h values	Max-3h status
<u>Amplitude Scintillation</u>	0.5	0.8	2023-04-23 20:36	1.08	SEVERE		1.08	SEVERE
<u>Phase Scintillation</u>	0.4	0.7	2023-04-23 20:36	0.30	QUIET		1.06	SEVERE
<u>Vertical TEC</u>	125	175	2023-04-23 20:35	131.84	QUIET		134.83	MODERATE

RADIATION	Moderate	Severe	Time UTC	Flags	Status	Alert	Max-3h flags	Max-3h status
<u>Effective Dose FL ≤ 460</u>	30	80	2023-04-23 20:35	0	QUIET		0	QUIET
<u>Effective Dose FL > 460</u>	/	80	2023-04-23 20:35	0	QUIET		0	QUIET

HF COM	Moderate	Severe	Time UTC	Values/Flags	Status	Alert	Max-3h values	Max-3h status
<u>Auroral Absorption (AA)</u>	8	9	2023-04-23 20:36	8.0	MODERATE		8.0	MODERATE
<u>Polar Cap Absorption (PCA)</u>	2	5	2023-04-23 20:35	1.97	QUIET		4.64	MODERATE
<u>Shortwave Fadeout (SWF)</u>	x1.0	x10.0	2023-04-23 20:36	< M5 flare	QUIET		< M5 flare	QUIET
<u>Post-Storm Depression (PSD)</u>	30%	50%	2023-04-23 20:00	2	SEVERE		2	SEVERE

Sound alarm is triggered when MOD or SEV thresholds are exceeded or in case of data outages.



FoF2/MUF DASHBOARD on 2023-04-23 21:30 UTC

See worldmap with latest ionosondes data ([here](#)) Find EU maps ([here](#))

10/10/2023
20:19 UTC

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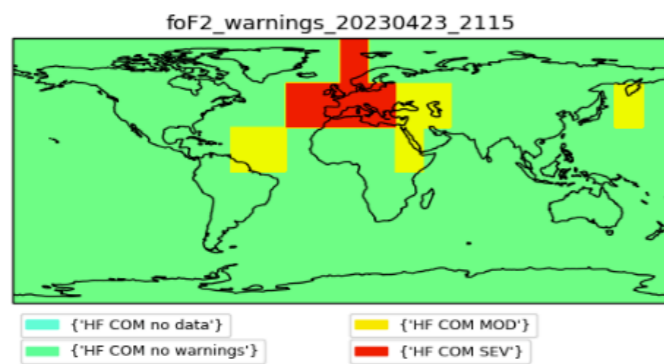
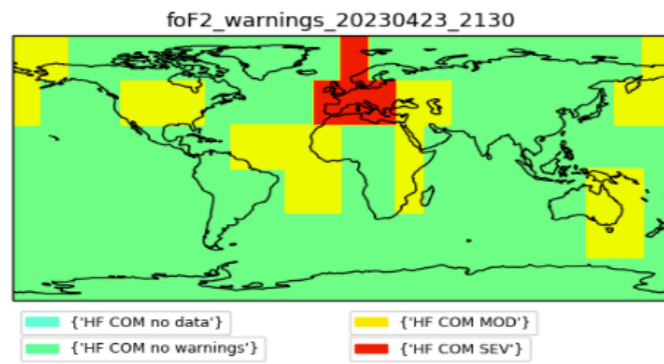
RWC

Contact

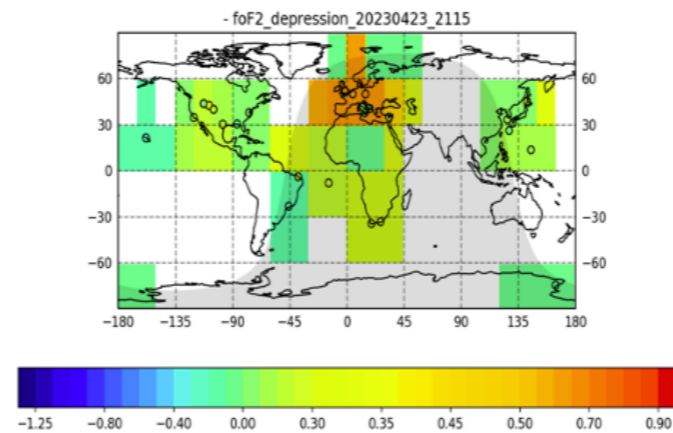
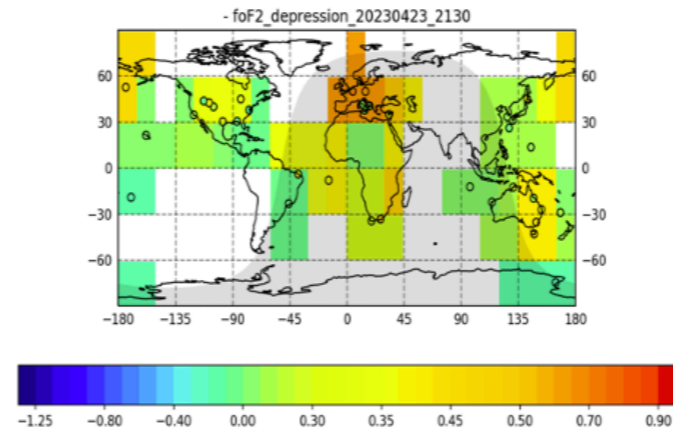
Mute status

