

2022

See <https://www.spaceweather.com>

2 Jan

The data center for the X-ray spectrometer/imager STIX onboard Solar Orbiter

[Hualin Xiao](#), [Shane Maloney](#), [Säm Krucker](#), [Ewan Dickson](#), [Paolo Massa](#), [Erica Lastufka](#), [Andrea Francesco Battaglia](#), [Laszlo Etesi](#), [Nicky Hochmuth](#), [Frederic Schuller](#), [Daniel F. Ryan](#), [Olivier Limousin](#), [Hannah Collier](#), [Alexander Warmuth](#), [Michele Piana](#)

2023

<https://arxiv.org/pdf/2302.00497.pdf>

7 Jan

Сибирский радиогелиограф - новые возможности исследования солнечной короны

Лесовой С.В., Губин А.В., Глоба М.В., Кочанов А.А., Алтынцев А.Т., Уралов А.М.

Плазма-2022 Презентация

https://plasma2022.cosmos.ru/sites/default/files/presentations/lesovoi_SRH_plasma2022-pres.pdf

12 Jan A significant explosion has occurred on the farside, [a huge plume of hot plasma](#) leaped over the sun's northeastern limb. Soon after, [a full halo CME](#) emerged from the same location. This was recorded as a long duration B9 event peaking at 05:30 UT.

Plasma Heating in an Erupting Prominence Detected from Microwave Observations with the Siberian Radioheliograph

[A. M. Uralov](#), [V. V. Grechnev](#), [S. V. Lesovoi](#) & [M. V. Globa](#)

Solar Physics volume 298, Article number: 117 (2023)

<https://doi.org/10.1007/s11207-023-02210-w>

Сибирский радиогелиограф - новые возможности исследования солнечной короны

Лесовой С.В., Губин А.В., Глоба М.В., Кочанов А.А., Алтынцев А.Т., Уралов А.М.

Плазма-2022 Презентация

https://plasma2022.cosmos.ru/sites/default/files/presentations/lesovoi_SRH_plasma2022-pres.pdf

13 Jan

Extended 3He-rich Time Periods Observed by Solar Orbiter: Magnetic Connectivity and Sources

A. [Kouloumvakos](#)¹, G. M. Mason¹, G. C. Ho¹, R. C. Allen¹,

2023 ApJ 956 123

<https://iopscience.iop.org/article/10.3847/1538-4357/acf44e/pdf>

14 Jan 02:03- NE-limb [M2-class](#) flare ;

13:33- a partial halo CME ([movie](#)) from C4-flare and filament eruption in SW AR2925.

Lateral Confinement and the Remarkably Self-similar Nature

Y.-M. [Wang](#)¹ and P. Hess¹

2023 ApJ 952 85

<https://iopscience.iop.org/article/10.3847/1538-4357/acd638/pdf>

14-16 Jan **Буря** 23 UT **Dst~94** nT, $K_p=6$, $B_z \sim -17$, небольшое ESP

A high speed stream associated with CH1054 became the dominant solar wind source after noon 15 Jan.

15 Jan

Expansion and Compression of a Flash Loop System during the Flare on January 15, 2022 According to Ultraviolet and Microwave Data

V. F. **Melnikov**, * and N. S. Meshalkina

Geomagnetism and Aeronomy, **2023**, Vol. 63, No. 7, pp. 192–199.

Мельников В.Ф., Мешалкина Н.С. Динамика системы магнитных петель во время солнечной вспышки 15.01.2022

Восемнадцатая ежегодная конференция "Физика плазмы в солнечной системе" 6 -10 февраля **2023**. ИКИ РАН

Мешалкина Н.С., Мельников В.Ф. Расширение и сжатие системы вспышечных петель во время вспышки 15.01.2022 по данным в ультрафиолетовом и микроволновом диапазонах

Сборник трудов XXVI Всероссийской ежегодной конференции по физике Солнца «Солнце и солнечно-земная физика – 2022» ГАО РАН.

<http://www.gaoran.ru/russian/solphys/2022/book/conf2022.pdf>

16 Jan ~19:30 NW eruption, weak CME

17 Jan

Complex Network View of the Sun's Magnetic Patches: I. Identification

[Zahra Tajik](#), [Nastaran Frahang](#), [Hossein Safari](#), [Michael S.Wheatland](#)

2023

<https://arxiv.org/pdf/2307.15523.pdf>

18 Jan 17:44 - M1.5 flare from NW AR2929 hurled [a CME](#)

Spectral Features of the Solar Transition Region and Chromospheric Lines at Flare Ribbons Observed with IRIS

L. F. **Wang**^{1,2}, Y. Li^{3,4}, Q. Li^{3,4}, X. Cheng^{1,2}, and M. D. Ding^{1,2}

2023 ApJS 268 62

<https://arxiv.org/pdf/2308.11275.pdf>

<https://iopscience.iop.org/article/10.3847/1538-4365/acf127/pdf>

Rapid variations of Si IV spectra in a flare observed by IRIS at a sub-second cadence

[Juraj Lorincik](#), [Vanessa Polito](#), [Bart De Pontieu](#), [Sijie Yu](#), [Nabil Freij](#)

2022

<https://arxiv.org/pdf/2210.12205.pdf>

18-19 Jan **Буря** Kp=5 and 6 due to the arrival of the January 14 CME

20 Jan 06:01 – M5.5 NW flare, CME, **SEP J10~23**

KW-Sun: The Konus-Wind Solar Flare Database in Hard X-Ray and Soft Gamma-Ray Ranges

A. L. **Lysenko**¹, M. V. Ulanov¹, A. A. Kuznetsov², G. D. Fleishman³, D. D. Frederiks¹, L. K. Kashapova², Z. Ya. Sokolova¹, D. S. Svinkin¹, and A. E. Tsvetkova¹

2022 ApJS 262 32

<https://iopscience.iop.org/article/10.3847/1538-4365/ac8b87/pdf>

First detection of transverse vertical oscillation during the expansion of coronal loops

[Qingmin Zhang](#), [Chuan Li](#), [Dong Li](#), [Ye Qiu](#), [Yanjie Zhang](#), [Yiwei Ni](#)

ApJL **2022**

<https://arxiv.org/pdf/2209.00194.pdf>

Сибирский радиогелиограф - новые возможности исследования солнечной короны
Лесовой С.В., Губин А.В., Глоба М.В., Кочанов А.А., Алтынцев А.Т., Уралов А.М.
Plasma-2022 Презентация
https://plasma2022.cosmos.ru/sites/default/files/presentations/lesovoi_SRH_plasma2022-pres.pdf

22 Jan 06:28 - A fairly large NE filament eruption, a faint full halo CME

A Series of Advances in Analytic Interplanetary CME Modeling
C. Kay, [T. Nieves-Chinchilla](#), [S. J. Hofmeister](#), [E. Palmerio](#), [V. E. Ledvina](#)
Space Weather [Volume21, Issue11](#) November 2023 e2023SW003647
<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2023SW003647>

25 Jan ~18 UT **Dst=-42** due to a high speed stream from CH1056, CME observed on Jan 22

26 Jan

A Series of Advances in Analytic Interplanetary CME Modeling
C. Kay, [T. Nieves-Chinchilla](#), [S. J. Hofmeister](#), [E. Palmerio](#), [V. E. Ledvina](#)
Space Weather [Volume21, Issue11](#) November 2023 e2023SW003647
<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2023SW003647>

Modeling CME encounters at Parker Solar Probe with OSPREI: Dependence on photospheric and coronal conditions*

Vincent E. [Ledvina](#)^{1,**,}, Erika Palmerio¹, Christina Kay^{2,3}, Nada Al-Haddad⁴ and Pete Riley¹
A&A 673, A96 (2023)
<https://doi.org/10.1051/0004-6361/202245445>
<https://www.aanda.org/articles/aa/pdf/2023/05/aa45445-22.pdf>

29 Jan 23:32 – N центральная M1.1 LDE; слабый asymmetrical гало CME
See <https://www.swpc.noaa.gov/news/geomagnetic-storm-conditions-likely-2-3-february-2022>

The Width of Magnetic Ejecta Measured Near 1 au: Lessons from STEREO-A Measurements in 2021--2022

[Noé Lugaz](#), [Bin Zhuang](#), [Camilla Scolini](#), [Nada Al-Haddad](#), [Charles J. Farrugia](#), [Réka M. Winslow](#), [Florian Regnault](#), [Christian Möstl](#), [Emma E. Davies](#), [Antoinette B. Galvin](#)
ApJ 2023
<https://arxiv.org/pdf/2312.03942.pdf>

The Solar Cause of the 2022 February 3 Geomagnetic Storm that Led to the Demise of the Starlink Satellites

Nat [Gopalswamy](#), [Hong Xie](#), [Seiji Yashiro](#), [Sachiko Akiyama](#)
Sun and Geosphere 2023
<https://arxiv.org/ftp/arxiv/papers/2303/2303.02330.pdf>

Unexpected space weather causing the reentry of 38 Starlink satellites in February 2022

Ryuho [Kataoka](#)^{1,2,3*}, Daikou Shiota⁴, Hitoshi Fujiwara⁵, Hidekatsu Jin⁴, Chihiro Tao⁴, Hiroyuki Shinagawa⁴ and Yasunobu Miyoshi⁶
J. Space Weather Space Clim. 2022, 12, 41
<https://www.swsc-journal.org/articles/swsc/pdf/2022/01/swsc220018.pdf>

Seismic Monitoring of the Sun's Far Hemisphere: A Crucial Component in Future Space Weather Forecasting (A White Paper Submitted to the Decadal Survey for Solar and Space Physics (Heliophysics) -- SSPH 2024-2033) **Review**

[Kiran Jain](#), [C. Lindsey](#), [E. Adamson](#), [C. N. Arge](#), [T. E. Berger](#), [D. C. Braun](#), [R. Chen](#), [Y. M. Collado-Vega](#), [M. Dikpati](#), [T. Felipe](#), [C. J. Henney](#), [J. T. Hoeksema](#), [R. W. Komm](#), [K. D. Leka](#), [A. R. Marble](#), [V. Martinez Pillet](#), [M. Miesch](#), [L. J. Nickisch](#), [A. A. Pevtsov](#), [V. J. Pizzo](#), [W. K. Tobiska](#), [S. C. Tripathy](#), [J. Zhao](#)

A White Paper Submitted to Decadal Survey for Solar and Space Physics (Heliophysics) – SSPH 2024-2033 2022

<https://arxiv.org/ftp/arxiv/papers/2210/2210.01291.pdf>

1 Feb-22 Mar

Solar energetic electron events measured by MESSENGER and Solar Orbiter. Peak intensity and energy spectrum radial dependences: statistical analysis

[L. Rodríguez-García](#), [R. Gómez-Herrero](#), [N. Dresing](#), [D. Lario](#), [I. Zouganelis](#), [L. A. Balmaceda](#), [A. Kouloumvakos](#), [A. Fedeli](#), [F. Espinosa Lara](#), [I. Cernuda](#), [G. C. Ho](#), [R. F. Wimmer-Schweingruber](#), [J. Rodríguez-Pacheco](#)

A&A 2022

<https://arxiv.org/pdf/2211.11054.pdf>

3 Feb ~11 UT **Dst=-75 Bz~-17 Kp=5**

<https://www.nesdis.noaa.gov/news/time-lapse-of-solar-cycle-25-displays-increasing-activity-the-sun>

<https://www.swpc.noaa.gov/news/geomagnetic-storm-conditions-likely-2-3-february-2022>

The Thermosphere Is a Drag: The 2022 Starlink Incident and the Threat of Geomagnetic Storms to Low Earth Orbit Space Operations

[T. E. Berger](#), [M. Dominique](#), [G. Lucas](#), [M. Pilinski](#), [V. Ray](#), [R. Sewell](#), [E. K. Sutton](#), [J. P. Thayer](#), [E. Thiemann](#)

Space Weather [Volume21, Issue3](#) e2022SW003330 2023

<https://doi.org/10.1029/2022SW003330>

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2022SW003330>

The Solar Cause of the 2022 February 3 Geomagnetic Storm that Led to the Demise of the Starlink Satellites

Nat [Gopalswamy](#), [Hong Xie](#), [Seiji Yashiro](#), [Sachiko Akiyama](#)

Sun and Geosphere 2023

<https://arxiv.org/ftp/arxiv/papers/2303/2303.02330.pdf>

Unexpected space weather causing the reentry of 38 Starlink satellites in February 2022

Ryuho [Kataoka](#)^{1,2,3*}, Daikou Shiota⁴, Hitoshi Fujiwara⁵, Hidekatsu Jin⁴, Chihiro Tao⁴, Hiroyuki Shinagawa⁴ and Yasunobu Miyoshi⁶

J. Space Weather Space Clim. **2022**, 12, 41

<https://www.swsc-journal.org/articles/swsc/pdf/2022/01/swsc220018.pdf>

Thermospheric Neutral Density Variation during the “SpaceX” Storm: Implications from Physics-based Whole Geospace Modeling

[Dong Lin](#), [Wenbin Wang](#), [Katherine Garcia-Sage](#), [Jia Yue](#), [Viacheslav Merkin](#), [Joseph M. McInerney](#), [Kevin Pham](#), [Kareem Sorathia](#)

Space Weather e2022SW003254 2022

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2022SW003254>

Space Weather Environment During the SpaceX Starlink Satellite Loss in February 2022

[Tzu-Wei Fang](#), [Adam Kubaryk](#), [David Goldstein](#), [Zhuxiao Li](#), [Tim Fuller-Rowell](#), [George Millward](#), [Howard J. Singer](#), [Robert Steenburgh](#), [Solomon Westerman](#), [Erik Babcock](#)

Space Weather e2022SW003193 2022

<https://doi.org/10.1029/2022SW003193>

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2022SW003193>

SpaceX—Sailing Close to the Space Weather?

