

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, Kp=6, Vz~-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

Extreme Solar Flare Prediction Using Residual Networks with HMI Magnetograms and Intensitygrams

[Juyoung Yun](#), [Jungmin Shin](#)

SPAICE Conference 2024

<https://arxiv.org/pdf/2405.14750>

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

МИКРОВОЛНОВАЯ ДИАГНОСТИКА ВСПЫШЕЧНОЙ ПЛАЗМЫ МЕТОДОМ ФИТИРОВАНИЯ ПО ДАННЫМ СИБИРСКОГО РАДИОГЕЛИОГРАФА

СМИРНОВ Д.А.✉^{1,2}, **МЕЛЬНИКОВ В.Ф.**✉²

СОЛНЕЧНО-ЗЕМНАЯ ФИЗИКА Том: 10 Номер: 3 Год: 2024 Страницы: 27-39

Multispacecraft Observations of Protons and Helium Nuclei in Some Solar Energetic Particle Events toward the Maximum of Cycle 25

S. [Bartocci](#)¹, R. Battiston^{2,3}, S. Benella⁴, S. Beolè^{5,6}, W. J. Burger³, +

2024 ApJ 974 176

<https://iopscience.iop.org/article/10.3847/1538-4357/ad7395/pdf>

Solar energetic particles injected inside and outside a magnetic cloud: The widespread solar energetic particle event on 2022 January 20

L. [Rodríguez-García](#), [R. Gómez-Herrero](#), [N. Dresing](#), [L. A. Balmaceda](#), +

A&A 2024

<https://arxiv.org/pdf/2409.04564>

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 detailed survey of the parallel mean free path of solar energetic particle protons and electrons

J.T. [Lang](#), [R.D. Strauss](#), [N.E. Engelbrecht](#), [J.P. van den Berg](#), [N. Dresing](#), [D. Ruffolo](#), [R. Bandyopadhyay](#)

ApJ 2024

<https://arxiv.org/pdf/2406.05765>

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>

Inner Radiation Belt Simulations During the Successive Geomagnetic Storm Event of February 2022

[Kirolosse M. Giris](#), [Tohru Hada](#), [Akimasa Yoshikawa](#), [Shuichi Matsukiyo](#), [Abraham C.-L. Chian](#), [Ezequiel Echer](#)

Space Weather [Volume22, Issue7](#) July 2024 e2023SW003789

<https://doi.org/10.1029/2023SW003789>

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2023SW003789>

Electron Cyclotron Maser Emission and the Brightest Solar Radio Bursts

[Stephen M. White](#), [Masumi Shimojo](#), [Kazumasa Iwai](#), [Timothy S. Bastian](#), [Gregory D. Fleishman](#), [Dale E. Gary](#), [Jasmina Magdalenic](#), [Angelos Vourlidas](#)

ApJ 2024

<https://arxiv.org/pdf/2405.01755>

A Survey of Coronal Mass Ejections Measured In Situ by Parker Solar Probe During 2018-2022

Tarik M. [Salman](#) (1 and 2), [Teresa Nieves-Chinchilla](#) (2), [Lan K. Jian](#) (2), [Noé Lugaz](#) (3), [Fernando Carcaboso](#) (4), [Emma E. Davies](#) (5), [Yaireska M. Collado-Vega](#) (2)

ApJ 2024

<https://arxiv.org/pdf/2403.02594.pdf>

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

Ryuhō [Katakoka](#)^{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>

Inner Radiation Belt Simulations During the Successive Geomagnetic Storm Event of February 2022

[Kirolosse M. Girgis](#), [Tohru Hada](#), [Akimasa Yoshikawa](#), [Shuichi Matsukiyo](#), [Abraham C.-L. Chian](#), [Ezequiel Echer](#)

Space Weather [Volume22, Issue7](#) July **2024** e2023SW003789

<https://doi.org/10.1029/2023SW003789>

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2023SW003789>

The observational evidence that all microflares that accelerate electrons to high-energies are rooted in sunspots

[Andrea Francesco Battaglia](#), [Säm Krucker](#), [Astrid M. Veronig](#), [Muriel Zoë Stiefel](#), [Alexandar Warmuth](#), [Arnold O. Benz](#), [Daniel F. Ryan](#), [Hannah Collier](#), [Louise Harra](#)

A&A **2024**

<https://arxiv.org/pdf/2409.14466>

The Loss of Starlink Satellites in February 2022: How Moderate Geomagnetic Storms Can Adversely Affect Assets in Low-Earth Orbit

[Yoshita Baruah](#), [Souvik Roy](#), [Suvadip Sinha](#), [Erika Palmerio](#), [Sanchita Pal](#), [Denny M. Oliveira](#), [Dibyendu Nandy](#)

Space Weather [Volume22, Issue4](#) April **2024** e2023SW003716

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2023SW003716>

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

Ryuhō [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. Mason¹, G. C. Ho¹, R. C. Allen¹,
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. Mérou Mestrel^{1,2} and F. Auchère³
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.

14-17 Feb

Comprehensive Analysis of a Filament-embedding Solar Active Region at Different Stages of Evolution

Jie **Zhao**¹, Fu Yu¹, Sarah E. Gibson², Yuhong Fan², Yang Su^{1,3}, Ying Li^{1,3}, Jun Dai¹, Hui Li^{1,3}, Chuan Li^{4,5,6}, Pengfei Chen^{4,5}Show full author list
2024 ApJL 965 L16
<https://iopscience.iop.org/article/10.3847/2041-8213/ad3555/pdf>

15 Feb

Multi-spacecraft observations of the decay phase of solar energetic particle events

R. A. **Hyndman**, **S. Dalla**, **T. Laitinen**, **A. Hutchinson**, **C. M. S. Cohen**, **R. F. Wimmer-Schweingruber**
A&A 2024
<https://arxiv.org/pdf/2411.07903>

Multispacecraft Observations of Protons and Helium Nuclei in Some Solar Energetic Particle Events toward the Maximum of Cycle 25

S. **Bartocci**¹, R. Battiston^{2,3}, S. Benella⁴, S. Beolè^{5,6}, W. J. Burger³, +++
2024 ApJ 974 176
<https://iopscience.iop.org/article/10.3847/1538-4357/ad7395/pdf>

High-Energy Insights from an Escaping Coronal Mass Ejection with Solar Orbiter/STIX Observations

[Laura A. Hayes](#), [Säm Krucker](#), [Hannah Collier](#), [Daniel Ryan](#)

A&A 2024

<https://arxiv.org/pdf/2408.14194>

Observations of Kappa Distributions in Solar Energetic Protons and Derived Thermodynamic Properties

M. E. [Cuesta](#), [A. T. Cummings](#), [G. Livadiotis](#), [D. J. McComas](#), [C. M. S. Cohen](#), [L. Y. Khoo](#), [T. Sharma](#), [M. M. Shen](#), [R. Bandyopadhyay](#), [J. S. Rankin](#), [J. R. Szalay](#), [H. A. Farooki](#), [Z. Xu](#), [G. D. Muro](#), [M. L. Stevens](#), [S. D. Bale](#)

2024

<https://arxiv.org/pdf/2407.20343>

Energetic Neutral Atoms Detected in the 2022 February 15 Solar Energetic Particle Event

C. M. S. [Cohen](#)¹, R. A. Leske¹, O. C. St. Cyr^{4,2}, and G. M. Mason³

2024 ApJL 966 L19

<https://iopscience.iop.org/article/10.3847/2041-8213/ad4038/pdf>

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

Erika [Palmerio](#)¹, Fernando Carcaboso², Leng Ying Khoo³, Tarik M. Salman^{4,5}, Beatriz Sánchez-Cano⁶, Benjamin J. Lynch^{7,8}, Yeimy J. Rivera⁹, Sanchita Pal², Teresa Nieves-Chinchilla⁴, Andreas J. Weiss²Show full author list

2024 ApJ 963 108

<https://iopscience.iop.org/article/10.3847/1538-4357/ad1ab4/pdf>

<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/>

High-Energy Insights from an Escaping Coronal Mass Ejection with Solar Orbiter/STIX Observations

[Laura A. Hayes](#), [Säm Krucker](#), [Hannah Collier](#), [Daniel Ryan](#)

A&A 2024

<https://arxiv.org/pdf/2408.14194>

Multispacecraft Observations of a Widespread Solar Energetic Particle Event on 2022 February 15–16

L. Y. [Khoo](#)¹, B. Sánchez-Cano², C. O. Lee³, L. Rodríguez-García^{4,5}, A. Kouloumvakos⁶, E. Palmerio⁷, F. Carcaboso⁸, D. Lario⁹, N. Dresing¹⁰, C. M. S. Cohen¹¹Show full author list

2024 ApJ 963 107

<https://iopscience.iop.org/article/10.3847/1538-4357/ad167f/pdf>

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 $>6 R_{\odot}$ by EUI/FSI aboard Solar Orbiter★

M. Mierla^{1,2}, A. N. Zhukov^{1,3}, D. Berghmans¹, S. Parenti⁴, F. Auchère⁴, 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.

