

Research Publications


A Peer-reviewed scientific articles

- 1 Hofmeister, S. J., **Asvestari, E.**, Guo, J., Heidrich-Meisner, V., Heinemann, S. G., Magdalenic, J., ... Wimmer-Schweingruber, R. (2021). How the area of solar coronal holes affects the properties of high-speed solar wind streams near Earth. I. An analytical model. *Astronomy & Astrophysics*, *accepted*, in press. [doi:--](#)
- 2 **Asvestari, E.**, Rindlisbacher, T., Pomoell, J., & Kilpua, E. (2021). The spheromak tilting and how it affects modelling coronal mass ejections. *The Astrophysical Journal*, *accepted*, in press. [doi:--](#)
- 3 Sindhuja, G., Singh, J., **Asvestari, E.**, & Raghavendra Prasad, B. (2021). Modelling a coronal mass ejection as a magnetised structure with EUHFORIA. *The Astrophysical Journal*, *accepted*, in press. [doi:--](#)
- 4 Kollhoff, A., Kouloumvakos, A., Lario, D., Dresing, N., Gómez-Herrero, R., Rodriguez-Garcia, L., ... **Asvestari, E.** (2021). The first widespread solar energetic particle event observed by solar orbiter on 2020 november 29. *Astronomy & Astrophysics*, *656*, A20. [doi:10.1051/0004-6361/202140937](#)
- 5 Wagner, A., **Asvestari, E.**, Temmer, M., Heinemann, S. G., & Pomoell, J. (2021). Validation scheme for solar coronal models – constraints from multi-perspective observations in EUV and white-light. *Astronomy & Astrophysics*, *accepted*, in press. [doi:--](#)
- 6 Linker, J. A., Heinemann, S. G., Temmer, M., Owens, M. J., Caplan, R. M., Arge, C. N., ... Vršnak, B. (2021). Coronal Hole Detection and Open Magnetic Flux. *The Astrophysical Journal*, *918*(1), 21. [doi:10.3847/1538-4357/ac090a](#)
- 7 **Asvestari, E.**, Pomoell, J., Kilpua, E., Good, S., Chatzistergos, T., Temmer, M., ... Magdalenic, J. (2021). Modelling a multi-spacecraft coronal mass ejection encounter with EUHFORIA. *Astronomy & Astrophysics*, *652*, A27. [doi:10.1051/0004-6361/202140315](#)
- 8 Kilpua, E. K. J., Pomoell, J., Price, D., Sarkar, R., & **Asvestari, Eleanna.** (2021). Estimating the magnetic structure of an erupting CME flux rope from AR12158 using data-driven modelling. *Frontiers in Astronomy and Space Sciences*, *8*, 35. [doi:10.3389/fspas.2021.631582](#)
- 9 Temmer, M., Holzknicht, L., Dumbović, M., Vršnak, B., Sachdeva, N., Heinemann, S. G., ... Hofmeister, S. J. (2021). Deriving CME Density From Remote Sensing Data and Comparison to In Situ Measurements. *Journal of Geophysical Research (Space Physics)*, *126*(1), e28380. [doi:10.1029/2020JA028380](#)
- 10 Hinterreiter, J., Magdalenic, J., Temmer, M., Verbeke, C., Jebaraj, I. C., Samara, E., ... Isavnin, A. (2019). Assessing the Performance of EUHFORIA Modeling the Background Solar Wind. *Solar Physics*, *294*(12), 170. [doi:10.1007/s11207-019-1558-8](#)
- 11 **Asvestari, E.**, Heinemann, S. G., Temmer, M., Pomoell, J., Kilpua, E., Magdalenic, J., & Poedts, S. (2019). Reconstructing Coronal Hole Areas With EUHFORIA and Adapted WSA Model: Optimizing the Model Parameters. *Journal of Geophysical Research (Space Physics)*, *124*(11), 8280–8297. [doi:10.1029/2019JA027173](#)
- 12 Kilpua, E. K. J., Good, S. W., Palmerio, E., **Asvestari, Eleanna**, Lumme, E., Ala-Lahti, M., ... Futaana, Y. (2019). Multipoint Observations of the June 2012 Interacting Interplanetary Flux Ropes. *Frontiers in Astronomy and Space Sciences*, *6*, 50. [doi:10.3389/fspas.2019.00050](#)
- 13 Palmroth, M., Praks, J., Vainio, R., Janhunen, P., Kilpua, E. K. J., Afanasiev, A., ... Westerlund, T. (2019). FORESAIL-1 CubeSat Mission to Measure Radiation Belt Losses and Demonstrate Deorbiting. *Journal of Geophysical Research (Space Physics)*, *124*(7), 5783–5799. [doi:10.1029/2018JA026354](#)