[Mike Hapgood](#), [Huixin Liu](#), [Noé Lugaz](#)

Space Weather [Volume20, Issue3](#) March 2022 e2022SW003074

<https://doi.org/10.1029/2022SW003074>

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2022SW003074>

4 Feb ~21 UT **Dst=-71 Bz~-10 Kp=5** a delayed storm. under the influence of CME wake effects. The CME's wake can be more effective; the [Starlink Incident](#) of Feb. 4th was caused by just such a delayed storm.

<https://www.nesdis.noaa.gov/news/time-lapse-of-solar-cycle-25-displays-increasing-activity-the-sun>

[Thermospheric conditions associated with the loss of 40 Starlink satellites](#)

[Yongliang Zhang](#), [Larry J. Paxton](#), [Robert Schaefer](#), [William H. Swartz](#)

Space Weather e2022SW003168 2022

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2022SW003168>

Unveiling the space weather during the Starlink satellites destruction event on 4 February 2022

[Tong Dang](#), [Xiaolei Li](#), [Bingxian Luo](#), [Ruoxi Li](#), [Binzheng Zhang](#), [Kevin Pham](#), [Dexin Ren](#), [Xuetao Chen](#), [Jiuhou Lei](#), [Yuming Wang](#)

Space Weather e2022SW003152 [Volume20, Issue8](#) 2022

<https://doi.org/10.1029/2022SW003152>

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2022SW003152>

See <https://www.spaceweather.com> on 16 Sep 2022

5 Feb

Extended 3He-rich Time Periods Observed by Solar Orbiter: Magnetic Connectivity and Sources

A. [Kouloumvakos](#)¹, G. M. [Mason](#)¹, G. C. [Ho](#)¹, R. C. [Allen](#)¹,

2023 ApJ 956 123

<https://iopscience.iop.org/article/10.3847/1538-4357/acf44e/pdf>

6 Feb A faint full halo CME after a C3.1 LDE near noon in AR 12939

8 Feb a colossal prominence dancing over the SE limb

<https://twitter.com/erikapal/status/1490986941126307844>

Beyond the disk: EUV coronagraphic observations of the Extreme Ultraviolet Imager on board Solar Orbiter

[Auchère](#), F., [Berghmans](#), D., [Dumesnil](#), C., [Halain](#), J.-P., [Mercier](#), R., +++

A&A 2023

<https://arxiv.org/pdf/2305.15308.pdf>

9 Feb

Automatic detection technique for solar filament oscillations in GONG data

M. [Luna](#)^{1,2}, J. R. [Mérout](#)^{1,2} and F. [Auchère](#)³

A&A 666, A195 (2022)

<https://www.aanda.org/articles/aa/pdf/2022/10/aa44181-22.pdf>
<https://arxiv.org/pdf/2209.05087.pdf>

10 Feb ~20 UT **Dst=-70 Bz=B=-13 Kp=5**

Earth moved deeper into the CME's wake. More than a million km behind the shock front, Earth finally encountered the kind of intense [south-pointing magnetic fields](#) that spark one more delayed geomagnetic storms.

11 Feb 18-22 UT **Dst=-40 Bz=-12 Kp=5** The influence of CME, after 18h UT - a high speed CH stream

12 Feb Near-global activity. Multiple flares (C6, M1) and CMEs. A spotless SE slow filament eruption.

15 Feb

On the Mesoscale Structure of CMEs at Mercury's Orbit: BepiColombo and Parker Solar Probe Observations

[Erika Palmerio](#), [Fernando Carcaboso](#), [Leng Ying Khoo](#), [Tarik M. Salman](#), +++

ApJ 2024

<https://arxiv.org/pdf/2401.01875.pdf>

Solar Energetic Particle Events Detected in the Housekeeping Data of the European Space Agency's Spacecraft Flotilla in the Solar System

Beatriz [Sánchez-Cano](#), [Olivier Witasse](#), [Elise W. Knutsen](#), [Dikshita Meggi](#), +++

Space Weather [Volume21, Issue8](#) August 2023 e2023SW003540

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2023SW003540>

15-16 Feb Large E farside CME. See STEREO-A Очень слабые длительные протоны
<https://spaceweatherarchive.com/2022/02/19/huge-explosion-on-the-farside-of-the-sun/>

Correlation of Coronal Mass Ejection Shock Temperature with Solar Energetic Particle Intensity

Manuel Enrique [Cuesta](#), [D. J. McComas](#), [L. Y. Khoo](#), [R. Bandyopadhyay](#), [T. Sharma](#), +++

ApJ 2024

<https://arxiv.org/pdf/2402.00210.pdf>

Defining the Middle Corona

Review

[Matthew J. West](#), [Daniel B. Seaton](#), [David B. Wexler](#), [John C. Raymond](#), +++

[Solar Physics](#) volume 298, Article number: 78 (2023)

<https://link.springer.com/content/pdf/10.1007/s11207-023-02170-1.pdf>

Solar Orbiter and SOHO's view of a giant eruption - side by side

https://www.esa.int/Science_Exploration/Space_Science/Solar_Orbiter

Prominence eruption observed in He II 304 Å up to >6 R_☉ by EUI/FSI aboard Solar Orbiter★

M. [Mierla](#)^{1,2}, A. N. [Zhukov](#)^{1,3}, D. [Berghmans](#)¹, S. [Parenti](#)⁴, F. [Auchère](#)⁴, et al.

A&A 662, L5 (2022)

<https://www.aanda.org/articles/aa/pdf/2022/06/aa44020-22.pdf>

<https://arxiv.org/pdf/2205.15214.pdf>

16 Feb

Analyses of ~0.05–2 MeV Ions Associated with the 2022 February 16 Energetic Storm Particle Event Observed by Parker Solar Probe

Joe Giacalone¹, C. M. S. Cohen², D. J. McComas³, X. Chen¹, M. A. Dayeh
2023 ApJ 958 144
<https://iopscience.iop.org/article/10.3847/1538-4357/acfb86/pdf>

18 Feb

Investigating Coronal Holes and CMEs as Sources of Brightness Depletion Detected in PSP/WISPR Images

Guillermo Stenborg¹, Evangelos Paouris^{1,2}, Russell A. Howard¹, Angelos Vourlidas¹, and Phillip Hess³

2023 ApJ 949 61

<https://iopscience.iop.org/article/10.3847/1538-4357/acd2cf/pdf>

19 Feb 08-09 UT minor storm conditions **Dst=-32** associated with CH1064

20 Feb the early hours Кратковременное повышение minor storm conditions **Dst=-27**
Bz=-11 Kp=5. Earth is still inside the stream from CH1064.

22 Feb 08 UT minor storm **Dst=-44 Kp=5** effects from CH1064

24 Feb

Investigating Coronal Holes and CMEs as Sources of Brightness Depletion Detected in PSP/WISPR Images

Guillermo Stenborg¹, Evangelos Paouris^{1,2}, Russell A. Howard¹, Angelos Vourlidas¹, and Phillip Hess³

2023 ApJ 949 61

<https://iopscience.iop.org/article/10.3847/1538-4357/acd2cf/pdf>

24-27 Feb

In situ measurement of slow solar wind emerging from a pseudostreamer: a conjunction study with Parker Solar Probe and Solar Orbiter

Tamar Ervin, [Stuart D. Bale](#), [Samuel T. Badman](#), [Yeimy J. Rivera](#), [Orlando Romeo](#), [Jia Huang](#), [Pete Riley](#), [Trevor A. Bowen](#), [Susan T. Lepri](#), [Ryan M. Dewey](#)

ApJ 2023

<https://arxiv.org/pdf/2309.07949.pdf>

25 Feb

Investigating Coronal Holes and CMEs as Sources of Brightness Depletion Detected in PSP/WISPR Images

Guillermo Stenborg¹, Evangelos Paouris^{1,2}, Russell A. Howard¹, Angelos Vourlidas¹, and Phillip Hess³

2023 ApJ 949 61

<https://iopscience.iop.org/article/10.3847/1538-4357/acd2cf/pdf>

Seismic Monitoring of the Sun's Far Hemisphere: A Crucial Component in Future Space Weather Forecasting (A White Paper Submitted to the Decadal Survey for Solar and Space Physics (Heliophysics) -- SSPH 2024-2033) **Review**

[Kiran Jain](#), [C. Lindsey](#), [E. Adamson](#), [C. N. Arge](#), [T. E. Berger](#), [D. C. Braun](#), [R. Chen](#), [Y. M. Collado-Vega](#), [M. Dikpati](#), [T. Felipe](#), [C. J. Henney](#), [J. T. Hoeksema](#), [R. W. Komm](#), [K. D. Leka](#), [A. R. Marble](#), [V. Martinez Pillet](#), [M. Miesch](#), [L. J. Nickisch](#), [A. A. Pevtsov](#), [V. J. Pizzo](#), [W. K. Tobiska](#), [S. C. Tripathy](#), [J. Zhao](#)

A White Paper Submitted to Decadal Survey for Solar and Space Physics (Heliophysics) – SSPH 2024-2033 2022

<https://arxiv.org/ftp/arxiv/papers/2210/2210.01291.pdf>

27 Feb 09 UT minor storm **Dst=-36 Kp=4** organized [cluster of](#) CH1066

Dispersive Suprathermal Ion Events Observed by the Parker Solar Probe Mission

S. T. **Alnussirat**¹, R. Livi¹, D. E. Larson¹, A. Rahmati¹, P. L. Whittlesey⁺⁺⁺

2023 ApJL 954 L32

<https://iopscience.iop.org/article/10.3847/2041-8213/acf21c/pdf>

Investigating Coronal Holes and CMEs as Sources of Brightness Depletion Detected in PSP/WISPR Images

Guillermo **Stenborg**¹, Evangelos Paouris^{1,2}, Russell A. Howard¹, Angelos Vourlidas¹, and Phillip Hess³

2023 ApJ 949 61

<https://iopscience.iop.org/article/10.3847/1538-4357/acd2cf/pdf>

1 Mar

Variability of the slow solar wind: New insights from modelling and PSP-WISPR observations*

Nicolas **Poirier**^{1,2}, Victor Réville³, Alexis P. Rouillard³, Athanasios Kouloumvakos⁴ and Emeline Valette³

A&A 677, A108 (2023)

<https://www.aanda.org/articles/aa/pdf/2023/09/aa47146-23.pdf>

2 Mar-2 Apr First Perihelion of the Solar Orbiter

First Perihelion of EUV on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A 2023

<https://arxiv.org/pdf/2301.05616.pdf>

2 Mar

First Perihelion of EUV on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A 2023

<https://arxiv.org/pdf/2301.05616.pdf>

3 Mar

Ultra-high-resolution Observations of Persistent Null-point Reconnection in the Solar Corona

[X. Cheng](#), [E. R. Priest](#), [H. T. Li](#), [J. Chen](#), [G. Aulanier](#), [L. P. Chitta](#), [Y. L. Wang](#), [H. Peter](#), [X. S. Zhu](#), [C. Xing](#), [M. D. Ding](#), [S. K. Solanki](#), [D. Berghmans](#), [L. Teriaca](#), [R. Aznar Cuadrado](#), [A. N. Zhukov](#), [Y. Guo](#), [D. Long](#), [L. Harra](#), [P. J. Smith](#), [L. Rodriguez](#), [C. Verbeek](#), [K. Barczynski](#), [S. Parenti](#)

2023

<https://arxiv.org/pdf/2304.08725.pdf>

3-5 Mar

Slow Solar Wind Connection Science during Solar Orbiter's First Close Perihelion Passage

Stephanie L. **Yardley**, [Christopher J. Owen](#), [David M. Long](#), [Deborah Baker](#), +++

ApJ 2023

<https://arxiv.org/pdf/2304.09570.pdf>

What drives decayless kink oscillations in active region coronal loops on the Sun?