21 Feb-4 Mar

Compositional Metrics of Fast and Slow Alfvénic Solar Wind Emerging from Coronal Holes and Their Boundaries

Tamar Ervin^{1,2}, Stuart D. Bale^{1,2}, Samuel T. Badman³, Yeimy J. Rivera³, Orlando Romeo^{2,4}, Jia Huang², Pete Riley⁵, Trevor A. Bowen², Susan T. Lepri⁶, and Ryan M. Dewey⁶

2024 ApJ 969 83

<https://iopscience.iop.org/article/10.3847/1538-4357/ad4604/pdf>

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

23 Feb

Magnetic diffusion in Solar atmosphere produces measurable electric fields

Tetsu Anan, Roberto Casini, Han Uitenbroek, Thomas A. Schad, +++

Nature Communications

2024

<https://arxiv.org/pdf/2410.09221>

24 Feb

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>

24-27 Feb

Compositional Metrics of Fast and Slow Alfvénic Solar Wind Emerging from Coronal Holes and Their Boundaries

Tamar **Ervin**^{1,2}, Stuart D. Bale^{1,2}, Samuel T. Badman³, Yeimy J. Rivera³, Orlando Romeo^{2,4}, Jia Huang², Pete Riley⁵, Trevor A. Bowen², Susan T. Lepri⁶, and Ryan M. Dewey⁶

2024 ApJ 969 83

<https://iopscience.iop.org/article/10.3847/1538-4357/ad4604/pdf>

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 **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>

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>

27-28 Feb

Likely Common Coronal Source of Solar Wind and ³He-enriched Energetic Particles: Uncoupled Transport from the Low Corona to 0.2 au

D. G. [Mitchell](#)¹, M. E. Hill¹, D. J. McComas², C. M. S. Cohen³, N. A. Schwadron^{2,4}, P. S. Mostafavi¹, W. H. Matthaeus⁵, N. E. Raouafi¹, S. T. Al-Nussirat⁶, D. E. Larson⁶Show full author list
2024 ApJ 965 54

<https://iopscience.iop.org/article/10.3847/1538-4357/ad2467/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

Parker Solar Probe Observations of Energetic Particles in the Flank of a Coronal Mass Ejection Close to the Sun

N. A. [Schwadron](#)^{1,2}, Stuart D. Bale^{3,4}, J. Bonnell⁵, A. Case⁶, M. Shen², E. R. Christian⁷, C. M. S. Cohen⁸, A. J. Davis⁸, M. I. Desai⁹, K. Goetz¹⁰Show full author list

2024 ApJ 970 98

<https://iopscience.iop.org/article/10.3847/1538-4357/ad527f/pdf>

2 Mar-2 Apr **First Perihelion of the Solar Orbiter**

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>

2 Mar

COMPOSITION MOSAICS FROM MARCH 2022

T. [Varesano](#)^{1,2,3}, D. M. Hassler², N. Zambrana Prado⁴, J. Plowman², G. Del Zanna⁵, et al.

Solar Orbiter Nugget #34 Aug 2024

<https://www.cosmos.esa.int/web/solar-orbiter/-/science-nugget-composition-mosaics-from-march-2022>

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 Mar

A multi-instrument study of ultraviolet bursts and associated surges in AR 12957

[C. J. Nelson](#), [D. Calchetti](#), [A. Gandorfer](#), [J. Hirzberger](#), [J. Sinjan](#), [S. K. Solanki](#), [D. Berghmans](#), [H. Strecker](#), [J. Blanco](#)

A&A 2024

<https://arxiv.org/pdf/2410.07770>

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. Verbeec](#), [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. [Bučik](#)², 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. [Bučik](#)¹, G. M. [Mason](#)², N. V. [Nitta](#)³, V. [Krupar](#)^{4,5}, L. [Rodriguez](#)⁶, G. C. [Ho](#)², S. T. [Hart](#)^{7,1}, M. A. [Dayeh](#)¹, J. [Rodríguez-Pacheco](#)⁸, R. [Gómez-Herrero](#)⁸ and R. F. [Wimmer-Schweingruber](#)⁹

A&A 673, L5 (2023)

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

4 Mar

Bidirectional propagating brightenings in arch filament systems observed by Solar Orbiter/EUI

Yajie [Chen](#)^{1*}, Sudip [Mandal](#)¹, Hardi [Peter](#)^{1,2} and Lakshmi Pradeep [Chitta](#)¹

A&A, 692, A119 (2024)

<https://doi.org/10.1051/0004-6361/202451069>

<https://www.aanda.org/articles/aa/pdf/2024/12/aa51069-24.pdf>

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. Auchère](#), [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

5-14 Mar

Using Solar Orbiter as an Upstream Solar Wind Monitor for Real Time Space Weather Predictions

[R. Laker](#), [T. S. Horbury](#), [H. O'Brien](#), [E. J. Fauchon-Jones](#), [V. Angelini](#), [N. Fargette](#), [T. Amerstorfer](#), [M. Bauer](#), [C. Möstl](#), [E. E. Davies](#), [J. A. Davies](#), [R. Harrison](#), [D. Barnes](#), [M. Dumbović](#)

Space Weather [Volume22, Issue2](#) February 2024 e2023SW003628

<https://doi.org/10.1029/2023SW003628>

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2023SW003628>

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

Investigating the Soft X-ray Spectra of Solar Flare Onsets

[Anant Telikicherla](#), [Thomas N. Woods](#), [Bennet D. Schwab](#)

ApJ 2024

<https://arxiv.org/pdf/2403.05992.pdf>

7 Mar

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

L. K. [Harra](#)^{1,2}, C. H. [Mandrini](#)³, D. H. [Brooks](#)⁴, 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 Verbeek](#), [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

Spatial distributions of EUV brightenings in the quiet-Sun

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

A&A 2024
<https://arxiv.org/pdf/2411.00467>

An Overview of Solar Orbiter Observations of Interplanetary Shocks in Solar Cycle 25 **Review**

D. Trotta, [A. Dimmock](#), [H. Hietala](#), [X. Blanco-Cano](#), [T. S. Horbury](#), +++
ApJ 2024
<https://arxiv.org/pdf/2410.24007>

Comparison of magnetic data products from Solar Orbiter SO/PHI-FDT and SDO/HMI

A. Moreno Vacas^{1,2}, D. Orozco Suárez^{1,2}, H. Strecker^{1,2}, J. C. del Toro Iniesta^{1,2}, J. M. +++
A&A, 685, A28 (2024)
<https://www.aanda.org/articles/aa/pdf/2024/05/aa49096-23.pdf>

Observation of a Fully-formed Forward--Reverse Shock Pair Due to the Interaction Between Two Coronal Mass Ejections at 0.5 au

D. Trotta, [A. Dimmock](#), [X. Blanco-Cano](#), [R. Forsyth](#), [H. Hietala](#), +++
ApJ 2024
<https://arxiv.org/pdf/2404.17315>

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

Assessment of the near-Sun magnetic field of the 10 March 2022 coronal mass ejection observed by Solar Orbiter

Shifana Koya, [Spiros Patsourakos](#), [Manolis K. Georgoulis](#), [Alexander Nindos](#)
A&A 2024
<https://arxiv.org/pdf/2408.01142>

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

B. Zhuang¹, N. Lugaz¹, N. Al-Haddad¹, C. Scolini¹, C. J. Farrugia¹, F. Regnault¹, E. E. Davies², W. Yu¹, R. M. Winslow¹ and A. B. Galvin¹
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>