OnCall Report

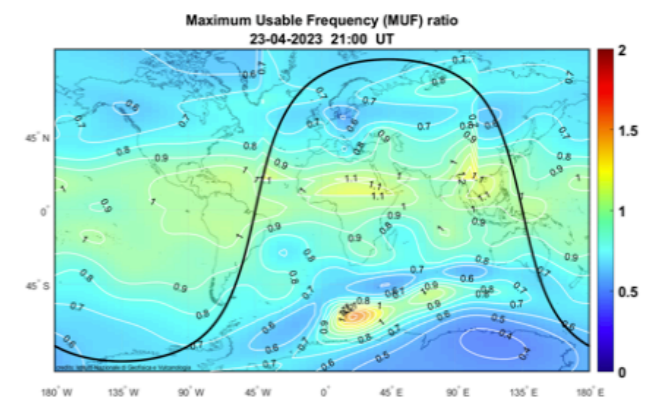
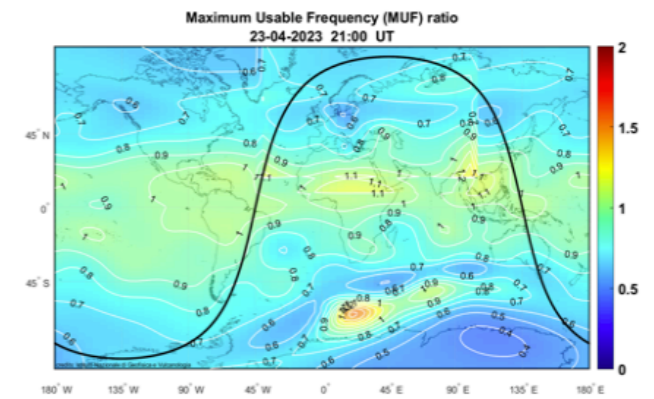
Post-Storm Depression: foF2 Warnings (SRCPAS)



Post-Storm Depression: foF2 Ratio NowCast (SRCPAS)



Post-Storm Depression: MUF Ratio NowCast (INGV)



April 23, 21:26 UT



SWX ADVISORY

DTG: 20230423/2126Z

SWXC: PECASUS

ADVISORY NR: 2023/63

NR RPLC: 2023/62

SWX EFFECT: HF COM SEV

OBS SWX: 23/2108Z HNH HSH MNH MSH EQN EQS

W180 - E180

FCST SWX +6 HR: 24/0400Z NOT AVBL

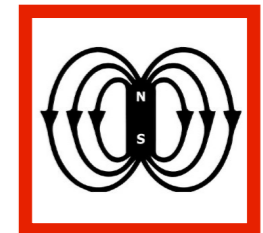
FCST SWX +12 HR: 24/1000Z NOT AVBL

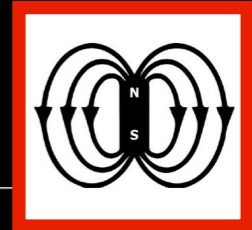
FCST SWX +18 HR: 24/1600Z NOT AVBL

FCST SWX +24 HR: 24/2200Z NOT AVBL

RMK: SPACE WEATHER EVENT (MAXIMUM USABLE FREQUENCY DEPRESSION) IS IN PROGRESS. IMPACT ON HIGHER HF COM FREQUENCY BANDS EXPECTED.