Sudip **Mandal**, [Lakshmi P. Chitta](#), [Patrick Antolin](#), [Hardi Peter](#), [Sami K. Solanki](#), [Frédéric Auchère](#), +++

A&AL 2022

<https://arxiv.org/pdf/2209.04251.pdf>

3-6 Mar

3HE-RICH SOLAR ENERGETIC PARTICLE EVENTS OBSERVED CLOSE TO THE SUN ON SOLAR ORBITER

G. M. Mason, R. Bučik², and the Solar Orbiter/EPD team

Solar Orbiter nugget #12 **2023**

<https://www.cosmos.esa.int/web/solar-orbiter/-/3he-rich-solar-energetic-particle-events-observed-close-to-the-sun-on-solar-orbiter>

Recurrent 3He-rich solar energetic particle injections observed by Solar Orbiter at ~0.5 au★

R. Bučik¹, G. M. Mason², N. V. Nitta³, V. Krupar^{4,5}, L. Rodriguez⁶, G. C. Ho², S. T. Hart^{7,1}, M. A. Dayeh¹, J. Rodríguez-Pacheco⁸, R. Gómez-Herrero⁸ and R. F. Wimmer-Schweingruber⁹

A&A 673, L5 (**2023**)

<https://www.aanda.org/articles/aa/pdf/2023/05/aa45875-23.pdf>

4 Mar

Evidence of external reconnection between an erupting mini-filament and ambient loops observed by Solar Orbiter/EUI

[Z. F. Li](#), [X. Cheng](#), [M. D. Ding](#), [L. P. Chitta](#), [H. Peter](#), [D. Berghmans](#), [P. J. Smith](#), [F. Auchere](#), [S. Parenti](#), [K. Barczynski](#), [L. Harra](#), [U. Schuehle](#), [E. Buchlin](#), [C. Verbeecq](#), [R. Aznar Cuadrado](#), [A. N. Zhukov](#), [D. M. Long](#), [L. Teriaca](#), [L. Rodriguez](#)

A&A **2023**

<https://arxiv.org/pdf/2303.16046.pdf>

First Perihelion of EUI on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A **2023**

<https://arxiv.org/pdf/2301.05616.pdf>

5-6 Mar storm **Dst=-55 Kp=5 Bz=-12** effects from CH1064

6 Mar 22:30 – NW filament eruption, a faint CME ([movie](#))

7 Mar

The source of unusual coronal upflows with photospheric abundance in a solar active region★

L. K. Harra^{1,2}, C. H. Mandrini³, D. H. Brooks⁴, K. Barczynski^{1,2}, C. Mac Cormack, +++

A&A 675, A20 (**2023**)

<https://www.aanda.org/articles/aa/pdf/2023/07/aa45747-22.pdf>

Beyond the disk: EUV coronagraphic observations of the Extreme Ultraviolet Imager on board Solar Orbiter

[Auchère](#), F., [Berghmans](#), D., [Dumesnil](#), C., [Halain](#), J.-P., [Mercier](#), R., +++

A&A **2023**

<https://arxiv.org/pdf/2305.15308.pdf>

Magnetic fields inferred by Solar Orbiter: A comparison between SO/PHI-HRT and SDO/HMI

[J. Sinjan](#), [D. Calchetti](#), [J. Hirzberger](#), [F. Kahil](#), [G. Valori](#), [S.K. Solanki](#), et al.

A&A **2023**

<https://arxiv.org/pdf/2303.16771.pdf>

First Perihelion of EUI on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A 2023

<https://arxiv.org/pdf/2301.05616.pdf>

Signatures of dynamic fibrils at the coronal base: Observations from Solar Orbiter/EUI

[Sudip Mandal](#), [Hardi Peter](#), [Lakshmi Pradeep Chitta](#), [Regina A. Cuadrado](#), [Udo Schühle](#), [Luca Teriaca](#), [Sami K. Solanki](#), [Louise Harra](#), [David Berghmans](#), [Frédéric Auchère](#), [Susanna Parenti](#), [Andrei N. Zhukov](#), [Éric Buchlin](#), [Cis Verbeeck](#), [Emil Kraaikamp](#), [Luciano Rodriguez](#), [David M. Long](#), [Conrad Schwanitz](#), [Krzysztof Barczynski](#), [Gabriel Pelouze](#), [Philip J. Smith](#), [Wei Liu](#), [Mark C. Cheung](#)

A&A Letters 2022

<https://arxiv.org/pdf/2212.05025.pdf>

8 Mar

EUV brightenings in the quiet-Sun: Signatures in spectral and imaging data from the Interface Region Imaging Spectrograph

[C. J. Nelson](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), [E. Buchlin](#), [L. Harra](#), [D. M. Long](#), [S. Parenti](#), [H. Peter](#), [U. Schühle](#), [C. Schwanitz](#), [P. Smith](#), [L. Teriaca](#), [C. Verbeeck](#), [A. N. Zhukov](#), [D. Berghmans](#)

A&A 2023

<https://arxiv.org/pdf/2306.05190>

First Perihelion of EUI on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A 2023

<https://arxiv.org/pdf/2301.05616.pdf>

10 Mar ~20 UT – Эрупция северо-центрального волокна рядом с AR 12962, C2 LDE, halo CME, совсем слабые протоны >10 MeV

Combining STEREO heliospheric imagers and Solar Orbiter to investigate the evolution of the 2022 March 10 CME

B. [Zhuang](#)¹, N. [Lugaz](#)¹, N. [Al-Haddad](#)¹, C. [Scolini](#)¹, C. J. [Farrugia](#)¹, F. [Regnault](#)¹, E. E. [Davies](#)², W. [Yu](#)¹, R. M. [Winslow](#)¹ and A. B. [Galvin](#)¹

A&A 682, A107 (2024)

<https://www.aanda.org/articles/aa/pdf/2024/02/aa47561-23.pdf>

Forecasting Heliospheric CME Solar-Wind Parameters Using the UCSD Time-Dependent Tomography and ISEE Interplanetary Scintillation Data: The 10 March 2022 CME

Bernard V. [Jackson](#), [Munetoshi Tokumaru](#), [Kazumasa Iwai](#), [Matthew T. Bracamontes](#), +++

[Solar Physics](#) volume 298, Article number: 74 (2023)

<https://link.springer.com/content/pdf/10.1007/s11207-023-02169-8.pdf>

First Perihelion of EUI on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A 2023

<https://arxiv.org/pdf/2301.05616.pdf>

11 Mar

The existence of hot X-ray onsets in solar flares

[Andrea Francesco Battaglia](#), [Hugh Hudson](#), [Alexander Warmuth](#), [Hannah Collier](#), [Natasha L. S. Jeffrey](#), [Amir Caspi](#), [Ewan C. M. Dickson](#), [Jonas Saqri](#), [Stefan Purkhart](#), [Astrid M. Veronig](#), [Louise Harra](#), [Säm Krucker](#)

A&A 2023
<https://arxiv.org/pdf/2310.04234.pdf>

11-12 Mar minor storm **Dst=-50 Kp=5 Bz=-10**

12 Mar

Lateral Confinement and the Remarkably Self-similar Nature

Y.-M. Wang¹ and P. Hess¹

2023 ApJ 952 85

<https://iopscience.iop.org/article/10.3847/1538-4357/acd638/pdf>

13-14 Mar major G2 storm **Dst=-83 Kp=6 Bz=-24, Forbush 4.5%**,
caused by the **10 March** halo CME

14 Mar 08:40 - M2 flare [movie](#) in N-center AR2965 without CME

16 Mar ~14 UT - NE **filament eruption** near AR 12967, C1 LDE, coronal wave, partial halo CME

17 Mar

Stereoscopic disambiguation of vector magnetograms: first applications to SO/PHI-HRT data

G. Valori, D. Calchetti, A. Moreno Vacas, É. Pariat, S.K. Solanki, +++

A&A 2023

<https://arxiv.org/pdf/2307.09907>

Image enhancement with wavelet-optimized whitening★

F. Auchère, E. Soubrié, G. Pelouze and É. Buchlin

A&A 670, A66 (2023)

<https://www.aanda.org/articles/aa/pdf/2023/02/aa45345-22.pdf>

First Perihelion of EUI on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A 2023

<https://arxiv.org/pdf/2301.05616.pdf>

A Statistical Study of Short-period Decayless Oscillations of Coronal Loops in an Active Region

Dong Li¹ and David M. Long²

2023 ApJ 944 8

<https://iopscience.iop.org/article/10.3847/1538-4357/acacf4/pdf>

<https://arxiv.org/pdf/2212.08804.pdf>

Solar coronal heating from small-scale magnetic braids

[L. P. Chitta](#), [H. Peter](#), [S. Parenti](#), [D. Berghmans](#), [F. Auchère](#), [S. K. Solanki](#), [R. Aznar Cuadrado](#), [U. Schühle](#), [L. Teriaca](#), [S. Mandal](#), [K. Barczynski](#), [É. Buchlin](#), [L. Harra](#), [E. Kraaikamp](#), [D. M. Long](#), [L. Rodriguez](#), [C. Schwanitz](#), [P. J. Smith](#), [C. Verbeeck](#), [A. N. Zhukov](#), [W. Liu](#), [M. C. M. Cheung](#)

A&A 2022

<https://arxiv.org/pdf/2209.12203.pdf>

17-22 Mar

Slow Solar Wind Connection Science during Solar Orbiter's First Close Perihelion Passage

Stephanie L. Yardley, [Christopher J. Owen](#), [David M. Long](#), [Deborah Baker](#), +++

ApJ 2023

<https://arxiv.org/pdf/2304.09570.pdf>

18 Mar ~02 UT – a large SW **filament eruption**, CME

The Merging of a Coronal Dimming and the Southern Polar Coronal Hole

Nawin **Ngampoopun**¹, David M. Long^{1,2}, Deborah Baker¹, Lucie M. Green¹, Stephanie L. Yardley^{1,3,4}, Alexander W. James^{1,5}, and Andy S. H. To

2023 ApJ 950 150

<https://arxiv.org/pdf/2305.06106.pdf>

<https://iopscience.iop.org/article/10.3847/1538-4357/acd44e/pdf>

18-19 Mar

The 18–19 March 2022 series of 3He-rich events observed by Solar Orbiter at 0.36 au compared with EUV, X-ray, and radio observations.

Mason, G. M. et al.

Astron & Astrophys 669, L16 (2023).

<https://www.aanda.org/articles/aa/pdf/2023/01/aa45576-22.pdf>

18-21 Mar

Observational Evidence of S-Web Source of the Slow Solar Wind

D. Baker, P. Demoulin, S.L. Yardley, T. Mihalescu, L. van Driel-Gesztelyi, et al.

ApJ 950:65 2023

<https://arxiv.org/pdf/2303.12192.pdf>

19 Mar 09:30 - A faint **filament eruption** near AR 12972; faint partial halo CME

Solar coronal heating from small-scale magnetic braids

L. P. Chitta, H. Peter, S. Parenti, D. Berghmans, F. Auchère, S. K. Solanki, R. Aznar Cuadrado, U. Schühle, L. Teriaca, S. Mandal, K. Barczynski, É. Buchlin, L. Harra, E. Kraaikamp, D. M. Long, L. Rodriguez, C. Schwanitz, P. J. Smith, C. Verbeeck, A. N. Zhukov, W. Liu, M. C. M. Cheung

A&A 2022

<https://arxiv.org/pdf/2209.12203.pdf>

20 Mar

Double-decker Pair of Flux Ropes Formed by Two Successive Tether-cutting Eruptions

Yuandeng Shen, Dongxu Liu, Surui Yao, Chengrui Zhou, Zehao Tang, Zhining Qu, Xiping Zhou, Yadan Duan, Song Tan, Ahmed Ahmed Ibrahim

ApJ 2024

<https://arxiv.org/pdf/2401.11080.pdf>

21 Mar SEP J10~6 pfu; SW far side explosion, a massive CME

See <https://www.spaceweather.com> for 23 Mar

Correlation of Coronal Mass Ejection Shock Temperature with Solar Energetic Particle Intensity

Manuel Enrique Cuesta, D. J. McComas, L. Y. Khoo, R. Bandyopadhyay, T. Sharma, +++

ApJ 2024

<https://arxiv.org/pdf/2402.00210.pdf>

Image enhancement with wavelet-optimized whitening★

F. Auchère, E. Soubrié, G. Pelouze and É. Buchlin

A&A 670, A66 (2023)

<https://www.aanda.org/articles/aa/pdf/2023/02/aa45345-22.pdf>

First Perihelion of EUI on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A 2023

<https://arxiv.org/pdf/2301.05616.pdf>

22 Mar

A high-latitude coronal mass ejection observed by a constellation of coronagraphs: Solar Orbiter/Metis, STEREO-A/COR2, and SOHO/LASCO

G. [Zimbardo](#)^{1,*}, B. Ying², G. Nisticò¹, L. Feng², L. Rodríguez-García³, +++

A&A 676, A48 (2023)

<https://www.aanda.org/articles/aa/pdf/2023/08/aa46011-23.pdf>

First Perihelion of EUI on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A 2023

<https://arxiv.org/pdf/2301.05616.pdf>

25 Mar 05:26 – SE eruption, M1 flare, **strong coronal wave**, faint partial halo CME

The Width of Magnetic Ejecta Measured Near 1 au: Lessons from STEREO-A Measurements in 2021--2022

[Noé Lugaz](#), [Bin Zhuang](#), [Camilla Scolini](#), [Nada Al-Haddad](#), [Charles J. Farrugia](#), [Réka M. Winslow](#), [Florian Regnault](#), [Christian Möstl](#), [Emma E. Davies](#), [Antoinette B. Galvin](#)

ApJ 2023

<https://arxiv.org/pdf/2312.03942.pdf>

Multi-spacecraft Observations of the 2022 March 25 CME and EUV Wave: An Analysis of Their Propagation and Interrelation

Alessandro [Liberatore](#), Paulett C. Liewer, Angelos Vourlidas, Carlos R. Braga, Marco Velli, Olga Panasenco, Daniele Telloni, and Salvatore Mancuso

2023 ApJ 957 110

<https://iopscience.iop.org/article/10.3847/1538-4357/acf8bf/pdf>

Observation of Magnetic Switchback in the Solar Corona

Daniele [Telloni](#), [Gary P. Zank](#), [Marco Stangalini](#), [Cooper Downs](#), et al.