10-11 Mar

Radial Evolution of ICME-Associated Particle Acceleration Observed by Solar Orbiter and ACE

Malik H. [Walker](#), [Robert C. Allen](#), [Gang Li](#), [George C. Ho](#), [Glenn M. Mason](#), [Javier Rodriguez-Pacheco](#), [Robert F. Wimmer-Schweingruber](#), [Athanasios Kouloumvakos](#)

A&A 2024

<https://arxiv.org/pdf/2410.01885>

Using Solar Orbiter as an Upstream Solar Wind Monitor for Real Time Space Weather Predictions

R. [Laker](#), [T. S. Horbury](#), [H. O'Brien](#), [E. J. Fauchon-Jones](#), [V. Angelini](#), [N. Fargette](#), [T. Amerstorfer](#), [M. Bauer](#), [C. Möstl](#), [E. E. Davies](#), [J. A. Davies](#), [R. Harrison](#), [D. Barnes](#), [M. Dumbović](#)

Space Weather [Volume22, Issue2](#) February 2024 e2023SW003628

<https://doi.org/10.1029/2023SW003628>

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2023SW003628>

11 Mar

An Overview of Solar Orbiter Observations of Interplanetary Shocks in Solar Cycle 25

Review

D. [Trotta](#), [A. Dimmock](#), [H. Hietala](#), [X. Blanco-Cano](#), [T. S. Horbury](#), +++

ApJ 2024

<https://arxiv.org/pdf/2410.24007>

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**

Using Solar Orbiter as an Upstream Solar Wind Monitor for Real Time Space Weather Predictions

R. [Laker](#), [T. S. Horbury](#), [H. O'Brien](#), [E. J. Fauchon-Jones](#), [V. Angelini](#), [N. Fargette](#), [T. Amerstorfer](#), [M. Bauer](#), [C. Möstl](#), [E. E. Davies](#), [J. A. Davies](#), [R. Harrison](#), [D. Barnes](#), [M. Dumbović](#)

Space Weather [Volume22, Issue2](#) February 2024 e2023SW003628

<https://doi.org/10.1029/2023SW003628>

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2023SW003628>

12 Mar

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>

12-14 Mar

Using Solar Orbiter as an Upstream Solar Wind Monitor for Real Time Space Weather Predictions

R. Laker, T. S. Horbury, H. O'Brien, E. J. Fauchon-Jones, V. Angelini, N. Fargette, T. Amerstorfer, M. Bauer, C. Möstl, E. E. Davies, J. A. Davies, R. Harrison, D. Barnes, M. Dumbović
Space Weather [Volume22, Issue2](#) February 2024 e2023SW003628
<https://doi.org/10.1029/2023SW003628>
<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2023SW003628>

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

15 Mar

Investigating the Soft X-ray Spectra of Solar Flare Onsets

[Anant Telikicherla](#), [Thomas N. Woods](#), [Bennet D. Schwab](#)

ApJ 2024

<https://arxiv.org/pdf/2403.05992.pdf>

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

17 Mar

Bidirectional propagating brightenings in arch filament systems observed by Solar Orbiter/EUI

Yajie Chen^{1*}, Sudip Mandal¹, Hardi Peter^{1,2} and Lakshmi Pradeep Chitta¹

A&A, 692, A119 (2024)

<https://doi.org/10.1051/0004-6361/202451069>

<https://www.aanda.org/articles/aa/pdf/2024/12/aa51069-24.pdf>

On the Existence of Long-Period Decayless Oscillations in Short Active Region Loops

Arpit Kumar Shrivastav, Vaibhav Pant, Rohan Kumar, David Berghmans, Tom Van

Doorselaere, Dipankar Banerjee, Elena Petrova, Daye Lim

ApJ 2024

<https://arxiv.org/pdf/2411.15646>

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. Mihailescu](#), [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

First Solar Orbiter observation of a dark halo in the solar atmosphere

[Serena Maria Lezzi](#), [David M. Long](#), [Vincenzo Andretta](#), [Deborah Baker](#), [Antoine Dolliou](#), [Mariarita Murabito](#), [Susanna Parenti](#), [Natalia Zambrana Prado](#)

A&A 2024

<https://arxiv.org/pdf/2408.17172>

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](#), [Xinping 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 EU1 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 EU1 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 Vourlidis, 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 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>

27 Mar-4 Apr

3D Magnetic Free Energy and Flaring Activity Using 83 Major Solar Flares

Khojiakbar [Karimov](#)¹, Harim Lee², Hyun-Jin Jeong², Yong-Jae Moon^{1,2}, Jihye Kang², Jihyeon Son¹, Mingyu Jeon¹, and Kanya Kusano³

2024 ApJL 965 L5

<https://iopscience.iop.org/article/10.3847/2041-8213/ad3548/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/>

Three-part structure of a solar coronal mass ejection observed in low coronal signatures of Solar Orbiter

Tatiana [Podladchikova](#)^{1*}, Shantanu Jain¹, Astrid M. Veronig^{2,3}, Stefan Purkhart², Galina Chikunova^{5,1}, Karin Dissauer⁴ and Mateja Dumbović⁵

A&A, 691, A344 (2024)

<https://www.aanda.org/articles/aa/pdf/2024/11/aa51777-24.pdf>

Three-part structure of solar coronal mass ejection observed in low coronal signatures of Solar Orbiter

[Tatiana Podladchikova](#), [Shantanu Jain](#), [Astrid M. Veronig](#), [Stefan Purkhart](#), [Galina Chikunova](#), [Karin Dissauer](#), [Mateja Dumbovic](#)

Publication in Astronomy and Astrophysics 2024

?A&A 2024

<https://arxiv.org/pdf/2410.20603>

Flare Accelerated Electrons in Kappa-Distribution from X-Ray Spectra with Warm-Target Model

Yingjie [Luo](#) (1), [Eduard P. Kontar](#) (1), [Debesh Bhattacharjee](#) (1)

ApJ 2024

<https://arxiv.org/pdf/2408.00213>

Low-frequency solar radio type II bursts and their association with space weather events during the ascending phase of solar cycle 25

Theogene [Ndacyayisenga](#), Jean Uwamahoro, Jean Claude Uwamahoro, Daniel Izuikedinachi Okoh, Kantepalli Sasikumar Raja, Akeem Babatunde Rabiou, Christian Kwisanga, and Christian Monstein.

Ann. Geophys., 42, 313–329, 2024

<https://doi.org/10.5194/angeo-42-313-2024>

<https://angeo.copernicus.org/articles/42/313/2024/angeo-42-313-2024.pdf>

Multipoint study of the rapid filament evolution during a confined C2 flare on 28 March 2022, leading to eruption

[Stefan Purkhart](#), [Astrid M. Veronig](#), [Bernhard Kliem](#), [Robert Jarolim](#), [Karin Dissauer](#), [Ewan C. M. Dickson](#), [Tatiana Podladchikova](#), [Säm Krucker](#)
A&A 2024
<https://arxiv.org/pdf/2407.07777>

Formation of a Magnetic Cloud from the Merging of Two Successive Coronal Mass Ejections

Chong [Chen](#), [Ying D. Liu](#), [Bei Zhu](#), [Huidong Hu](#), [Rui Wang](#)
ApJ 969 L4 2024
<https://arxiv.org/pdf/2406.13603>
<https://iopscience.iop.org/article/10.3847/2041-8213/ad53ca/pdf>

The solar cycle 25 multi-spacecraft solar energetic particle event catalog of the SERPENTINE project

N. [Dresing](#), [A. Yli-Laurila](#), [S. Valkila](#), [J. Gieseler](#), [D. E. Morosan](#), [G. U. Farwa](#), +++
A&A 2024
<https://arxiv.org/pdf/2403.00658.pdf>
<https://data.serpentine-h2020.eu/catalogs/sep-sc25/> **catalog**

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

D. E. [Morosan](#)^{1,2}, J. Pomoell¹, C. Palmroos², N. Dresing², E. Asvestari¹, R. Vainio², E. K. J. Kilpua¹, J. Gieseler², A. Kumari^{1,3} and I. C. Jebaraj²
A&A 683, A31 (2024)
<https://www.aanda.org/articles/aa/pdf/2024/03/aa47873-23.pdf>

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 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>

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. Vourlidis², 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 **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>