NXT ADVISORY: WILL BE ISSUED BY 20230424/0308Z=





-24h -12h -6h -3h -1h -5m Submit 2023-04-24 00:00 now +5m +1h +3h +6h +12h +24h

PECASUS DASHBOARD

25/04/2023
08:33 UTC

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alerts on
Mattermost

GNSS	Moderate	Severe	Time UTC	Values	Status	Alert	Max-3h values	Max-3h status
<u>Amplitude Scintillation</u>	0.5	0.8	2023-04-24 00:00	1.23	SEVERE		1.23	SEVERE
<u>Phase Scintillation</u>	0.4	0.7	2023-04-24 00:00	0.24	QUIET		0.38	QUIET
<u>Vertical TEC</u>	125	175	2023-04-24 00:00	114.95	QUIET		173.73	MODERATE

RADIATION	Moderate	Severe	Time UTC	Flags	Status	Alert	Max-3h flags	Max-3h status
<u>Effective Dose FL ≤ 460</u>	30	80	2023-04-24 00:00	0	QUIET		0	QUIET
<u>Effective Dose FL > 460</u>	/	80	2023-04-24 00:00	0	QUIET		0	QUIET

HF COM	Moderate	Severe	Time UTC	Values/Flags	Status	Alert	Max-3h values	Max-3h status
<u>Auroral Absorption (AA)</u>	8	9	2023-04-24 00:00	7.0	WARNING		8.0	MODERATE
<u>Polar Cap Absorption (PCA)</u>	2	5	2023-04-24 00:00	0.06	QUIET		1.89	QUIET
<u>Shortwave Fadeout (SWF)</u>	x1.0	x10.0	2023-04-24 00:00	< M5 flare	QUIET		< M5 flare	QUIET
<u>Post-Storm Depression (PSD)</u>	30%	50%	2023-04-24 00:00	2	SEVERE		2	SEVERE

Sound alarm is triggered when MOD or SEV thresholds are exceeded or in case of data outages.