ApJ 2022

<https://arxiv.org/pdf/2206.03090.pdf>

27 Mar

First Perihelion of EUI on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A 2023

<https://arxiv.org/pdf/2301.05616.pdf>

28 Mar 11:30 – M4 **proton flare** in AR 12975, N14W04, **strong coronal wave**, a full halo CME, type II/3, **SEP** J10~18.7, S5~800

The second faster **cannibal halo CME** was produced by an M1 flare at 1923 UT in AR 12975.

https://www.spaceweather.com/images2022/28mar22/triple_cme.gif

<https://spaceweatherarchive.com/2022/03/30/a-cannibal-cme-is-approaching-earth/>

Comparative Analysis of Type III Radio Bursts and Solar Flares: Spatial Localization and Correlation with Solar Flare Intensity

Vratislav [Krupar](#)^{1,2}, Oksana Kruparova^{1,2}, Adam Szabo², Frantisek Nemec³ +++

2024 ApJ 961 88

<https://iopscience.iop.org/article/10.3847/1538-4357/ad12ba/pdf>

Connecting remote and in situ observations of shock-accelerated electrons associated with a coronal mass ejection

[D. E. Morosan](#), [J. Pomoell](#), [C. Palmroos](#), [N. Dresing](#), [E. Asvestari](#), [R. Vainio](#), [E. K. J. Kilpua](#), [J. Gieseler](#), [A. Kumari](#), [I. C. Jebaraj](#)

A&A 2023

<https://arxiv.org/pdf/2312.07166.pdf>

Pre-impulsive and Impulsive Phases of the Sub-Terahertz Flare of March 28, 2022

[G.G. Motorina](#), [Yu.T. Tsap](#), [V.V. Smirnova](#), [A.S. Morgachev](#), [A.D. Shramko](#), [A.S. Motorin](#)

Geomagnetism and Aeronomy 2023

<https://arxiv.org/pdf/2311.02435.pdf>

Multi-point study of the energy release and transport in the 28 March 2022, M4-flare using STIX, EUV, and AIA during the first Solar Orbiter nominal mission perihelion

[Stefan Purkhart](#), [Astrid M. Veronig](#), [Ewan C. M. Dickson](#), [Andrea Francesco Battaglia](#), [Säm Krucker](#), [Robert Jarolim](#), [Bernhard Kliem](#), [Karin Dissauer](#), [Tatiana Podladchikova](#)

A&A 2023

<https://arxiv.org/pdf/2310.02038.pdf>

Моторина Г.Г., Цап Ю.Т., Смирнова В.В., Моргачев А.С., Шрамко А.Д. О связи предвестников и суб-терагерцового излучения солнечной вспышки 28.03.2022

Восемнадцатая ежегодная конференция "Физика плазмы в солнечной системе" 6 -10 февраля 2023. ИКИ РАН

First Perihelion of EUV on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A 2023

<https://arxiv.org/pdf/2301.05616.pdf>

Моторина Г.Г., Цап Ю.Т., Смирнова В.В., Моргачев А.С., Шрамко А.Д. **Предвестники солнечных вспышек и суб-терагерцовое излучение события 28.03.2022 ...**

Сборник трудов XXVI Всероссийской ежегодной конференции по физике Солнца «Солнце и солнечно-земная физика – 2022» ГАО РАН.

<http://www.gaoran.ru/russian/solphys/2022/book/conf2022.pdf>

28 Mar-3 Apr

SoloHI observations of coronal mass ejections observed by multiple spacecraft★

P. Hess¹, R. C. Colaninno¹, A. Vourlidas², R. A. Howard² and G. Stenborg²

A&A 679, A149 (2023)

<https://www.aanda.org/articles/aa/pdf/2023/11/aa46907-23.pdf>

Heliospheric 3-D MHD ENLIL simulations of multi-CME and multi-spacecraft events

Dusan Odstreil

<https://www.frontiersin.org/articles/10.3389/fspas.2023.1226992/pdf>

Front. Astron. Space Sci. 10: 1226992. 2023

doi: 10.3389/fspas.2023.1226992

<https://www.frontiersin.org/articles/10.3389/fspas.2023.1226992/pdf>

29 Mar

Solar Radio Imaging at Arecibo: The Brightness Temperature and Magnetic Field of Active Regions

[P. K. Manoharan](#), [C. J. Salter](#), [S. M. White](#), [P. Perillat](#), [F. Fernandez](#), [B. Perera](#), [A. Venkataraman](#), [C. Brum](#)
Solar Phys. 2023
<https://arxiv.org/pdf/2307.00328.pdf>

The SunPy Project: An interoperable ecosystem for solar data analysis

The **SunPy Community**, [Will T. Barnes](#)^{1,2*†}, Steven Christel[†], et al.
Front. Astron. Space Sci. 10:1076726. 2023 doi: 10.3389/fspas.2023.1076726
<https://www.frontiersin.org/articles/10.3389/fspas.2023.1076726/full>
<https://www.frontiersin.org/articles/10.3389/fspas.2023.1076726/pdf>

30 Mar 17:37 – X1.3 **proton flare** in AR 12975, **halo CME**, strong type II
https://www.spaceweather.com/images2022/30mar22/xcme_anim.gif
SEP J10~2.2, S5~740

Extreme Red-wing Enhancements of UV Lines During the 2022 March 30 X1.3 Solar Flare

[Yan Xu](#), [Graham S. Kerr](#), [Vanessa Polito](#), [Nengyi Huang](#), [Ju Jing](#), [Haimin Wang](#)
ApJ 2023
<https://arxiv.org/pdf/2309.05745.pdf>

Picoflare jets power the solar wind emerging from a coronal hole on the Sun

L. P. [Chitta](#), [A. N. Zhukov](#), [D. Berghmans](#), [H. Peter](#), [S. Parenti](#), +++
Science 381, 867-872 (2023)
<https://arxiv.org/ftp/arxiv/papers/2308/2308.13044.pdf>

Spectral Features of the Solar Transition Region and Chromospheric Lines at Flare Ribbons Observed with IRIS

L. F. [Wang](#)^{1,2}, Y. Li^{3,4}, Q. Li^{3,4}, X. Cheng^{1,2}, and M. D. Ding^{1,2}
2023 ApJS 268 62
<https://arxiv.org/pdf/2308.11275.pdf>
<https://iopscience.iop.org/article/10.3847/1538-4365/acf127/pdf>

EUV fine structure and variability associated with coronal rain revealed by Solar Orbiter/EUI HRIEUV and SPICE

[P. Antolin](#), [A. Dolliou](#), [F. Auchère](#), [L. P. Chitta](#), [S. Parenti](#), [D. Berghmans](#), +++
A&A 2023
<https://arxiv.org/pdf/2305.11691.pdf>

Slow solar wind sources

***High-resolution observations with a quadrature view* ★**

Krzysztof [Barczynski](#)^{1,2}, Louise Harra^{2,1}, Conrad Schwanitz^{1,2}, Nils Janitzek^{1,2}, David Berghmans³, Frédéric Auchère⁴, +++
A&A 673, A74 (2023)
<https://www.aanda.org/articles/aa/pdf/2023/05/aa45983-23.pdf>

A Statistical Investigation of Decayless Oscillations in Small-scale Coronal Loops Observed by Solar Orbiter/EUI

Arpit Kumar [Shrivastav](#), [Vaibhav Pant](#), [David Berghmans](#), [Andrei N. Zhukov](#), [Tom Van Doorselaere](#), [Elena Petrova](#), [Dipankar Banerjee](#), [Daye Lim](#), [Cis Verbeek](#)
A&A 2023
<https://arxiv.org/pdf/2304.13554.pdf>

Slow solar wind sources. High-resolution observations with a quadrature view

[Krzysztof Barczynski](#), [Louise Harra](#), [Conrad Schwanitz](#), [Nils Janitzek](#), et al.
A&A 2023

<https://arxiv.org/pdf/2303.11001.pdf>

Characterising fast-time variations in the hard X-ray time profiles of solar flares using Solar Orbiter's STIX

[Hannah Collier](#), [Laura A. Hayes](#), [Andrea F. Battaglia](#), [Louise K. Harra](#), [Säm Krucker](#)

A&A 2023

<https://arxiv.org/pdf/2301.08040.pdf>

First Perihelion of EUI on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A 2023

<https://arxiv.org/pdf/2301.05616.pdf>

31 Mar - Geostorm $K_p=5$, Dst почти ничего, ESP J10~10
the arrival of one or both CMEs observed on March 28
18:35 – M9.6 flare in AR 12975 (N13W47), S9~1300, без протонов

STIX imaging I -- Concept

[Paolo Massa](#), [Gordon J. Hurford](#), [Anna Volpara](#), [Matej Kuhar](#), et al.

A&A 2023

<https://arxiv.org/pdf/2303.02485.pdf>

31 Mar-1 Apr

The effect of magnetic field line topology on ICME-related GCR modulation

Emma E. [Davies](#) (1 and 2), [Camilla Scolini](#) (1), [Réka M. Winslow](#) (1), [Andrew P. Jordan](#) (1), [Christian Möstl](#) (2)

ApJ 2023

<https://arxiv.org/pdf/2310.11310.pdf>

1 Apr

Polarisation of decayless kink oscillations of solar coronal loops

[Sihui Zhong](#), [Valery M. Nakariakov](#), [Dmitrii Y. Kolotkov](#), [Lakshmi Pradeep Chitta](#), [Patrick Antolin](#), [Cis Verbeek](#), [David Berghmans](#)

Nature Communications 2023

EUV fine structure and variability associated with coronal rain revealed by Solar Orbiter/EUI HRIEUV and SPICE

[P. Antolin](#), [A. Dolliou](#), [F. Auchère](#), [L. P. Chitta](#), [S. Parenti](#), [D. Berghmans](#), +++

A&A 2023

<https://arxiv.org/pdf/2305.11691.pdf>

First Perihelion of EUI on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A 2023

<https://arxiv.org/pdf/2301.05616.pdf>

1-30 Apr

Solar Radio Imaging at Arecibo: The Brightness Temperature and Magnetic Field of Active Regions

[P. K. Manoharan](#), [C. J. Salter](#), [S. M. White](#), [P. Perillat](#), [F. Fernandez](#), [B. Perera](#), [A. Venkataraman](#), [C. Brum](#)

Solar Phys. 2023

<https://arxiv.org/pdf/2307.00328.pdf>

2 Apr Geostorm Kp=5, Dst~-42 , initiated by CME launched by X1.3 flare on 30 Mar 13:55 - **LDE M4 flare** , ARs 2975-2976, N14W~70, **SEP J10~32 S9~140**, asymmetric full-halo CME
https://www.spaceweather.com/images2022/02apr22/cme_c3_anim.gif

Radio bursts observed during solar eruptive flares and their schematic summary

Review

[Marian Karlický](#)

2023

<https://arxiv.org/pdf/2307.07144.pdf>

A multiple spacecraft detection of the 2 April 2022 M-class flare and filament eruption during the first close Solar Orbiter perihelion

[M. Janvier](#), [S. Mzerguat](#), [P. R. Young](#), [É. Buchlin](#), +++

A&A 2023

<https://arxiv.org/pdf/2307.02396.pdf>

SoloHI observations of coronal mass ejections observed by multiple spacecraft★

P. Hess¹, R. C. Colaninno¹, A. Vourlidas², R. A. Howard² and G. Stenborg²

A&A 679, A149 (2023)

<https://www.aanda.org/articles/aa/pdf/2023/11/aa46907-23.pdf>

HIGH-RESOLUTION IMAGING OF CORONAL MASS EJECTIONS FROM SOLOHI

Phil Hess¹, R.C. Colaninno¹, A. Vourlidas², R.A. Howard², G. Stenborg² and the Solo/Hi team)