29 Mar

Investigating the Soft X-ray Spectra of Solar Flare Onsets

[Anant Telikicherla](#), [Thomas N. Woods](#), [Bennet D. Schwab](#)

ApJ 2024

<https://arxiv.org/pdf/2403.05992.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>

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

The observational evidence that all microflares that accelerate electrons to high-energies are rooted in sunspots

[Andrea Francesco Battaglia](#), [Säm Krucker](#), [Astrid M. Veronig](#), [Muriel Zoë Stiefel](#), [Alexandar Warmuth](#), [Arnold O. Benz](#), [Daniel F. Ryan](#), [Hannah Collier](#), [Louise Harra](#)

A&A 2024
<https://arxiv.org/pdf/2409.14466>

Non-thermal Observations of a Flare Loop-top using IRIS Fe XXI: Implications for Turbulence and Electron Acceleration

[William Ashfield IV](#), [Vanessa Polito](#), [Sijie Yu](#), [Hannah Collier](#), [Laura Hayes](#)
ApJ 2024
<https://arxiv.org/pdf/2407.12174>

Inter-planetary type-IV solar radio bursts: A comprehensive **catalog** and statistical results

[Atul Mohan](#), [Nat Gopalswamy](#), [Anshu Kumari](#), [Sachiko Akiyama](#), [Sindhuja G](#)
ApJ 2024
<https://arxiv.org/pdf/2406.00194>

Localising pulsations in the hard X-ray and microwave emission of an X-class flare

[Hannah Collier](#), [Laura A. Hayes](#), [Sijie Yu](#), [Andrea F. Battaglia](#), [William Ashfield](#), [Vanessa Polito](#), [Louise K. Harra](#), [Säm Krucker](#)
A&A 2024
<https://arxiv.org/pdf/2402.10546.pdf>

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 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>

30-31 Mar

The magnetic origin of the mystery of rare H α Moreton waves

[Ze Zhong](#), [Yao Chen](#), [Y.W. Ni](#), [P. F. Chen](#), [Ruisheng Zheng](#), [Xiangliang Kong](#), [Chuan Li](#)

ApJ 2024

<https://arxiv.org/pdf/2412.19984>

31 Mar

- Geostorm Kp=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

High-resolution Observations of Clustered Dynamic Extreme-Ultraviolet Bright Tadpoles near the Footpoints of Corona Loops

[Rui Wang](#), [Ying D. Liu](#), [L. P. Chitta](#), [Huidong Hu](#), [Xiaowei Zhao](#)

Research in Astronomy and Astrophysics m 2024

<https://arxiv.org/pdf/2410.15789>

Low-frequency solar radio type II bursts and their association with space weather events during the ascending phase of solar cycle 25

Theogene [Ndacyayisenga](#), Jean Uwamahoro, Jean Claude Uwamahoro, Daniel Izuikedinachi Okoh, Kantepalli Sasikumar Raja, Akeem Babatunde Rabiou, Christian Kwisanga, and Christian Monstein.

Ann. Geophys., 42, 313–329, 2024

<https://doi.org/10.5194/angeo-42-313-2024>

<https://angeo.copernicus.org/articles/42/313/2024/angeo-42-313-2024.pdf>

Direct evidence of hybrid nature of EUV waves and the reflection of the fast-mode wave

Ramesh [Chandra](#), [P. F. Chen](#), [Pooja Devi](#)

2024

<https://arxiv.org/pdf/2407.03281>

Formation of a Magnetic Cloud from the Merging of Two Successive Coronal Mass Ejections

Chong [Chen](#), [Ying D. Liu](#), [Bei Zhu](#), [Huidong Hu](#), [Rui Wang](#)

ApJ 969 L4 2024

<https://arxiv.org/pdf/2406.13603>

<https://iopscience.iop.org/article/10.3847/2041-8213/ad53ca/pdf>

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 Verbeeck](#), [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

Low-frequency solar radio type II bursts and their association with space weather events during the ascending phase of solar cycle 25

Theogene **Ndacyayisenga**, Jean Uwamahoro, Jean Claude Uwamahoro, Daniel Izuikedinachi Okoh, Kantepalli Sasikumar Raja, Akeem Babatunde Rabi, Christian Kwisanga, and Christian Monstein.

Ann. Geophys., 42, 313–329, 2024
<https://doi.org/10.5194/angeo-42-313-2024>
<https://angeo.copernicus.org/articles/42/313/2024/angeo-42-313-2024.pdf>

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 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 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-Schweingruber¹, 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](#)

Sun-as-a-star observations of obscuration dimmings caused by filament eruptions

Yu Xu, Hui Tian, Astrid M. Veronig, Karin Dissauer

ApJ 2024
<https://arxiv.org/pdf/2405.13671>

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**

Simultaneous Eruption and Shrinkage of Pre-existing Flare Loops during a Subsequent Solar Eruption

[Huadong Chen](#), [Lyndsay Fletcher](#), [Guiping Zhou](#), [Xin Cheng](#), [Ya Wang](#), [Sargam Mulay](#), [Ruisheng Zheng](#), [Suli Ma](#), [Xiaofan Zhang](#)

2024 ApJ 976 207

<https://arxiv.org/pdf/2410.12202>

<https://iopscience.iop.org/article/10.3847/1538-4357/ad8c25/pdf>

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. [Lorring](#), [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. [Kuehl](#)¹, A. [Kollhoff](#)¹, R. F. [Wimmer-Schweingruber](#)¹, B. [Heber](#)¹, J. [Rodríguez-Pacheco](#)² and N. [Dresing](#)³

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](#).

Low-frequency solar radio type II bursts and their association with space weather events during the ascending phase of solar cycle 25

Theogene [Ndacyayisenga](#), Jean Uwamahoro, Jean Claude Uwamahoro, Daniel Izuikedinachi Okoh, Kantepalli Sasikumar Raja, Akeem Babatunde Rabi, Christian Kwisanga, and Christian Monstein.

Ann. Geophys., 42, 313–329, 2024

<https://doi.org/10.5194/angeo-42-313-2024>

<https://angeo.copernicus.org/articles/42/313/2024/angeo-42-313-2024.pdf>

Predicting the Arrival Time of an Interplanetary Shock Based on DSRT Spectrum Observations for the Corresponding Type II Radio Burst and a Blast Wave Theory

Ran [Li](#) 1,2, Xinhua [Zhao](#) 1,3, Jingye [Yan](#) 1,3, Lin [Wu](#) 1,3, Yang [Yang](#) 1,3, +++

2024 ApJ 962 178

<https://iopscience.iop.org/article/10.3847/1538-4357/ad150f/pdf>

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>

17-19 Apr

Predicting the Arrival Time of an Interplanetary Shock Based on DSRT Spectrum Observations for the Corresponding Type II Radio Burst and a Blast Wave Theory

Ran Li 1,2, Xinhua Zhao 1,3, Jingye Yan 1,3, Lin Wu 1,3, Yang Yang 1,3, +++

2024 ApJ 962 178

<https://iopscience.iop.org/article/10.3847/1538-4357/ad150f/pdf>

19 Apr

Investigating the Soft X-ray Spectra of Solar Flare Onsets

Anant [Telikicherla](#), [Thomas N. Woods](#), [Bennet D. Schwab](#)

ApJ 2024

<https://arxiv.org/pdf/2403.05992.pdf>

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>

Anticipating Solar Flares

[Hugh S. Hudson](#)

Solar Phys. 2024

<https://arxiv.org/pdf/2407.04567>

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 Schwab](#)¹, [Robert Sewell](#)¹, [Anant Kumar Telikicherla Kandala](#)², [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 $K_p=5$ $Dst\sim-33$ $Bz\sim-11$, 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

28 Apr-25 May

Global Effect of New Active Regions on Coronal Holes and Their Wind Streams

Y.-M. Wang¹, K. J. Knizhnik¹, I. Ugarte-Urra¹, and M. J. Weberg¹

2024 ApJ 972 107

<https://iopscience.iop.org/article/10.3847/1538-4357/ad5f87/pdf>

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

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

30 Apr импульс $K_p=5$ 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 umbral flashes in the resonant sunspot chromosphere

[T. Felipe](#), [S. J. González Manrique](#), [D. Martínez-Gómez](#), [M. M. Gómez-Míguez](#), [E. Khomenko](#), [C. Quintero Noda](#), [H. Socas-Navarro](#)

A&A 2024

<https://arxiv.org/pdf/2411.16467>

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

Flare heating of the chromosphere: Observations of flare continuum from GREGOR and IRIS

M. [García-Rivas](#)^{1,2,*}, J. Kašparová¹, A. Berlicki^{1,3}, M. Švanda^{1,2}, J. Dudík¹, D. Čtvrtečka⁴, M. Zapiór¹, W. Liu¹, M. Sobotka¹, M. Pavelková¹ and G. G. Motorina^{1,**}

A&A, 690, A254 (2024)
<https://www.aanda.org/articles/aa/pdf/2024/10/aa51219-24.pdf>

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

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

Eruption of a million-Kelvin warm magnetic flux rope on the Sun

[Leping Li](#), [Hongqiang Song](#), [Hardi Peter](#), [Lakshmi Pradeep Chitta](#), [Xin Cheng](#), [Zhentong Li](#), [Guiping Zhou](#)

ApJ 2024

<https://arxiv.org/pdf/2404.09514.pdf>

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**

Periods and Frequency Drifts of Groups of the Decimetric Spikes in Two Solar Flares.