April 23, 23:40 UT



Apr 25, 2023
08:40:32 UTC

MAIN

REGIONS

FLARE

CME

SW

PARTICLE

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ELECTRO

MARS

LOCATION

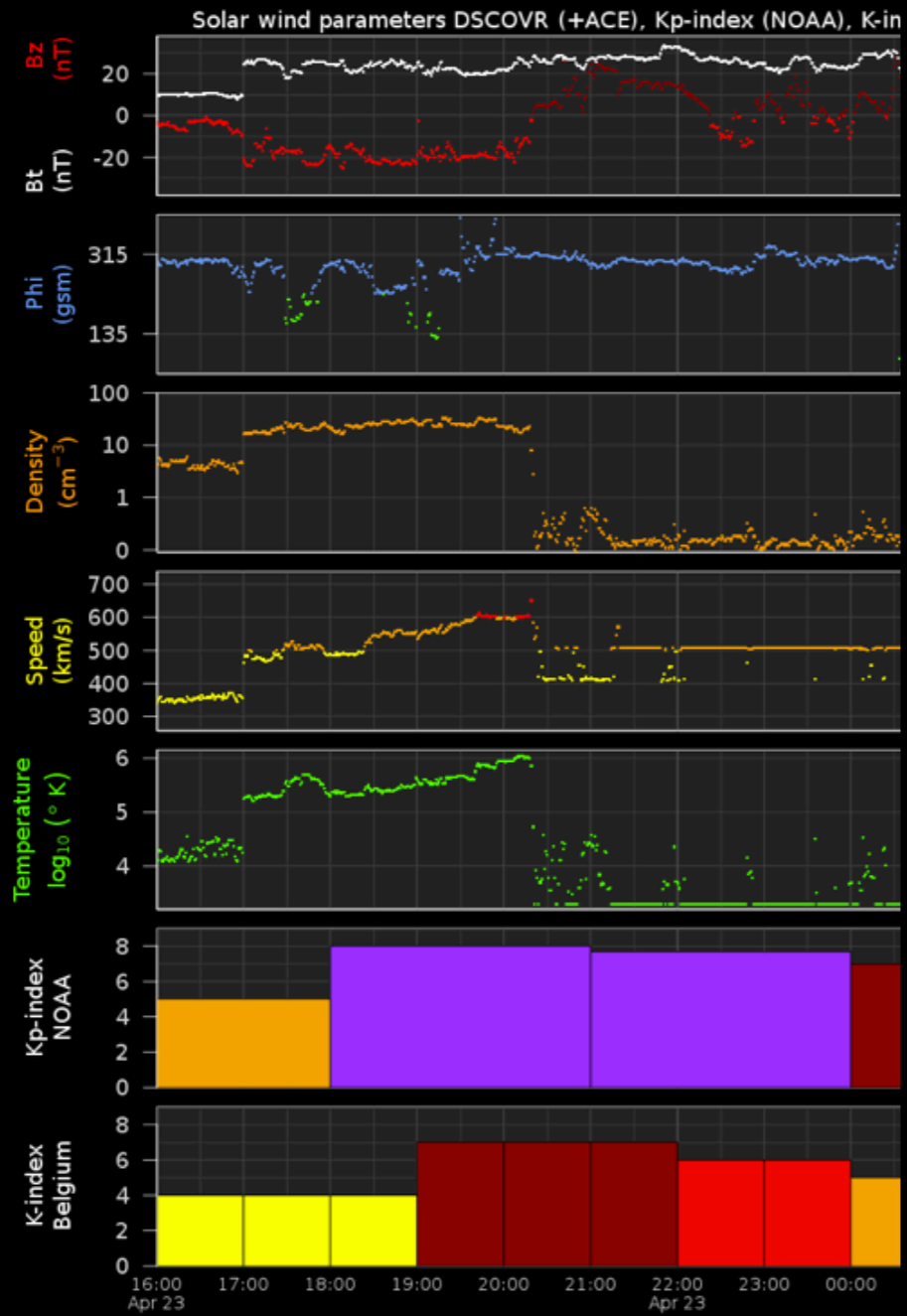
BEPICOLC

LOCATION

PECASUS

Workflow

DSCOVR K-index 1 day -24h -12h -6h -3h -1h -5m 2023-04-24 16:37 now +5m +1h +3h +6h +12h +24h Submit



begin time: 2023-04-23 16:00:00 UTC

April 23, 23:44 UT



0000051801

FNXX02 EFKL 232343

SWX ADVISORY

DTG: 20230423/2344Z

SWXC: PECASUS

ADVISORY NR: 2023/64

NR RPLC: 2023/61

SWX EFFECT: HF COM MOD

OBS SWX: 23/2329Z NO SWX EXP

FCST SWX +6 HR: 24/0600Z NO SWX EXP

FCST SWX +12 HR: 24/1200Z NO SWX EXP

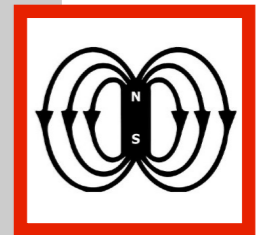
FCST SWX +18 HR: 24/1800Z NO SWX EXP

FCST SWX +24 HR: 25/0000Z NO SWX EXP

RMK: SPACE WEATHER EVENT (HF COM AURORAL

ABSORPTION/POLAR CAP ABSORPTION) HAS ENDED.

NXT ADVISORY: NO FURTHER ADVISORIES=





25/04/2023
08:33 UTC

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Mattermost

-24h -12h -6h -3h -1h -5m Submit 2023-04-24 00:00 now +5m +1h +3h +6h +12h +24h

PECASUS DASHBOARD on 2023-04-24 00:00 UTC

GNSS	Moderate	Severe	Time UTC	Values	Status	Alert	Max-3h values	Max-3h status
<u>Amplitude Scintillation</u>	0.5	0.8	2023-04-24 00:00	1.23	SEVERE		1.23	SEVERE
<u>Phase Scintillation</u>	0.4	0.7	2023-04-24 00:00	0.24	QUIET		0.38	QUIET
<u>Vertical TEC</u>	125	175	2023-04-24 00:00	114.95	QUIET		173.73	MODERATE

RADIATION	Moderate	Severe	Time UTC	Flags	Status	Alert	Max-3h flags	Max-3h status
<u>Effective Dose FL ≤ 460</u>	30	80	2023-04-24 00:00	0	QUIET		0	QUIET
<u>Effective Dose FL > 460</u>	/	80	2023-04-24 00:00	0	QUIET		0	QUIET

HF COM	Moderate	Severe	Time UTC	Values/Flags	Status	Alert	Max-3h values	Max-3h status
<u>Auroral Absorption (AA)</u>	8	9	2023-04-24 00:00	7.0	WARNING		8.0	MODERATE
<u>Polar Cap Absorption (PCA)</u>	2	5	2023-04-24 00:00	0.06	QUIET		1.89	QUIET
<u>Shortwave Fadeout (SWF)</u>	x1.0	x10.0	2023-04-24 00:00	< M5 flare	QUIET		< M5 flare	QUIET
<u>Post-Storm Depression (PSD)</u>	30%	50%	2023-04-24 00:00	2	SEVERE		2	SEVERE

Sound alarm is triggered when MOD or SEV thresholds are exceeded or in case of data outages.