Solar Orbiter nugget #9 2023

<https://www.cosmos.esa.int/web/solar-orbiter/solar-nuggets/high-resolution-imaging-from-solohi>

Image enhancement with wavelet-optimized whitening★

F. Auchère, E. Soubrié, G. Pelouze and É. Buchlin

A&A 670, A66 (2023)

<https://www.aanda.org/articles/aa/pdf/2023/02/aa45345-22.pdf>

First Perihelion of EUI on the Solar Orbiter mission

[D. Berghmans](#), [P. Antolin](#), [F. Auchère](#), [R. Aznar Cuadrado](#), [K. Barczynski](#), +++

A&A 2023

<https://arxiv.org/pdf/2301.05616.pdf>

3 Apr ~15 UT – SW **filament eruption** , [The first CME](#) [the second CME](#)

7 Apr ~04 UT – **S-central erupting filament** , **304 A**

8-9 Apr Minor CME impacts. Dst~-(24-30) under the influence of CME effects
[minor cracks](#) , [a weak, glancing blow](#)

9 Apr

Unusually long path length for a nearly scatter-free solar particle event observed by Solar Orbiter at 0.43 au

Robert F. **Wimmer-Schweingruber**¹, Lars Berger¹, Alexander Kollhoff¹, Patrick Kühl¹, +++

A&A 678, A98 (2023)

<https://www.aanda.org/articles/aa/pdf/2023/10/aa46319-23.pdf>

Magnetic Field of Solar Dark Filaments Obtained from He I 10830 Angstrom Spectropolarimetric Observation

Daiki [Yamasaki](#), [Yu Wei Huang](#), [Yuki Hashimoto](#), [Denis P. Cabezas](#), [Tomoko Kawate](#), [Satoru UeNo](#), [Kiyoshi Ichimoto](#)
Publications of the Astronomical Society of Japan 2023
<https://arxiv.org/pdf/2304.00422.pdf>

10 Apr Буря импульс **Kp=7 Dst~-44 Bz~-14** due to a high speed stream from CH1072

11 Apr Эрупция волокна в [S-shaped](#) остатках южной области AR2987 **304 A**
"sigmoid structure." [unexpected eruption](#) C1.6 LDE [Halo CME](#)

13 Apr For the third time this week, SOHO has detected a significant **farside CME**:
<https://www.spaceweather.com/images2022/13apr22/farsidecme.gif>

14-15 Apr Storm [G2](#)--a moderately strong **Kp=6 Dst~-80 Bz~-11** due to a direct hit from the April 11 CME

15 Apr One or two very active regions are approaching the NE limb and causing a significant increase in the background x-ray flux. **Very LDE C4 and M3 flares**

Solar Electron Beam -- Langmuir Wave Interactions and How They Modify Solar Electron Beam Spectra: Solar Orbiter Observations of a Match Made in the Heliosphere

Camille Y. [Lorfing](#), [Hamish A. S. Reid](#), [Raul Gomez-Herrero](#), [Milan Maksimovic](#), [Georgios Nicolaou](#), [Christopher J. Owen](#), [Javier Rodriguez-Pacheco](#), [Daniel F. Ryan](#), [Domenico Trotta](#), [Daniel Verscharen](#)
ApJ 2023
<https://arxiv.org/pdf/2311.14444.pdf>

Anisotropies of solar energetic electrons in the MeV range measured with Solar Orbiter/EPD/HET

S. [Fleth](#)¹, P. Kuehl¹, A. Kollhoff¹, R. F. Wimmer-Schweingruber¹, B. Heber¹, J. Rodríguez-Pacheco² and N. Dresing³
A&A 676, A58 (2023)
<https://www.aanda.org/articles/aa/pdf/2023/08/aa45909-23.pdf>

17 Apr A big and very active [sunspot complex](#) emerged over NE limb
03:34 – NE limb X1.1 flare https://www.spaceweather.com/images2022/17apr22/xflare_red_anim.gif
the explosion hurled a large CME into space: [movie](#).

The 17 April 2021 widespread solar energetic particle event

N. [Dresing](#), [L. Rodríguez-García](#), [I. C. Jebaraj](#), [A. Warmuth](#), [S. Wallace](#), et al.
A&A 674, A105 2023
<https://arxiv.org/pdf/2303.10969.pdf>
<https://www.aanda.org/articles/aa/pdf/2023/06/aa45938-23.pdf>
CESRA #3619 2023 <https://www.astro.gla.ac.uk/users/eduard/cesra/?p=3619>

6

20 Apr 01:36 M7.2 03:57 **X2.2 SW-limb farside flare** S15~1500

https://www.spaceweather.com/images2022/20apr22/x2p2_teal_anim.gif
<https://www.nesdis.noaa.gov/news/time-lapse-of-solar-cycle-25-displays-increasing-activity-the-sun>

A slow HOPE with microwave context

H. [Hudson](#)

RHESSI Science Nuggets #441 Feb 2023

https://sprg.ssl.berkeley.edu/~tohban/wiki/index.php/A_slow_HOPE_with_microwave_context

The first flare observation with a new solar microwave spectrometer working in 35-40 GHz

[F. Yan](#), [Z. Wu](#), [Z. Shang](#), [B. Wang](#), [L. Zhang](#), [Y. Chen](#)

ApJ Volume 942, Issue 1, id.L11 2023

<https://arxiv.org/pdf/2212.12314.pdf>

21 Apr ~01:59 **M9.6 flare from NE complex AR2993-94**, S9~1100, narrow CME

20-21 – квазиимпульсные вспышки без крупных CME и без протонов

22 Apr Complex AR2993-94 is crackling with M flares. 13:25-M3.4 impulsive flare S15~2800

https://www.spaceweather.com/images2022/22apr22/team_mflare_anim.gif

24 Apr

First Results for Solar Soft X-Ray Irradiance Measurements from the Third-generation Miniature X-Ray Solar Spectrometer

Thomas N. [Woods](#)¹, Bennet Schwab¹, Robert Sewell¹, Anant Kumar Telikicherla Kandala², James Paul Mason ⁺⁺⁺

2023 ApJ 956 94

<https://iopscience.iop.org/article/10.3847/1538-4357/acef13/pdf>

Solar Radio Imaging at Arecibo: The Brightness Temperature and Magnetic Field of Active Regions

[P. K. Manoharan](#), [C. J. Salter](#), [S. M. White](#), [P. Perillat](#), [F. Fernandez](#), [B. Perera](#), [A. Venkataraman](#), [C. Brum](#)

Solar Phys. 2023

<https://arxiv.org/pdf/2307.00328.pdf>

25 Apr 0201 UT—0402: M1 flares AR2995 & AR2993 erupted in quick succession [movie](#).

27 Apr Minor storm **Kp=5 Dst~-33 Bz~-11**, due to an unexpected CME related disturbance

<https://www.spaceweather.com/images2022/27apr22/minorshock.jpg>

<https://www.spaceweather.com/images2022/27apr22/unexpectedstorms.jpg>

Several multiple overlapping farside(?) CMEs

~15 UT NW LDE in NW AR1296, partial halo CME

29 Apr A [beautiful flare](#) (M4-class) hurled [a CME](#)

слабые протоны J10~4 от NW M1.2 вспышки S3~230

30 Apr импульс **Kp=5** likely associated with CH1076

05:01 - NW limb [M2.6 flare](#) AR2994, more M-flares, fast CME

13:47 - X1 impulsive flare from departing NW AR2994, CME [movie](#)

3 May

Observations of a Failed Solar Filament Eruption Involving External Reconnection

[Yuehong Chen](#), [Xin Cheng](#), [Jun Chen](#), [Yu Dai](#), [Mingde Ding](#)

ApJ 2023

<https://arxiv.org/pdf/2311.17637.pdf>

SDO/HMI Captured Another Limb Flare in Continuum Intensity → 2022 May 3

[Junwei Zhao](#), [Wei Liu](#), [Jean-Claude Vial](#)

HMI Science Nuggets #179 May 2022 <http://hmi.stanford.edu/hminuggets/?p=3900>

3-4 May X1.1 и M вспышки из южной AR3004, без CME

4 May

ВСПЫШЕЧНОЕ ИЗЛУЧЕНИЕ СОБЫТИЯ 04.05.2022 И ЕГО МИЛЛИМЕТРОВАЯ КОМПОНЕНТА

Смирнова В.В., Цап Ю.Т., Рыжов В.С., Моторина Г.Г., Моргачев А.С., Барта М.

ГиА Том: 63Номер: 5 Год: 2023 Страницы: 561-569

Смирнова В.В., Цап Ю.Т., Рыжов В.С., Моторина Г.Г., Моргачев А.С., М. Bárta
Вспышечное излучение события 04.05.2022 и его миллиметровая компонента
Восемнадцатая ежегодная конференция "Физика плазмы в солнечной системе" 6 -10 февраля 2023. ИКИ РАН

Characterising fast-time variations in the hard X-ray time profiles of solar flares using Solar Orbiter's STIX

[Hannah Collier](#), [Laura A. Hayes](#), [Andrea F. Battaglia](#), [Louise K. Harra](#), [Säm Krucker](#)

A&A 2023

<https://arxiv.org/pdf/2301.08040.pdf>

RHESSI #443 2023 [https://sprg.ssl.berkeley.edu/~tohban/wiki/index.php/Hard_X-ray Pulsations via Gaussian Decomposition](https://sprg.ssl.berkeley.edu/~tohban/wiki/index.php/Hard_X-ray_Pulsations_via_Gaussian_Decomposition)

5 May

On orbit performance of the solar flare trigger for the Hinode EUV Imaging Spectrometer

[David H. Brooks](#), [Jeffrey W. Reep](#), [Ignacio Ugarte-Urra](#), [Harry P. Warren](#)

Brief Report in Frontiers in Astronomy and Space Sciences 2023

<https://arxiv.org/pdf/2303.13155.pdf>

5-9 May

Subsurface Flows Associated with Formation and Flaring Activity of Solar Active Regions

[Alexander G. Kosovichev](#), [Viacheslav M. Sadykov](#)

Proc. IAU Symp. 365, 2024

<https://arxiv.org/pdf/2401.17598.pdf>

8 May A filament eruption in the NE hemisphere not far from the central meridian

10 May ~09:30 SW [filament eruption](#)

13:55 – X1.5 impulsive flare from the central southern AR 3006-7, followed by M1.0 LDE, fast EIT wave, a mish-mash of CMEs **THE FIRST SUNQUAKE OF CYCLE 25**

A Glasgow geomagnetic observation of a solar flare

Hugh HUDSON, John MALONE-LEIGH, Graham WOAN, and Chris OSBORNE

RHESSI nugget #446 2023

https://sprg.ssl.berkeley.edu/~tohban/wiki/index.php/A_Glasgow_geomagnetic_observation_of_a_solar_flare

Spectro-Polarimetric Properties of Sunquake Sources in X1.5 Flare and Evidence for Electron and Proton Beam Impacts

[Alexander G. Kosovichev](#), [Viacheslav M. Sadykov](#), [John T. Stefan](#)

ApJ 2023

<https://arxiv.org/pdf/2309.07346.pdf>

The Curious First Sunquake of Solar Cycle 25

Alexander KOSOVICHEV

RHESSI Science Nuggets #444 Mar 2023

https://sprg.ssl.berkeley.edu/~tohban/wiki/index.php/The_Curious_First_Sunquake_of_Solar_Cycle_25

11 May Two large E- and W-limb CMEs from farside sources.

https://www.spaceweather.com/images2022/12may22/offtarget_cme_anim.gif

18:58 M2.6 behind SW limb LDE, CME, type II, **Protons J10~5**

13 May

Investigating Coronal Holes and CMEs as Sources of Brightness Depletion Detected in PSP/WISPR Images

Guillermo **Stenborg**¹, Evangelos Paouris^{1,2}, Russell A. Howard¹, Angelos Vourlidas¹, and Phillip Hess³

2023 ApJ 949 61

<https://iopscience.iop.org/article/10.3847/1538-4357/acd2cf/pdf>

16 May

Lateral Confinement and the Remarkably Self-similar Nature

Y.-M. **Wang**¹ and P. Hess¹

2023 ApJ 952 85

<https://iopscience.iop.org/article/10.3847/1538-4357/acd638/pdf>

Solar Radio Imaging at Arecibo: The Brightness Temperature and Magnetic Field of Active Regions

[P. K. Manoharan](#), [C. J. Salter](#), [S. M. White](#), [P. Perillat](#), [F. Fernandez](#), [B. Perera](#), [A. Venkataraman](#), [C. Brum](#)

Solar Phys. **2023**

<https://arxiv.org/pdf/2307.00328.pdf>

17 May

Solar Radio Imaging at Arecibo: The Brightness Temperature and Magnetic Field of Active Regions