[Karlický, M.](#), [Dudík, J.](#) & [Rybák, J.](#)

Sol Phys 299, 113 (2024).

<https://doi.org/10.1007/s11207-024-02359-y>

<https://link.springer.com/content/pdf/10.1007/s11207-024-02359-y.pdf>

Rearrangement of sunspot magnetic field caused by an X1.5 solar flare

Liufan [Gong](#), Xiaoli Yan, Hongfei Liang, Zhike Xue, Jincheng Wang, Liheng Yang, Yang Peng, Liping Yang, Xincheng Zhang

MNRAS, Volume 530, Issue 4, June 2024, Pages 3897–3905,
<https://doi.org/10.1093/mnras/stae1020>
<https://watermark.silverchair.com/stae1020.pdf>

Tracking the motion of a shock along a channel in the low solar corona

J. **Rigney** (1 and 2 and 3), P. T. Gallagher (1), G. Ramsay (2), J. G. Doyle (2), D. M. Long (4 and 3), O. Stepanyuk (5), K. Kozarev (5)

A&A 684, L7 2024

<https://arxiv.org/pdf/2403.17659.pdf>

<https://www.aanda.org/articles/aa/pdf/2024/04/aa48452-23.pdf>

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 958, 160 2023

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

<http://hmi.stanford.edu/hminuggets/?p=4195>

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**

Multispacecraft Observations of Protons and Helium Nuclei in Some Solar Energetic Particle Events toward the Maximum of Cycle 25

S. **Bartocci**¹, R. Battiston^{2,3}, S. Benella⁴, S. Beolè^{5,6}, W. J. Burger³, +++

2024 ApJ 974 176

<https://iopscience.iop.org/article/10.3847/1538-4357/ad7395/pdf>

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](#)

Searching for rapid pulsations in solar flare X-ray data

[Andrew R. Inglis](#), [Laura A. Hayes](#)
ApJ 2024
<https://arxiv.org/pdf/2406.07372>

22 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>

23 May

Imaging spectroscopy of spectral bump in a type II radio burst

[Peijin Zhang](#), [Diana E. Morosan](#), [Pietro Zucca](#), [Sanna Normo](#), [Bartosz Dabrowski](#), [Andrzej Krankowski](#), [Christian Voeks](#)
A&A 2024
<https://arxiv.org/pdf/2403.19451.pdf>

24 May

Probing Velocity Dispersion inside CMEs in Inner Corona: New Insights on CME Initiation

[Satabdwa Majumdar](#), [Elke D' Huys](#), [Marilena Mierla](#), [Nitin Vashishtha](#), [Dana-Camelia Talpeanu](#), [Dipankar Banerjee](#), [Martin A. Reiss](#)

ApJL 2024

<https://arxiv.org/pdf/2407.02244>

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

A Coronal Mass Ejection Impacting Parker Solar Probe at 14 Solar Radii

Carlos R. **Braga**¹, Vamsee Krishna Jagarlamudi¹, Angelos Vourlidas¹, Guillermo Stenborg¹, and Teresa Nieves-Chinchilla²

2024 ApJ 965 185

<https://iopscience.iop.org/article/10.3847/1538-4357/ad2b4e/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>

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

Radial Variations in Solar Type III Radio Bursts

Vratislav **Krupar**^{1,2}, Oksana Kruparova^{1,2}, Adam Szabo², Lynn B. Wilson III², Frantisek Nemec³, Ondrej Santolik^{3,4}, Marc Pulupa⁵, Karine Issautier⁶, Stuart D. Bale^{5,7}, and Milan Maksimovic⁶

2024 ApJL 967 L32

<https://iopscience.iop.org/article/10.3847/2041-8213/ad4be7/pdf>

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 Wang⁴

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>

Electron Cyclotron Maser Emission and the Brightest Solar Radio Bursts

[Stephen M. White](#), [Masumi Shimojo](#), [Kazumasa Iwai](#), [Timothy S. Bastian](#), [Gregory D. Fleishman](#), [Dale E. Gary](#), [Jasmina Magdalenic](#), [Angelos Vourlidas](#)

ApJ 2024

<https://arxiv.org/pdf/2405.01755>

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

20-21 Jun

Properties of individual S-bursts observed in the frequency band of 10-32 MHz during the rising phase of 25-th solar cycle

Vladimir [Dorovskyy](#), Valentin Melnik, Anatolii Brazhenko, and Anatolii Frantsuzenko

Front. Astron. Space Sci., Volume 11 : 1403135 2024

<https://doi.org/10.3389/fspas.2024.1403135>

<https://www.frontiersin.org/journals/astronomy-and-space-sciences/articles/10.3389/fspas.2024.1403135/full>

23-24 Jun

High-resolution observations of recurrent jets from an arch filament system

[Reetika Joshi](#), [Luc Rouppe van der Voort](#), [Brigitte Schmieder](#), [Fernando Moreno-Insertis](#), [Avijeet Prasad](#), [Guillaume Aulanier](#), [Daniel Nóbrega-Siverio](#)

A&A 2024

<https://arxiv.org/pdf/2408.17254>

25 Jun

New Insights into Type-I Solar Noise Storms from High Angular Resolution Spectroscopic Imaging with the upgraded Giant Metrewave Radio Telescope

[Surajit Mondal](#), [Devojyoti Kansabanik](#), [Divya Oberoi](#), [Soham Dey](#)

ApJ 2024

<https://arxiv.org/pdf/2408.13465>

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](#).

High-resolution observational analysis of flare ribbon fine structures

[Jonas Thoen Faber](#), [Reetika Joshi](#), [Luc Rouppe van der Voort](#), [Sven Wedemeyer](#), [Lyndsay Fletcher](#), [Guillaume Aulanier](#), [Daniel Nóbrega-Siverio](#)

A&A 2024

<https://arxiv.org/pdf/2411.18233>

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. Hess¹

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 **Kp=5, Dst~-22, Bz~-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 A**, 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 **Kp=5 Dst~-62 Bz~-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](#)

Relativistic electron beams accelerated by an interplanetary shock

Immanuel C. [Jebaraj](#), [Nina Dressing](#), [Vladimir Krasnoselskiikh](#), [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>

28 Jul-30 Sep

Estimates of Spherical Satellite Drag Coefficients in the Upper Thermosphere During Different Geomagnetic Conditions

[Xin Wang](#), [Tingling Ren](#), [Ronglan Wang](#), [Bingxian Luo](#), [Ercha Aa](#), [Lei Cai](#), [Ming Li](#), [Juan Miao](#), [Siqing Liu](#), [Jiancun Gong](#)

Space Weather Volume22, Issue11 November 2024 e2024SW003974

<https://doi.org/10.1029/2024SW003974>

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2024SW003974>

6 Aug Morning SE filament eruption

7-8 Aug **SURPRISE GEOMAGNETIC STORM** $K_p=6$ $Dst\sim-52$ $B_z\sim-13$, 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**

Investigating the Soft X-ray Spectra of Solar Flare Onsets

[Anant Telikicherla](#), [Thomas N. Woods](#), [Bennet D. Schwab](#)