April 24, 04:00 UT



Apr 25, 2023
08:40:32 UTC

MAIN

REGIONS

FLARE

CME

SW

PARTICLE

PROTONS

ELECTRO

MARS

LOCATION

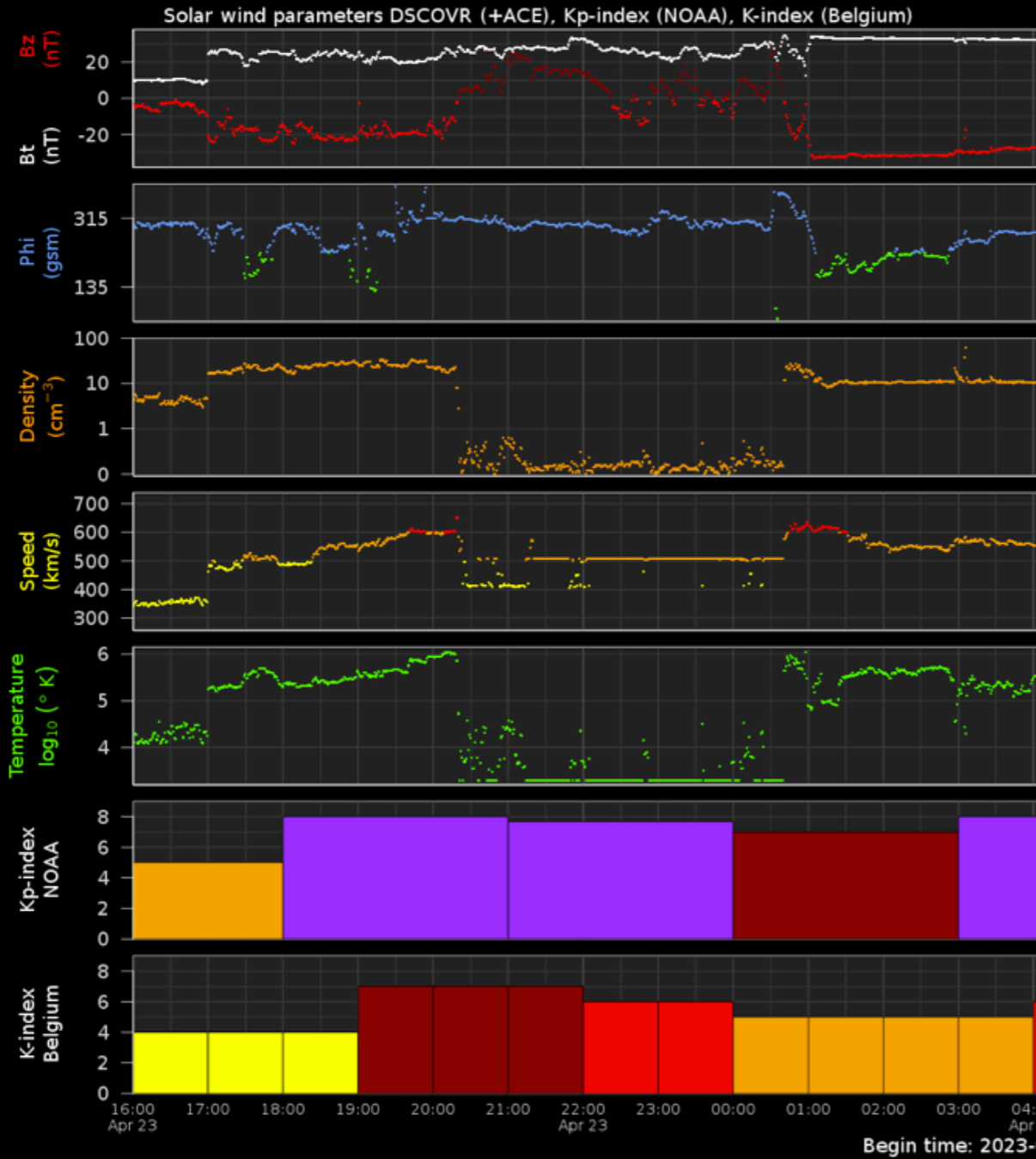
BEPICOLC

LOCATION

PECASUS

Workflow

DSCOVR K-index 1 day -24h -12h -6h -3h -1h -5m 2023-04-24 16:37 now +5m +1h +3h +6h +12h +24h Submit



You made it until the end of this presentation!
Well done.

The PECASUS operator on duty at that time
was not done yet. Trouble in the ionosphere
continues until 4 days after $K_p=6$