[P. K. Manoharan](#), [C. J. Salter](#), [S. M. White](#), [P. Perillat](#), [F. Fernandez](#), [B. Perera](#), [A. Venkataraman](#), [C. Brum](#)

Solar Phys. **2023**

<https://arxiv.org/pdf/2307.00328.pdf>

Investigating Coronal Holes and CMEs as Sources of Brightness Depletion Detected in PSP/WISPR Images

Guillermo **Stenborg**¹, Evangelos Paouris^{1,2}, Russell A. Howard¹, Angelos Vourlidas¹, and Phillip Hess³

2023 ApJ 949 61

<https://iopscience.iop.org/article/10.3847/1538-4357/acd2cf/pdf>

19 May ~12 UT - a jet shot out of the SW limb

https://www.spaceweather.com/images2022/19may22/geyser_anim_crop.gif

Automatic detection of solar radio bursts in NenuFAR observations

[Pearse C. Murphy](#), [Baptiste Cecconi](#), [Carine Briand](#), [Stéphane Aicardi](#)

PRE9 conference proceedings **2024**

<https://arxiv.org/pdf/2401.04469.pdf>

RFI Flagging in Solar and Space Weather Low Frequency Radio Observations

[Peijin Zhang](#), [André R. Offringa](#), [Pietro Zucca](#), [Kamen Kozarev](#), [Mattia Mancini](#)

MNRAS **2023**

<https://arxiv.org/pdf/2302.05523.pdf>

20 May ~11:30 - An emerging sunspot near AR3014 exploded, hurling a dark mass of plasma, **304 A** [movie](#)

22 May

Lateral Confinement and the Remarkably Self-similar Nature

Y.-M. Wang¹ and P. Hess¹

2023 ApJ 952 85

<https://iopscience.iop.org/article/10.3847/1538-4357/acd638/pdf>

25 May 18:24 – SW M1.3 eruptive LDE flare (filament), dimming, EUV wave, **outstanding 304 A**, CME [movie](#), type II

https://www.spaceweather.com/images2022/25may22/deadsunspot_anim_strip2.gif

26 May

DKIST unveils the serpentine topology of quiet Sun magnetism in the photosphere

[Ryan J. Campbell](#), [P.H. Keys](#), [M. Mathioudakis](#), [F. Woeger](#), [T. A. Schad](#), [A. Tritschler](#), [A. G. de Wijn](#), [H. N. Smitha](#), [C. A. Beck](#), [D.J. Christian](#), [D. B. Jess](#), [R. Erdelyi](#)

ApJL 2023

<https://arxiv.org/pdf/2309.05836.pdf>

27-28 May Geostorm **Kp=5 Dst~-57 Bz~-16**, [CIR](#), CH1080

27 May-2 Jun

The Decay of Two Adjacent Sunspots Associated with Moving Magnetic Features

Yang Peng^{1,2}, Zhike Xue^{1,3}, Zhongquan Qu^{1,2}, Jincheng Wang^{1,3}, Zhe Xu^{1,3}, Liheng Yang^{1,3}, and Yian Zhou¹

2024 ApJ 960 95

<https://iopscience.iop.org/article/10.3847/1538-4357/ad063e/pdf>

1 Jun ~00:30 – central filament eruption ([movie](#))

Investigating Coronal Holes and CMEs as Sources of Brightness Depletion Detected in PSP/WISPR Images

Guillermo [Stenborg](#)¹, Evangelos Paouris^{1,2}, Russell A. Howard¹, Angelos Vourlidas¹, and Phillip Hess³

2023 ApJ 949 61

<https://iopscience.iop.org/article/10.3847/1538-4357/acd2cf/pdf>

2 Jun

Investigating Coronal Holes and CMEs as Sources of Brightness Depletion Detected in PSP/WISPR Images

Guillermo [Stenborg](#)¹, Evangelos Paouris^{1,2}, Russell A. Howard¹, Angelos Vourlidas¹, and Phillip Hess³

2023 ApJ 949 61

<https://iopscience.iop.org/article/10.3847/1538-4357/acd2cf/pdf>

2-3 Jun

Magnetic fields and plasma heating in the Sun's atmosphere

[Philip Judge](#), [Lucia Kleint](#), [Roberto Casini](#), [Alfred de Wijn](#), [Tom Schad](#), [Alexandra Tritschler](#)

ApJ 2023

<https://arxiv.org/pdf/2311.01286.pdf>

3 Jun

Magnetic fields in solar plage regions: insights from high-sensitivity spectropolarimetry

[J. M. da Silva Santos](#), [K. Reardon](#), [G. Cauzzi](#), [T. Schad](#), [V. Martinez Pillet](#), [A. Tritschler](#), [F. Wöger](#), [R. Hofmann](#), [J. Stauffer](#), [H. Uitenbroek](#)
ApJL 2023
<https://arxiv.org/pdf/2308.10983.pdf>

4 Jun

Magnetic Field of Solar Dark Filaments Obtained from He I 10830 Angstrom Spectropolarimetric Observation

[Daiki Yamasaki](#), [Yu Wei Huang](#), [Yuki Hashimoto](#), [Denis P. Cabezas](#), [Tomoko Kawate](#), [Satoru UeNo](#), [Kiyoshi Ichimoto](#)

Publications of the Astronomical Society of Japan 2023

<https://arxiv.org/pdf/2304.00422.pdf>

8 Jun

Image Super-resolution Methods for FY-3E X-EUVI 195 Å Solar Images

[Qinglin Yang](#)^{1,2}, [Zhou Chen](#)^{2,3,4}, [Rongxin Tang](#)^{2,3}, [Xiaohua Deng](#)^{2,3}, and [Jinsong Wang](#)⁴

2023 ApJS 265 36

<https://iopscience.iop.org/article/10.3847/1538-4365/acb3b9/pdf>

10 Jun 10:54 – NW limb M1 flare, post-eruption loop evolution

https://www.spaceweather.com/images2022/10jun22/mflare_teal_anim_crop2_opt.gif

13 Jun 04:07 - [M3-class](#) LDE flare, type II, S1415~98000, large CME

https://www.spaceweather.com/images2022/13jun22/cme_c3.gif

Очень слабые протоны в последующие дни.

Импульс **Kp=5**, Dst ничего

Mauna Loa Solar Observatory (MLSO) C1 coronagraph <https://www2.hao.ucar.edu/mlso>

Solar Energetic Particle-Associated Coronal Mass Ejections Observed by the Mauna Loa Solar Observatory Mk3 and Mk4 Coronameters

[I. G. Richardson](#), [O. C. St Cyr](#), [J. T. Burkepile](#), [H. Xie](#), [B. J. Thompson](#)

Solar Phys. 2023

<https://arxiv.org/pdf/2308.10826.pdf>

15 Jun Импульс **Kp=5**, **Dst~-30**, **Bz~-11** A high speed stream at DSCOVR at 03:57

25-26 Jun A minor [G1-class](#) geomagnetic storm **Kp=5**, **Dst~-55**, **Bz~-12**, the influence of a high speed stream from CH1085

26 Jun - a bright halo CME from the southern hemisphere. [Take a look](#).

28 Jun late, a NE/center **filament eruption**, faint and slow CME early on 29th

2 Jul Geostorm **Kp=5** **Dst~-51** **Bz~-13**, A "snowplowing" CME passed close to Earth **Lateral Confinement and the Remarkably Self-similar Nature**

[Y.-M. Wang](#)¹ and [P. Hess](#)¹

2023 ApJ 952 85

<https://iopscience.iop.org/article/10.3847/1538-4357/acd638/pdf>

4 Jul Small storm: impulse **Kp=5**, then **Dst~-30** **Bz~-(7-9)**,

7-8 Jul Geostorm **Kp=5** **Dst~-82** **Bz~-19**, [CIR](#) from a northern CH1086

8 Jul 20:49 – M2.5 NE LDE flare [movie](#) , an asymmetric partial halo CME [movie](#)

9 Jul 13:48 – C8.5 SW-limb flare, SEP J10~4.6

Correlation of Coronal Mass Ejection Shock Temperature with Solar Energetic Particle Intensity

Manuel Enrique [Cuesta](#), [D. J. McComas](#), [L. Y. Khoo](#), [R. Bandyopadhyay](#), [T. Sharma](#), +++

ApJ 2024

<https://arxiv.org/pdf/2402.00210.pdf>

12 Jul Импульс $K_p=5$, $Dst\sim-22$, $B_z\sim-12$ possibly related to CH1087

HUGE FILAMENTS

Complex Network View of the Sun's Magnetic Patches: I. Identification

[Zahra Tajik](#), [Nastaran Frahang](#), [Hossein Safari](#), [Michael S. Wheatland](#)

2023

<https://arxiv.org/pdf/2307.15523.pdf>

14 Jul

Flare Quasi-Periodic Pulsation Associated with Recurrent Jets

Dong [Li](#), Fanpeng Shi, Haisheng Zhao, Shaolin Xiong, Liming Song, Wenxi Peng, Xinqiao Li, Wei Chen, and Zongjun Ning

Front. Astron. Space Sci. 9: 1032099. 2022

doi: 10.3389/fspas.2022.1032099

<https://arxiv.org/pdf/2209.10952.pdf>

<https://www.frontiersin.org/articles/10.3389/fspas.2022.1032099/pdf>

15 Jul - Large NW [canyon](#) filament eruption, 304 \AA , partial halo CME [movie](#)

17 Jul

Lateral Confinement and the Remarkably Self-similar Nature

Y.-M. [Wang](#)¹ and P. Hess¹

2023 ApJ 952 85

<https://iopscience.iop.org/article/10.3847/1538-4357/acd638/pdf>

18 Jul >20 UT - SW filament eruption triggered activity in AR 13056 and a partial halo CME

19 Jul Geostorm $K_p=5$ $Dst\sim-62$ $B_z\sim-11$ due to the 15 Jul CME effects

Extended 3He-rich Time Periods Observed by Solar Orbiter: Magnetic Connectivity and Sources

A. [Kouloumvakos](#)¹, G. M. Mason¹, G. C. Ho¹, R. C. Allen¹,

2023 ApJ 956 123

<https://iopscience.iop.org/article/10.3847/1538-4357/acf44e/pdf>

19-22 Jul

Rotational radial shear in the low solar photosphere

M. [Faurobert](#)¹, T. Corbard¹, B. Gelly², R. Douet² and D. Laforgue²

A&A Letter 676, L4 (2023)

<https://www.aanda.org/articles/aa/pdf/2023/08/aa46610-23.pdf>

21 Jul A faint halo CME after a C5.6 flare near center disk in AR 13060 and a filament [tsunami eruption](#).

23 Jul Impulsive geostorm **Kp=5 Dst~-23 Bz~-12**. the arrival of the July 21 CME.
? A **southern filament eruption** accompanied by a bright and interestingly textured CME into space: [movie](#).

25 Jul

Energetic particle contamination in STIX during Solar Orbiter's passage through Earth's radiation belts and an interplanetary shock

Hannah [Collier](#), [Olivier Limousin](#), [Hualin Xiao](#), [Arnaud Claret](#), [Frederic Schuller](#), [Nina Dresing](#), [Saku Valkila](#), [Francisco Espinosa Lara](#), [Annamaria Fedeli](#), [Simon Foucambert](#), [Säm Krucker](#)

IEEE TRANSACTIONS ON NUCLEAR SCIENCE 2024

<https://arxiv.org/pdf/2402.03816.pdf>

Relativistic electron beams accelerated by an interplanetary shock

Immanuel C. [Jebaraj](#), [Nina Dresing](#), [Vladimir Krasnoselskikh](#), [Oleksiy V. Agapitov](#), + + +

A&A 680, L7 2023

<https://arxiv.org/pdf/2311.05765.pdf>

<https://www.aanda.org/articles/aa/pdf/2023/12/aa48120-23.pdf>

26-28 Jul

Lateral Confinement and the Remarkably Self-similar Nature

Y.-M. [Wang](#)¹ and P. Hess¹

2023 ApJ 952 85

<https://iopscience.iop.org/article/10.3847/1538-4357/acd638/pdf>

6 Aug Morning SE filament eruption

7-8 Aug **SURPRISE GEOMAGNETIC STORM Kp=6 Dst~-52 Bz~-13**, a high speed stream associated with trans [equatorial](#) CH1092

7-25 Aug

11 Aug

Magnetic Field of Solar Dark Filaments Obtained from He I 10830 Angstrom Spectropolarimetric Observation

Daiki [Yamasaki](#), [Yu Wei Huang](#), [Yuki Hashimoto](#), [Denis P. Cabezas](#), [Tomoko Kawate](#), [Satoru UeNo](#), [Kiyoshi Ichimoto](#)

Publications of the Astronomical Society of Japan 2023

<https://arxiv.org/pdf/2304.00422.pdf>

14 Aug Around 11:30 - a plume of dark plasma **304 A filament explosion** around center-W AR3076, halo CME

14-18 Aug

Heliospheric 3-D MHD ENLIL simulations of multi-CME and multi-spacecraft events

Dusan [Odstrcil](#)