ApJ 2024
<https://arxiv.org/pdf/2403.05992.pdf>

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>

15-16 Aug

The magnetic origin of the mystery of rare H α Moreton waves

[Ze Zhong](#), [Yao Chen](#), [Y.W. Ni](#), [P. F. Chen](#), [Ruisheng Zheng](#), [Xiangliang Kong](#), [Chuan Li](#)

ApJ 2024
<https://arxiv.org/pdf/2412.19984>

16-19 Aug

Estimates of Spherical Satellite Drag Coefficients in the Upper Thermosphere During Different Geomagnetic Conditions

[Xin Wang](#), [Tingling Ren](#), [Ronglan Wang](#), [Bingxian Luo](#), [Ercha Aa](#), [Lei Cai](#), [Ming Li](#), [Juan Miao](#), [Siqing Liu](#), [Jiancun Gong](#)

Space Weather Volume22, Issue11 November 2024 e2024SW003974
<https://doi.org/10.1029/2024SW003974>
<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2024SW003974>

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>

17-18 Aug

Observations of Switchback Chains in a Double Solar Proton Event

Emily [McDougall](#), [Bala Poduval](#)

Solar Phys. 2024
<https://arxiv.org/abs/2407.01815>

18 Aug

Recent advances in solar data-driven MHD simulations of the formation and evolution of CME flux ropes **Review**

[Brigitte Schmieder](#), [Jinhan Guo](#), [Stefaan Poedts](#)

Reviews of Modern Plasma Physics 2024
<https://arxiv.org/pdf/2408.06595>

Investigating the Soft X-ray Spectra of Solar Flare Onsets

[Anant Telikicherla](#), [Thomas N. Woods](#), [Bennet D. Schwab](#)

ApJ 2024

<https://arxiv.org/pdf/2403.05992.pdf>

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>

22 Aug

Direct Imaging of a Prolonged Plasma/Current Sheet and Quasiperiodic Magnetic Reconnection on the Sun

[Pankaj Kumar](#), [Judith T. Karpen](#), [Vasyl Yurchyshyn](#), [C. Richard DeVore](#), [Spiro K. Antiochos](#)

ApJ 2024

<https://arxiv.org/pdf/2407.07687>

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 Aug

Periods and Frequency Drifts of Groups of the Decimetric Spikes in Two Solar Flares.

[Karlický, M.](#), [Dudík, J.](#) & [Rybák, J.](#)

Sol Phys 299, 113 (2024).

<https://doi.org/10.1007/s11207-024-02359-y>

<https://link.springer.com/content/pdf/10.1007/s11207-024-02359-y.pdf>

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. intense interplanetary type II burst

Небольшая **GEOMAGNETIC STORM** Kp=4 Dst~-32 Bz~-9

Energetic Storm Particles (ESP) Мягкие протоны S10~27.5 Хороший пример Earth dodged a fusillade of CMEs

Three-stage Acceleration of Solar Energetic Particles Detected by Parker Solar Probe

Xiaomin **Chen**, [Chuan Li](#)

ApJL 967 L33 2024

<https://arxiv.org/pdf/2405.19680>

<https://iopscience.iop.org/article/10.3847/2041-8213/ad4a79/pdf>

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

Inter-planetary type-IV solar radio bursts: A comprehensive catalog and statistical results

[Atul Mohan](#), [Nat Gopalswamy](#), [Anshu Kumari](#), [Sachiko Akiyama](#), [Sindhuja G](#)

ApJ 2024

<https://arxiv.org/pdf/2406.00194>

29 Aug M8.6 flare. Ещё одно ESP событие, но гораздо слабее S10~2, The [weak impact](#) of a CME on 27th

X-ray and Spectral UV Observations of Periodic Pulsations in a Solar Flare Fan/Looptop

[Ryan J. French](#), [Laura A. Hayes](#), [Maria D. Kazachenko](#), [Katharine K. Reeves](#), [Chengcai Shen](#), [Juraj Lörinčík](#)

ApJ 2024

<https://arxiv.org/pdf/2411.02634>

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

An Overview of Solar Orbiter Observations of Interplanetary Shocks in Solar Cycle 25 Review

D. Trotta, [A. Dimmock](#), [H. Hietala](#), [X. Blanco-Cano](#), [T. S. Horbury](#), +++

ApJ 2024

<https://arxiv.org/pdf/2410.24007>

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~-34** under the influence of a high speed stream from CH1097.

4... Sep long-duration **GEOMAGNETIC STORM Kp=6 Dst~-70 Bz~-9** from [a large hole](#)

The Space Weather Context of the First Extreme Event of Solar Cycle 25, on 2022 September 5

Paouris, Evangelos ; [Vourlidas, Angelos](#) ; [Kouloumvakos, Athanasios](#) ; [Papaioannou, Athanasios](#) ;

[Jagarlamudi, Vamsee Krishna](#) ; [Horbury, Timothy](#)

The Astrophysical Journal, Volume 956, Issue 1, id.58, 13 pp. 2023

<https://iopscience.iop.org/article/10.3847/1538-4357/acf30f/pdf>

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, **Gamma**

https://spaceweathergallery.com/indiv_upload.php?upload_id=188267

Highly Polarized Type III Storm Observed with Parker Solar Probe

[Marc Pulupa](#), [Stuart D. Bale](#), [Immanuel Christopher Jebaraj](#), [Orlando Romeo](#), [Säm Krucker](#)

ApJ 2024

<https://arxiv.org/pdf/2412.05464>

Direct Measurements of Synchrotron-emitting Electrons at Near-Sun Shocks

I. C. [Jebaraj](#)¹, O. V. [Agapitov](#)^{2,3}, M. [Gedalin](#)⁴, L. [Vuorinen](#)^{1,5}, M. [Miceli](#)⁶, C. M. S. [Cohen](#)⁷, A. [Voshchepynets](#)^{2,8}, A. [Kouloumvakos](#)⁹, N. [Dresing](#)¹, A. [Marmyleva](#)¹⁰Show full author list

2024 ApJL 976 L7

<https://iopscience.iop.org/article/10.3847/2041-8213/ad8eb8/pdf>

Unraveling the Origins of an Extreme Solar Eruptive Event with Hard X-Ray Imaging Spectroscopy

Juliana T. [Vievering](#)¹, Angelos [Vourlidas](#)¹, and Säm [Krucker](#)^{2,3}

2024 ApJ 972 48

<https://iopscience.iop.org/article/10.3847/1538-4357/ad57b7/pdf>

IS \odot IS Solar γ -Ray Measurements: Initial Observations and Calibrations

J. G. **Mitchell**¹, G. A. de Nolfo¹, E. R. Christian¹, R. A. Leske², J. M. Ryan³, J. T. Vievering⁴, M. E. Hill⁴, A. W. Labrador², M. E. Wiedenbeck⁵, D. J. McComas⁶Show full author list

2024 ApJ 968 33

<https://iopscience.iop.org/article/10.3847/1538-4357/ad3fb2/pdf>

Flux rope modeling of the 2022 Sep 5 CME observed by Parker Solar Probe and Solar Orbiter from 0.07 to 0.69 au

Emma E. **Davies** (1), [Hannah T. Rüdissler](#) (1), [Ute V. Amerstorfer](#) (1), [Christian Möstl](#) (1), [Maike Bauer](#),
ApJ **973** 51 2024

<https://arxiv.org/pdf/2405.10810>

<https://iopscience.iop.org/article/10.3847/1538-4357/ad64cb/pdf>

Observations of the 2022 September 5 Solar Energetic Particle Event at 15 Solar Radii

C. M. S. **Cohen**¹, R. A. Leske¹, E. R. Christian², A. C. Cummings¹, G. A. de Nolfo², M. I. Desai^{3,4}, J. Giacalone⁵, M. E. Hill⁶, A. W. Labrador¹, D. J. McComas⁷Show full author list

2024 ApJ 966 148

<https://iopscience.iop.org/article/10.3847/1538-4357/ad37f8/pdf>

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>

The Space Weather Context of the First Extreme Event of Solar Cycle 25, on 2022 September 5

Paouris, Evangelos ; [Vourlidas, Angelos](#) ; [Kouloumvakos, Athanasios](#) ; [Papaioannou, Athanasios](#) ;