<https://www.frontiersin.org/articles/10.3389/fspas.2023.1226992/pdf>

Front. Astron. Space Sci. 10: 1226992. 2023

doi: 10.3389/fspas.2023.1226992

<https://www.frontiersin.org/articles/10.3389/fspas.2023.1226992/pdf>

15 Aug [A series of M-class solar flares](#) и эрупций multiple CME из южных областей ~04:30 –[exploding magnetic SW filament](#) **POTENTIAL 'CANNIBAL CME' EVENT**

The Width of Magnetic Ejecta Measured Near 1 au: Lessons from STEREO-A Measurements in 2021--2022

[Noé Lugaz](#), [Bin Zhuang](#), [Camilla Scolini](#), [Nada Al-Haddad](#), [Charles J. Farrugia](#), [Réka M. Winslow](#), [Florian Regnault](#), [Christian Möstl](#), [Emma E. Davies](#), [Antoinette B. Galvin](#)
ApJ 2023
<https://arxiv.org/pdf/2312.03942.pdf>

17 Aug - For the 3rd day in a row, [AR3078](#) is producing strong [M-class](#) flares.
13:45 - M2 SW explosion hurled a plume of cool dark plasma **304 A**
<https://www.spaceweather.com/images2022/17aug22/mflare.gif>
GEOMAGNETIC STORM Kp=6 Dst~-53 Bz~-16
Последующая многодневная возмущённость [multiple geomagnetic storms](#)

Three-dimensional velocity fields of the solar filament eruptions detected by CHASE
[Ye Qiu](#), [Chuan Li](#), [Yang Guo](#), [Zhen Li](#), [Mingde Ding](#), [Linggao Kong](#)
ApJ 2024
<https://arxiv.org/pdf/2401.16730.pdf>

Sequential Remote Brightenings and Co-spatial Fast Downflows during Two Successive Flares
[B. T. Wang](#), [X. Cheng](#), [C. Li](#), [J. Chen](#), [M. D. Ding](#)
ApJ 2023
<https://arxiv.org/pdf/2306.15991.pdf>

18 Aug

Understanding the Lateral Drifting of an Erupting Filament with a Data-constrained Magnetohydrodynamic Simulation
[Jinhan Guo](#), [Ye Qiu](#), [Yiwei Ni](#), [Yang Guo](#), [Chuan Li](#), [Yuhang Gao](#), [Brigitte Schmieder](#), [Stefaan Poedts](#), [Pengfei Chen](#)
ApJ 2023
<https://arxiv.org/pdf/2308.08831.pdf>

18-19 Aug [A CME](#) hit Earth's magnetic field on Aug. 20th at 1812 UT. [Another similar CME](#)

19 Aug

Transverse vertical oscillations during the contraction and expansion of coronal loops
[Qingmin Zhang](#), [Yuhao Zhou](#), [Chuan Li](#), [Qiao Li](#), [Fanxiaoyu Xia](#), [Ye Qiu](#), [Jun Dai](#), [Yanjie Zhang](#)
ApJ 2023
<https://arxiv.org/pdf/2305.08338.pdf>

24 Aug

Magnetic Field of Solar Dark Filaments Obtained from He I 10830 Angstrom Spectropolarimetric Observation
[Daiki Yamasaki](#), [Yu Wei Huang](#), [Yuki Hashimoto](#), [Denis P. Cabezas](#), [Tomoko Kawate](#), [Satoru UeNo](#), [Kiyoshi Ichimoto](#)
Publications of the Astronomical Society of Japan 2023
<https://arxiv.org/pdf/2304.00422.pdf>

24, 25 ... Aug *В площадке SE КД яркая AR*
A STRANGELY-MAGNETIZED southern AR308 with a rare "perpendicular sunspot."
Polarity

26-29 Aug The "[perpendicular sunspot](#)" AR3088 and SE AR3089 are crackling with [M-class](#) flares; [a partial halo CME](#) after 05 UT
The [strangely-magnetized](#) AR3088 produced **more than a dozen M-class flares**

27 Aug A partial halo [CME](#) was observed after the M4.8 LDE in AR 13088. Filament eruption.
Небольшая **GEOMAGNETIC STORM** $K_p=4$ $Dst\sim-32$ $B_z\sim-9$
Energetic Storm Particles (ESP) Мягкие протоны S10~27.5 Хороший пример
[Earth dodged](#) a fusillade of CMEs

Observational signatures of electron-driven chromospheric evaporation in a white-light flare

[Dong Li](#), [Chuan Li](#), [Ye Qiu](#), [Shihao Rao](#), [Alexander Warmuth](#), [Frederic Schuller](#), [Haisheng Zhao](#), [Fanpeng Shi](#), [Jun Xu](#), [Zongjun Ning](#)
ApJ 2023
<https://arxiv.org/pdf/2306.15888.pdf>

Investigating Coronal Holes and CMEs as Sources of Brightness Depletion Detected in PSP/WISPR Images

Guillermo [Stenborg](#)¹, Evangelos Paouris^{1,2}, Russell A. Howard¹, Angelos Vourlidas¹, and Phillip Hess³
2023 ApJ 949 61
<https://iopscience.iop.org/article/10.3847/1538-4357/acd2cf/pdf>

28 Aug M6.7-M4.6 flares in SW limb AR 13088, LDE, CME, weak type II and IV

29 Aug Ещё одно ESP событие, но гораздо слабее S10~2, The [weak impact](#) of a [CME](#) on 27th

SITCoM: SiRGraF Integrated Tool for Coronal dynamics

[Purvi Udhvani](#), [Arpit Kumar Shrivastav](#), [Ritesh Patel](#)
Frontiers in Astronomy and Space Sciences 2023
<https://arxiv.org/pdf/2308.04647.pdf>

30 Aug spectacular full halo farside CME IS ABOUT TO HIT VENUS
<https://www.spaceweather.com/images2022/30aug22/farsidecme.gif>

31 Aug

Modelling two Energetic Storm Particle Events Observed by Solar Orbiter Using the Combined EUHFORIA and iPATH Models

Zheyi [Ding](#), [Gang Li](#), [Glenn Mason](#), [Stefaan Poedts](#), [Athanasios Kouloumvakos](#), [George Ho](#), [Nicolas Wijzen](#), [Robert F. Wimmer-Schweingruber](#), [Javier Rodríguez-Pacheco](#)
A&A 2023
<https://arxiv.org/pdf/2311.08346.pdf>

2 Sep ~17 UT- **A large filament eruption** at SE-center area, partial halo CME

3 Sep a minor storm $Dst\sim-34$ under the influence of a high speed stream from CH1097.

4... Sep long-duration **GEOMAGNETIC STORM** $K_p=6$ $Dst\sim-70$ $B_z\sim-9$ from [a large hole](#)

Heating of quiescent coronal loops caused by nearby eruptions observed with the Solar Dynamics Observatory and the Solar Upper Transition Region Imager

[Leping Li](#), [Hui Tian](#), [Huadong Chen](#), [Hongqiang Song](#), [Zhenyong Hou](#), [Xianyong Bai](#), [Kaifan Ji](#), [Yuanyong Deng](#)
ApJ 2023
<https://arxiv.org/pdf/2303.15758.pdf>

4-5 Sep

The eruption of a magnetic flux rope observed by \textit{Solar Orbiter} and \textit{Parker Solar Probe}

[David M. Long](#), [Lucie M. Green](#), [Francesco Pecora](#), [David H. Brooks](#), +

ApJ 2023

<https://arxiv.org/pdf/2308.14651.pdf>

5 Sep

>16 UT - A MAJOR EXPLOSION ON THE FAR SIDE; CME, SEP at Solar Orbiter near Venus https://spaceweathergallery.com/indiv_upload.php?upload_id=188267

Direct In Situ Measurements of a Fast Coronal Mass Ejection and Associated Structures in the Corona

[Ying D. Liu](#), [Bei Zhu](#), [Hao Ran](#), [Huidong Hu](#), [Mingzhe Liu](#), [Xiaowei Zhao](#), [Rui Wang](#), [Michael L. Stevens](#), [Stuart D. Bale](#)

ApJ 2024

<https://arxiv.org/pdf/2401.06449.pdf>

Properties of an interplanetary shock observed at 0.07 and 0.7 Astronomical Units by Parker Solar Probe and Solar Orbiter

[D. Trotta](#), [A. Larosa](#), [G. Nicolaou](#), [T. S. Horbury](#), [L. Matteini](#), +

ApJ 2023

<https://arxiv.org/pdf/2312.05983.pdf>

Modelling two Energetic Storm Particle Events Observed by Solar Orbiter Using the Combined EUHFORIA and iPATH Models

[Zheyi Ding](#), [Gang Li](#), [Glenn Mason](#), [Stefaan Poedts](#), [Athanasios Kouloumvakos](#), [George Ho](#), [Nicolas Wijzen](#), [Robert F. Wimmer-Schweingruber](#), [Javier Rodríguez-Pacheco](#)

A&A 2023

<https://arxiv.org/pdf/2311.08346.pdf>

The Closest View of a Fast Coronal Mass Ejection: How Faulty Assumptions near Perihelion Lead to Unrealistic Interpretations of PSP/WISPR Observations

[Ritesh Patel](#), [Matthew J. West](#), [Daniel B. Seaton](#), [Phillip Hess](#), [Tatiana Niembro](#), [Katharine K. Reeves](#)

ApJL 2023

<https://arxiv.org/pdf/2308.11055.pdf>

Solar Energetic Particle Events Detected in the Housekeeping Data of the European Space Agency's Spacecraft Flotilla in the Solar System

[Beatriz Sánchez-Cano](#), [Olivier Witasse](#), [Elise W. Knutsen](#), [Dikshita Meggi](#), +

Space Weather [Volume21, Issue8](#) August 2023 e2023SW003540

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2023SW003540>

[Parker Solar Probe: Insights into the Physics of the Near-Solar Environment](#)

Nour E. Raoufi

ApJ collection 2023

<https://iopscience.iop.org/collections/apj-230531-01>

Investigating Coronal Holes and CMEs as Sources of Brightness Depletion Detected in PSP/WISPR Images

Guillermo [Stenborg](#)¹, Evangelos Paouris^{1,2}, Russell A. Howard¹, Angelos Vourlidas¹, and Phillip Hess³

2023 ApJ 949 61

<https://iopscience.iop.org/article/10.3847/1538-4357/acd2cf/pdf>

5-7 Sep

Near-Sun In Situ and Remote-sensing Observations of a Coronal Mass Ejection and its Effect on the Heliospheric Current Sheet

O. M. **Romeo**^{1,2}, C. R. Braga³, S. T. Badman⁴, D. E. Larson¹, M. L. Stevens⁴, J. Huang¹
2023 ApJ 954 168

<https://iopscience.iop.org/article/10.3847/1538-4357/ace62e/pdf>

6 Sep

Investigating Coronal Holes and CMEs as Sources of Brightness Depletion Detected in PSP/WISPR Images

Guillermo **Stenborg**¹, Evangelos Paouris^{1,2}, Russell A. Howard¹, Angelos Vourlidas¹, and Phillip Hess³

2023 ApJ 949 61

<https://iopscience.iop.org/article/10.3847/1538-4357/acd2cf/pdf>

8-... Sep Медленный **многодневный** слабый подъем потока протонов J10~1

12 Sep **Однодневный подъем** потока протонов до J10~6.7

13 Sep

Formation of a Long Filament Through the Connection of Two Filament Segments Observed by CHASE

H. T. **Li**^{1,2}, X. Cheng^{1,2}, Y. W. Ni^{1,2}, C. Li^{1,2}, S. H. Rao^{1,2}, J. H. Guo^{1,2,3}, M. D. Ding^{1,2}, and P. F. Chen^{1,2}

2023 ApJL 958 L42

<https://iopscience.iop.org/article/10.3847/2041-8213/ad0e10/pdf>

<https://arxiv.org/pdf/2311.14531.pdf>

14 Sep A **brief intensification** of the geomagnetic disturbance Dst~+30 and then -23 was noted late in the day and early on September 15.