[Jagarlamudi, Vamsee Krishna](#) ; [Horbury, Timothy](#)

The Astrophysical Journal, Volume 956, Issue 1, id.58, 13 pp. 2023

<https://iopscience.iop.org/article/10.3847/1538-4357/acf30f/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 [Volume 21, Issue 8](#) 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. Raouafi

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>

15-19 Sep

Multiwavelength Observations for a Double-decker Filament Channel in AR 13102

Yin **Zhang**^{1,2}, Baolin Tan^{1,2,3}, Quan Wang^{1,2,3}, Jing Huang^{1,2,3}, Zhe Xu⁴, Kanfan Ji⁴, Xiao Yang^{1,2}, Jie Chen^{1,2}, Xianyong Bai^{1,2,3}, Zhenyong Hou⁵Show full author list
2024 ApJ 973 9

<https://iopscience.iop.org/article/10.3847/1538-4357/ad5d70/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>

22-30 Sep

Persistent Upflows and Downflows at Active Region boundaries Observed by SUTRI and AIA

[Yuchuan Wu](#), [Zhenyong Hou](#), [Wenxian Li](#), [Xianyong Bai](#), [Yongliang Song](#), [Xiao Yang](#), [Ziyao Hu](#), [Yuanyong Deng](#), [Kaifan Ji](#)

ApJ 2024

<https://arxiv.org/pdf/2403.07422.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

25 Sep

Observation of super-Alfvénic slippage of reconnecting magnetic field lines on the Sun.

Lörinčík, J., Dudík, J., Sainz Dalda, A. et al.

Nat Astron (2024).

<https://doi.org/10.1038/s41550-024-02396-4>

<https://www.nature.com/articles/s41550-024-02396-4.pdf>

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**

Solar flare observations with the Radio Neutrino Observatory Greenland (RNO-G)

[S. Agarwal](#), [J. A. Aguilar](#), [S. Ali](#), [P. Allison](#), [M. Betts](#), +++

A&A 2024

<https://arxiv.org/pdf/2404.14995.pdf>

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 683, A208 2024

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

<https://www.aanda.org/articles/aa/pdf/2024/03/aa48088-23.pdf>

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**

1 Oct 22- 31 Jan 23

Estimates of Spherical Satellite Drag Coefficients in the Upper Thermosphere During Different Geomagnetic Conditions

[Xin Wang](#), [Tingling Ren](#), [Ronglan Wang](#), [Bingxian Luo](#), [Ercha Aa](#), [Lei Cai](#), [Ming Li](#), [Juan Miao](#), [Siqing Liu](#), [Jiancun Gong](#)

Space Weather [Volume22, Issue11](#) November 2024 e2024SW003974

<https://doi.org/10.1029/2024SW003974>

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2024SW003974>

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

An explanation for the slow-rise phase of solar eruptions

Yaoyu [Xing](#), Aiyi Duan, Chaowei Jiang

MNRAS, Volume 534, Issue 1, October 2024, Pages 107–116,

<https://doi.org/10.1093/mnras/stae2088>

<https://watermark.silverchair.com/stae2088.pdf>

Sun-as-a-star Study of an X-class Solar Flare with Spectroscopic Observations of CHASE

[Y. L. Ma](#), [Q. H. Lao](#), [X. Cheng](#), [B. T. Wang](#), [Z. H. Zhao](#), [S. H. Rao](#), [C. Li](#), [M. D. Ding](#)

ApJ 2024

<https://arxiv.org/pdf/2403.09011.pdf>

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 Oct

Three-Minute Oscillations in Sunspot's Penumbrae and Superpenumbrae. Alfvénic or Sound?

[Andrei Chelpanov](#), [Nikolai Kobanov](#)

2024

<https://arxiv.org/pdf/2409.15701>

Наблюдательные характеристики колебательно-волновых процессов в пятне и его окрестностях. Сложности наблюдений и интерпретации.

Кобанов Н.И., Челпанов А.А.

С-3 физика [Том 10 № 1, 2024](#) С. 4–11.

<https://naukaru.ru/ru/storage/viewWindow/148029>

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>

Filament eruption by multiple reconnections

[Y. Liu](#), [G. P. Ruan](#), [B. Schmieder](#), [J. H. Guo](#), [Y. Chen](#), [R. S. Zheng](#), [J. T. Su](#), [B. Wang](#)

A&A 2024

<https://arxiv.org/pdf/2406.00769>

7 Oct

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>

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

Three Types of Solar Coronal Rain during Magnetic Reconnection between Open and Closed Magnetic Structures

Fangfang [Qiao](#)¹, Leping Li^{2,3,4}, Hui Tian^{1,3}, Zhenyong Hou¹, Hongqiang Song⁵, Kaifan Ji⁶, and Zheng Sun¹

2024 ApJ 973 57

<https://iopscience.iop.org/article/10.3847/1538-4357/ad6770/pdf>

<https://arxiv.org/pdf/2408.05736>

Лысенко А.Л., Флейшман Г.Д. Совместные наблюдения солнечных вспышек в рентгеновском диапазоне инструментами KONUS-WIND и 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

On the Existence of Long-Period Decayless Oscillations in Short Active Region Loops

Arpit Kumar [Shrivastav](#), [Vaibhav Pant](#), [Rohan Kumar](#), [David Berghmans](#), [Tom Van Doorselaere](#), [Dipankar Banerjee](#), [Elena Petrova](#), [Daye Lim](#)

ApJ 2024

<https://arxiv.org/pdf/2411.15646>

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>

13-16 Oct

Coronal hole picoflare jets are the progenitors of both the fast and the Alfvénic slow solar wind

L. P. [Chitta](#), [Z. Huang](#), [R. D'Amicis](#), [D. Calchetti](#), [A. N. Zhukov](#), [E. Kraaikamp](#), [C. Verbeeck](#), [R. Aznar Cuadrado](#), [J. Hirzberger](#), [D. Berghmans](#), [T. S. Horbury](#), [S. K. Solanki](#), [C. J. Owen](#), [L. Harra](#), [H. Peter](#), [U. Schühle](#), [L. Teriaca](#), [P. Louarn](#), [S. Livi](#), [A. S. Giunta](#), [D. M. Hassler](#), [Y.-M. Wang](#)

A&A 2024

<https://arxiv.org/pdf/2411.16513>

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

22-23 Oct

Connecting Solar Wind Velocity Spikes Measured by Solar Orbiter and Coronal Brightenings Observed by SDO

Chuanpeng [Hou](#)^{1,2}, Alexis P. Rouillard², Jiansen He¹, Bahaeddine Gannouni², Victor Réville², Philippe Louarn², Andrey Fedorov², Lubomír Přech³, Christopher J. Owen⁴, Daniel Verscharen⁴Show full author list

2024 ApJL 968 L28

<https://iopscience.iop.org/article/10.3847/2041-8213/ad4eda/pdf>

25 Oct

Observation of the Solar Eclipse on October 25, 2022 on Radio Telescopes of the Institute of Applied Astronomy, Russian Academy of Sciences (First Results).

[Ivanov](#), D.V., [Rakhimov](#), I.A., [D'akov](#), A.A. et al.

Geomagn. Aeron. 63, 1015–1023 (2023).

<https://doi.org/10.1134/S0016793223070125>

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>

26 Oct

Association between a Failed Prominence Eruption and the Drainage of Mass from Another Prominence

[Jianchao Xue](#), [Li Feng](#), [Hui Li](#), [Ping Zhang](#), [Jun Chen](#), +++

Solar Phys. 2024

<https://arxiv.org/pdf/2406.11602>

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>

9-15 Nov

A Rapid Sequence of Solar Energetic Particle Events Associated with a Series of Extreme-ultraviolet Jets: Solar Orbiter, STEREO-A, and Near-Earth Spacecraft Observations

D. **Lario**¹, L. A. Balmaceda^{1,2}, R. Gómez-Herrero³, G. M. Mason⁴, V. Krupar^{1,5}, C. Mac Cormack^{1,6}, A. Kouloumvakos⁴, I. Cernuda³, H. Collier⁷, I. G. Richardson^{1,8}

2024 ApJ 975 84

<https://iopscience.iop.org/article/10.3847/1538-4357/ad6c47/pdf>

10 Nov

Three-Minute Oscillations in Sunspot's Penumbrae and Superpenumbrae. Alfvénic or Sound?