Investigating Coronal Holes and CMEs as Sources of Brightness Depletion Detected in PSP/WISPR Images

Guillermo **Stenborg**¹, Evangelos Paouris^{1,2}, Russell A. Howard¹, Angelos Vourlidas¹, and Phillip Hess³

2023 ApJ 949 61

<https://iopscience.iop.org/article/10.3847/1538-4357/acd2cf/pdf>

19 Sep Небольшое геомаг. возмущение **Dst~-32** от CH1099

20 Sep

Observation of two splitting processes in a partial filament eruption on the sun: the role of breakout reconnection

[Zheng Sun](#), [Ting Li](#), [Hui Tian](#), [Yinjun Hou](#), [Zhenyong Hou](#), [Hechao Chen](#), [Xianyong Bai](#), [Yuanyong Deng](#)

ApJ 2023

<https://arxiv.org/pdf/2307.06895.pdf>

23 Sep ~13 UT- SW near-limb filament eruption, type II, CME

A pair of bright CMEs https://www.spaceweather.com/images2022/23sep22/two_cmes_strip.gif

23 Sep

Formation and Dynamics in an Observed Preeruptive Filament

Jing **Huang**^{1,2,3}, Yin Zhang^{1,2}, Baolin Tan^{1,2,3}, Xianyong Bai^{1,2,3}, Leping Li , +++
2023 ApJL 958 L13
<https://iopscience.iop.org/article/10.3847/2041-8213/ad083e/pdf>

A revised graduated cylindrical shell model and its application to a prominence eruption

[Qing-Min Zhang](#), [Zhen-Yong Hou](#), [Xian-Yong Bai](#)

Research in Astron. Astrophys 2023

<https://arxiv.org/pdf/2307.00943.pdf>

24 Sep Короткое геомаг. возмущение **Dst~-42** от CH1001, probably related to a CME

27 Sep A brief intensification of the geomagnetic disturbance **Kp=6** и позже **Dst~-35**

28 Sep >03 UT - **filament eruption** near the eastern part of central AR 13110, partial halo CME

29 Sep the behind-the-limb **gamma-flare**

Evidence for flare-accelerated particles in large scale loops in the behind-the-limb gamma-ray solar flare of September 29, 2022

Melissa **Pesce-Rollins**, [Karl-Ludwig Klein](#), [Säm Krucker](#), [Alexander Warmuth](#), [M. Astrid Veronig](#), [Nicola Omodei](#), [Christian Monstein](#)

A&A 2024

<https://arxiv.org/pdf/2402.08380.pdf> File

Variation of the electron flux spectrum along a solar flare loop as inferred from STIX hard X-ray observations

Anna **Volpara**, [Paolo Massa](#), [Sam Krucker](#), [A Gordon Emslie](#), [Michele Piana](#), [Anna Maria Massone](#)

2023

<https://arxiv.org/pdf/2311.07148.pdf>

Traveling kink oscillations of coronal loops launched by a solar flare

[Dong Li](#), [Xianyong Bai](#), [Hui Tian](#), [Jiangtao Su](#), [Zhenyong Hou](#), [Yuanyong Deng](#), [Kaifan Ji](#), [Zongjun Ning](#)

A&A 2023

<https://arxiv.org/pdf/2306.04973.pdf>

30 Sep A brief intensification of the geomagnetic disturbance **Kp=4** и позже **Dst~-38**
A high speed stream related to CH1103

1-2 Oct West AR3110 unleashed [a series of strong impulsive flares](#) (M5.9, M8.7, X1) with strong radio S9~2200-5300, faint full halo CMEs, but **without SEPs**

2 Oct **X1.0 white-light flare, Gamma**

Multiwavelength Sun-as-a-star Analysis of the M8.7 Flare on 2022 October 2 Using H α and EUV Spectra Taken by SMART/SDDI and SDO/EVE

[Takato Otsu](#), [Ayumi Asai](#)

ApJ 2024

<https://arxiv.org/pdf/2402.00589.pdf>

Simultaneous Horizontal and Vertical Oscillation of a Quiescent Filament observed by CHASE and SDO

[Jun Dai](#), [Qingmin Zhang](#), [Ye Qiu](#), [Chuan Li](#), [Zhentong Li](#), [Shuting Li](#), [Yingna Su](#), [Haisheng Ji](#)

ApJ 2023
<https://arxiv.org/pdf/2310.19228.pdf>

Spectral Observations and Modeling of a Solar White-light Flare Observed by CHASE
[De-Chao Song](#), [Jun Tian](#), [Y. Li](#), [M. D. Ding](#), [Yang Su](#), [Sijie Yu](#), [Jie Hong](#), [Ye Qiu](#), [Shihao Rao](#), [Xiaofeng Liu](#), [Qiao Li](#), [Xingyao Chen](#), [Chuan Li](#), [Cheng Fang](#)

ApJ 2023
<https://arxiv.org/pdf/2307.12641.pdf>

2-3 Oct - ~20 UT - SE loop-shaped **filament eruption**, partial halo CME

3-9 Oct **GEOSTORM Kp=5 Dst~-(44-51) Bz~-13**; the arrival of effects from CH1104
POSSIBLE CANNIBAL CME EVENT: [NOAA model](#)

4 Oct >11 UT - long, southern **filament eruption**; CME
<https://www.spaceweather.com/images2022/04oct22/southernfilament.gif>

7 Oct

The data center for the X-ray spectrometer/imager STIX onboard Solar Orbiter
[Hualin Xiao](#), [Shane Maloney](#), [Sām Krucker](#), [Ewan Dickson](#), [Paolo Massa](#), [Erica Lastufka](#), [Andrea Francesco Battaglia](#), [Laszlo Etesi](#), [Nicky Hochmuth](#), [Frederic Schuller](#), [Daniel F. Ryan](#), [Olivier Limousin](#), [Hannah Collier](#), [Alexander Warmuth](#), [Michele Piana](#)

2023
<https://arxiv.org/pdf/2302.00497.pdf>

10 Oct 00:47 and 16:28 – Two LDE M1 and M3 flares (Movies: [#1](#), [#2](#)) Too many CMEs.
[Play the movie](#) Type II bursts
https://www.spaceweather.com/images2022/10oct22/m1_teal_strip.gif

11 Oct Two **impulsive** M-class flares

Лысенко А.Л., Флейшман Г.Д. Совместные наблюдения солнечных вспышек в рентгеновском диапазоне инструментами KONUS-WINDи SOLO/STIX
Восемнадцатая ежегодная конференция "Физика плазмы в солнечной системе" 6 -10 февраля **2023**. ИКИ РАН

12 Oct

Fleeting small-scale surface magnetic fields build the quiet-Sun corona

[L. P. Chitta](#), [S. K. Solanki](#), [J. C. del Toro Iniesta](#), [J. Woch](#), +

ApJL 2023
<https://arxiv.org/pdf/2308.10982.pdf>

13 Oct

Observing the Sun with the Atacama Large Millimeter/submillimeter Array (ALMA): Polarization Observations at 3 mm

[Masumi Shimojo](#), [Timothy S. Bastian](#), [Seiji Kameno](#), [Antonio S. Hales](#)

Solar Phys. 2024
<https://arxiv.org/pdf/2401.06343.pdf>

14 Oct Короткое геомаг. возмущение **Dst~-73 Bz~-13 Kp=5** a high-speed [stream of solar wind](#).

15 Oct SW **filament eruption**, CME

https://www.spaceweather.com/images2022/15oct22/canyonoffire_strip.gif

https://www.spaceweather.com/images2022/15oct22/cme_anim.gif

22 Oct GEOSTORM Kp=5 Dst=-75 Bz~-11; the arriving effects from CH1106, CIR

25 Oct

Steadiness of coronal heating

[Philip G. Judge](#)

ApJ 957 25 2023

<https://arxiv.org/pdf/2309.05164.pdf>

<https://iopscience.iop.org/article/10.3847/1538-4357/acf83a/pdf>

29 Oct GEOSTORM Kp=5 Dst=-53 Bz~-8; a high speed stream from CH1109

1 Nov

Internal activities in a solar filament and heating to its threads

Hengyuan [Wei](#), [Zhenghua Huang](#), [Chuan Li](#), [Zhenyong Hou](#), [Ye Qiu](#), [Hui Fu](#), [Xianyong Bai](#), [Lidong Xia](#)

ApJ 2023

<https://arxiv.org/pdf/2308.15747.pdf>

3 Nov GEOSTORM Kp=5 Dst=-55 Bz~-10; a high speed stream from CH1111

7 Nov GEOSTORM Kp=5 Dst=-88 Bz~-12; A solar wind transient

Multi-Hour-Ahead Dst Index Prediction Using Multi-Fidelity Boosted Neural Networks

A. [Hu](#), [E. Camporeale](#), [B. Swiger](#)

Space Weather [Volume21, Issue4](#) e2022SW003286 2023

<https://doi.org/10.1029/2022SW003286>

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2022SW003286>

08-11 Nov

30-min Decayless Kink Oscillations in a Very Long Bundle of Solar Coronal Plasma Loops

[Sihui Zhong](#), [Valery M. Nakariakov](#), [Yuhu Miao](#), [Libo Fu](#), [Ding Yuan](#)

Scientific Reports 2023

<https://arxiv.org/pdf/2308.05479.pdf>

9 Nov

Heavy-ion Acceleration in 3He-rich Solar Energetic Particle Events: New Insights from Solar Orbiter

G. M. [Mason](#), I. Roth, N. V. Nitta, R. Bučík, D. Lario, G. C. Ho, R. C. Allen, A. Kouloumvakos, R. F. Wimmer-Schweingruber, and J. Rodriguez-Pacheco

2023 ApJ 957 112

<https://iopscience.iop.org/article/10.3847/1538-4357/acf31b/pdf>

10 Nov

Are Solar Microflares more efficient in accelerating electrons when rooted near a Sunspot?

[Jonas Sagri](#), [Astrid M. Veronig](#), [Andrea Francesco Battaglia](#), [Ewan C. M. Dickson](#), [Dale E. Gary](#), [Säm Krucker](#)

A&A 2023

<https://arxiv.org/pdf/2312.06856.pdf>

12 Nov

A Type II Radio Burst Driven by a Blowout Jet on the Sun

[Zhenyong Hou](#), [Hui Tian](#), [Wei Su](#), [Maria S. Madjarska](#), [Hechao Chen](#), [Ruisheng Zheng](#), [Xianyong Bai](#), [Yuanyong Deng](#)

ApJ 2023

<https://arxiv.org/pdf/2306.16725.pdf>

19 Nov ~13 UT – NW эрупция, корональная волна.
Затем эрупция волокна в N полушарии, восточнее ЦМ

28 Nov **GEOSTORM Kp=5 Dst=-34 Bz~-10**; due to a high speed stream from CH1116

30 Nov... **GEOSTORM Kp=5 Dst=-39 Bz~-9** CH1116 and CH1117

4 Dec **GEOSTORM Kp=4.3 Dst=-41 Bz~-7**

5 Dec

Beyond the disk: EUV coronagraphic observations of the Extreme Ultraviolet Imager on board Solar Orbiter

[Auchère, F.](#), [Berghmans, D.](#), [Dumesnil, C.](#), [Halain, J.-P.](#), [Mercier, R.](#), +++

A&A 2023

<https://arxiv.org/pdf/2305.15308.pdf>

7 Dec короткая **GEOSTORM Kp=5 Dst=-65 Bz~-14**; CIR, CH1118

9 Dec ~08 UT: SE filament eruption, 304 A [movie](#)

A narrow SW helmet streamer (jet) <https://www.spaceweather.com/images2022/09dec22/jet.gif>

14-16 Dec INTENSIFYING FLARE ACTIVITY: AR3165 is crackling with M- flares. The strongest [M6- explosion](#), [more than 18](#) in the last two days, [non-stop flaring](#); CMEs

19 Dec короткая **GEOSTORM Kp=4 Dst=-37 Bz~-13** due a CIR from CH1119; a CME from AR3165

23-25 Dec **GEOSTORM Kp=4.5 Dst=-42 Bz~-10**, influence of effects related to CH1121, [south-pointing magnetic fields](#)

24 Dec 01 UT-**filament eruption** near AR 13171 [movie](#), a partial halo CME

26 Dec **GEOSTORM Kp=5 Dst=-50 Bz~-10** due to the arrival of the December 24 CME, interaction with the high speed stream from CH1121

Forbush https://www.spaceweather.com/images2022/29dec22/forbush_w_inset_strip.jpg

See **SOLAR CYCLE PROGRESSION**

<https://www.swpc.noaa.gov/products/solar-cycle-progression>

27 Dec **GEOSTORM Kp=4.5 Dst=-69 Bz~-8** due to CME effects

29-31 Dec

Subsurface Flows Associated with Formation and Flaring Activity of Solar Active Regions

[Alexander G. Kosovichev](#), [Viacheslav M. Sadykov](#)

Proc. IAU Symp. 365, 2024

<https://arxiv.org/pdf/2401.17598.pdf>

30 Dec **GEOSTORM Kp=5 Dst=-45 Bz~-11** effects associated with CH1122

M-class flares [an M3.7-class flare](#)

Partial Eruption of Solar Filaments. I. Configuration and Formation of Double-decker Filaments

[Yijun Hou](#), [Chuan Li](#), [Ting Li](#), [Jiangtao Su](#), [Ye Qiu](#), [Shuhong Yang](#), [Liheng Yang](#), +++

ApJ 2023 as part of the Focus Issue "Early results from the Chinese Ha Solar Explorer (CHASE)"
<https://arxiv.org/pdf/2311.00456.pdf>