[Andrei Chelpanov](#), [Nikolai Kobanov](#)

2024

<https://arxiv.org/pdf/2409.15701>

Наблюдательные характеристики колебательно-волновых процессов в пятне и его окрестностях. Сложности наблюдений и интерпретации.

Кобанов Н.И., **Челпанов А.А.**

С-3 физика [Том 10 № 1, 2024](#) С. 4–11.

<https://naukaru.ru/ru/storage/viewWindow/148029>

Efficiency of solar microflares in accelerating electrons when rooted in a sunspot*

Jonas **Saqri**¹, Astrid M. Veronig^{1,2}, Andrea Francesco Battaglia^{3,4}, Ewan C. M. Dickson¹, Dale E. Gary⁵ and Säm Krucker^{3,6}

A&A 683, A41 (2024)

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

<https://www.aanda.org/articles/aa/pdf/2024/03/aa48295-23.pdf>

<https://doi.org/10.1051/0004-6361/202348295>

11 Nov

A Rapid Sequence of Solar Energetic Particle Events Associated with a Series of Extreme-ultraviolet Jets: Solar Orbiter, STEREO-A, and Near-Earth Spacecraft Observations

D. **Lario**¹, L. A. Balmaceda^{1,2}, R. Gómez-Herrero³, G. M. Mason⁴, V. Krupar^{1,5}, C. Mac Cormack^{1,6}, A. Kouloumvakos⁴, I. Cernuda³, H. Collier⁷, I. G. Richardson^{1,8}

2024 ApJ 975 84

<https://iopscience.iop.org/article/10.3847/1538-4357/ad6c47/pdf>

High-resolution Observation of Blowout Jets Regulated by Sunspot Rotation

[Tingyu Gou](#), [Rui Liu](#), [Yang Su](#), [Astrid M. Veronig](#), [Hanya Pan](#), [Runbin Luo](#), [Weiqun Gan](#)

Solar Phys. 2024

<https://arxiv.org/pdf/2406.02783>

12 Nov

The observational evidence that all microflares that accelerate electrons to high-energies are rooted in sunspots

[Andrea Francesco Battaglia](#), [Säm Krucker](#), [Astrid M. Veronig](#), [Muriel Zoë Stiefel](#), [Alexandar Warmuth](#), [Arnold O. Benz](#), [Daniel F. Ryan](#), [Hannah Collier](#), [Louise Harra](#)

A&A 2024

<https://arxiv.org/pdf/2409.14466>

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>

13 Nov

Solar flares in the Solar Orbiter Era: Short exposure EUV/FSI observations of STIX flares

[Hannah Collier](#), [Laura A. Hayes](#), [Stefan Purkhart](#), [Säm Krucker](#), [Daniel F. Ryan](#), [Vanessa Polito](#), [Astrid M. Veronig](#), [Louise K. Harra](#), [David Berghmans](#), [Emil Kraaikamp](#), [Marie Dominique](#), [Laurent R. Dolla](#), [Cis Verbeec](#)

A&A 2024

<https://arxiv.org/pdf/2411.09319>

14 Nov

A Rapid Sequence of Solar Energetic Particle Events Associated with a Series of Extreme-ultraviolet Jets: Solar Orbiter, STEREO-A, and Near-Earth Spacecraft Observations

D. Lario¹, L. A. Balmaceda^{1,2}, R. Gómez-Herrero³, G. M. Mason⁴, V. Krupar^{1,5}, C. Mac Cormack^{1,6}, A. Kouloumvakos⁴, I. Cernuda³, H. Collier⁷, I. G. Richardson^{1,8}

2024 ApJ 975 84

<https://iopscience.iop.org/article/10.3847/1538-4357/ad6c47/pdf>

14-18 Nov

Longitudinal Extent of 3He-rich Solar Energetic Particle Events Near 1 au

George C. Ho¹, Glenn M. Mason², Robert C. Allen¹, Athanasios Kouloumvakos², Robert F. Wimmer-Schweingruber³, and Javier Rodríguez-Pacheco⁴

2024 ApJ 974 68

<https://iopscience.iop.org/article/10.3847/1538-4357/ad67ce/pdf>

19 Nov

~13 UT – NW эрупция, корональная волна.

Затем эрупция волокна в N полушарии, восточнее ЦМ

Numerous Bidirectionally Propagating Plasma Blobs near the Reconnection Site of a Solar Eruption

[Zhenyong Hou](#), [Hui Tian](#), [Maria S. Madjarska](#), [Hechao Chen](#), [Tanmoy Samanta](#), [Xianyong Bai](#), [Zhentong Li](#), [Yang Su](#), [Wei Chen](#), [Yuanyong Deng](#)

A&A 2024

<https://arxiv.org/pdf/2404.18092>

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** $K_p=5$ $Dst=-65$ $Bz\sim-14$; CIR, CH1118

8 Dec

Internal magnetic field structures observed by PSP/WISPR in a filament related coronal mass ejection

[G.M. Cappello](#), [M. Temmer](#), [A. Vourlidas](#), [C. Braga](#), [P.C. Liewer](#), [J. Qiu](#), [G. Stenborg](#), [A. Kouloumvakos](#), [A.M. Veronig](#), [V. Bothmer](#)
A&A 2024
<https://arxiv.org/pdf/2402.14682.pdf>

8-20 Dec

Longitudinal Extent of 3He-rich Solar Energetic Particle Events Near 1 au

George C. Ho¹, Glenn M. Mason², Robert C. Allen¹, Athanasios Kouloumvakos², Robert F. Wimmer-Schweingruber³, and Javier Rodríguez-Pacheco⁴
2024 ApJ 974 68
<https://iopscience.iop.org/article/10.3847/1538-4357/ad67ce/pdf>

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

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

12-18 Dec

Solar Active Regions Emergence Prediction Using Long Short-Term Memory Networks

[Spiridon Kasapis](#), [Irina N. Kitiashvili](#), [Alexander G. Kosovichev](#), [John T. Stefan](#)
ApJ 2024
<https://arxiv.org/pdf/2409.17421>

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** $K_p=4$ $Dst=-37$ $Bz\sim-13$ due a CIR from CH1119; a CME from AR3165

20 Dec

Spectral and Imaging Observations of a C2.3 White-Light Flare from the Advanced Space-Based Solar Observatory (ASO-S) and the Chinese H α Solar Explorer (CHASE)

[Qiao Li](#), [Ying Li](#), [Yang Su](#), [Dechao Song](#), [Hui Li](#), [Li Feng](#), +++
Solar Phys. 2024
<https://arxiv.org/pdf/2405.01308>

22-23 Dec

The observational evidence that all microflares that accelerate electrons to high-energies are rooted in sunspots

[Andrea Francesco Battaglia](#), [Säm Krucker](#), [Astrid M. Veronig](#), [Muriel Zoë Stiefel](#), [Alexandar Warmuth](#), [Arnold O. Benz](#), [Daniel F. Ryan](#), [Hannah Collier](#), [Louise Harra](#)
A&A 2024
<https://arxiv.org/pdf/2409.14466>

Correction for the Weakening Magnetic Field within the Sunspot Umbra Observed by ASO-S/FMG

[Haiqing Xu](#), [Jiangtao Su](#), [Suo Liu](#), [Yuanyong Deng](#), [Xianyong Bai](#), [Jie Chen](#), [Xiaofan Wang](#), [Xiao Yang](#), [Yongliang Song](#)

Solar Phys. 2024

<https://arxiv.org/pdf/2405.18699>

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

Analysis and Predictive Modeling of Solar Coronal Holes Using Computer Vision and LSTM Networks

Juyoung [Yun](#), [Jungmin Shin](#)

SPAICE Conference 2024

<https://arxiv.org/pdf/2405.09802>

Coronal Hole Analysis and Prediction using Computer Vision and LSTM Neural Network

Juyoung [Yun](#)

2023

<https://arxiv.org/pdf/2301.06732.pdf>

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>

30 Dec-5 Jan

Solar Active Regions Emergence Prediction Using Long Short-Term Memory Networks

[Spiridon Kasapis](#), [Irina N. Kitiashvili](#), [Alexander G. Kosovichev](#), [John T. Stefan](#)

ApJ 2024

<https://arxiv.org/pdf/2409.17421>