- 14 **Asvestari, Eleanna**, Gil, A., Kovaltsov, G. A., & Usoskin, I. G. (2017). Neutron Monitors and Cosmogenic Isotopes as Cosmic Ray Energy-Integration Detectors: Effective Yield Functions, Effective Energy, and Its Dependence on the Local Interstellar Spectrum. *Journal of Geophysical Research (Space Physics)*, 122(10), 9790–9802. [doi:10.1002/2017JA024469](https://doi.org/10.1002/2017JA024469)
- 15 **Asvestari, E.**, Willamo, T., Gil, A., Usoskin, I. G., Kovaltsov, G. A., Mikhailov, V. V., & Mayorov, A. (2017). Analysis of Ground Level Enhancements (GLE): Extreme solar energetic particle events have hard spectra. *Advances in Space Research*, 60(4), 781–787. [doi:10.1016/j.asr.2016.08.043](https://doi.org/10.1016/j.asr.2016.08.043)
- 16 **Asvestari, Eleanna**, Usoskin, I. G., Kovaltsov, G. A., Owens, M. J., Krivova, N. A., Rubinetti, S., & Taricco, C. (2017). Assessment of different sunspot number series using the cosmogenic isotope ^{44}Ti in meteorites. *Monthly Notices of the Royal Astronomical Society*, 467(2), 1608–1613. [doi:10.1093/mnras/stx190](https://doi.org/10.1093/mnras/stx190)
- 17 Sukhodolov, T., Usoskin, I., Rozanov, E., **Asvestari, Eleanna**, Ball, W. T., Curran, M. A. J., ... Traversi, R. (2017). Atmospheric impacts of the strongest known solar particle storm of 775 AD. *Scientific Reports*, 7, 45257. [doi:10.1038/srep45257](https://doi.org/10.1038/srep45257)
- 18 **Asvestari, Eleanna**, & Usoskin, I. G. (2016). An empirical model of heliospheric cosmic ray modulation on long-term time scale. *Journal of Space Weather and Space Climate*, 6, A15. [doi:10.1051/swsc/2016011](https://doi.org/10.1051/swsc/2016011)
- 19 Usoskin, I. G., Arlt, R., **Asvestari, Eleanna**, Hawkins, E., Käpylä, M., Kovaltsov, G. A., ... Vaquero, J. M. (2015). The Maunder minimum (1645-1715) was indeed a grand minimum: A reassessment of multiple datasets. *Astronomy & Astrophysics*, 581, A95. [doi:10.1051/0004-6361/201526652](https://doi.org/10.1051/0004-6361/201526652)

B Non-refereed scientific articles

- 1 **Asvestari, E.**, Heinemann, S. G., Temmer, M., Pomoell, J., Kilpua, E., Magdalenic, J., & Poedts, S. (2020). The impact of coronal hole characteristics and solar cycle activity in reconstructing coronal holes with EUHFORIA. In *Journal of physics conference series* (Vol. 1548, p. 012004). [doi:10.1088/1742-6596/1548/1/012004](https://doi.org/10.1088/1742-6596/1548/1/012004)
- 2 Gil, A., **Asvestari, E.**, Kovaltsov, G., & Usoskin, I. (2017). Heliospheric modulation of galactic cosmic rays: Effective energy of ground-based detectors. In *35th international cosmic ray conference (icrc2017)* (Vol. 301, p. 32).
- 3 Usoskin, I., **Asvestari, E.**, Willamo, T., Gil, A., Kovaltsov, G., Mikhailov, V., & Mayorov, A. (2017). Analysis of Ground-Level Enhancements: Strong events are hard. In *35th international cosmic ray conference (icrc2017)* (Vol. 301, p. 126).
- 4 **Asvestari, E.**, Usoskin, I. G., Cameron, R. H., & Krivova, N. A. (2016). Semi-empirical Long-term Reconstruction of the Heliospheric Parameters: Validation by Cosmogenic Radionuclide Records. In I. Dorotovic, C. E. Fischer, & M. Temmer (Eds.), *Coimbra solar physics meeting: Ground-based solar observations in the space instrumentation era* (Vol. 504, p. 269).
- 5 Usoskin, I., Arlt, R., **Asvestari, Eleanna**, Kovaltsov, G., Krivova, N., Lockwood, M., ... Scott, C. (2015). The Maunder minimum: A reassessment from multiple dataset. In *Iau general assembly* (Vol. 29, p. 2253036).
- 6 **Asvestari, E.**, Usoskin, I., & Kovaltsov, G. (2015). Use of cosmogenic radionuclides ^{14}C and ^{10}Be to verify empirically reconstructed cosmic ray modulation since 1616. In *34th international cosmic ray conference (icrc2015)* (Vol. 34, p. 53).
- 7 Papaioannou, A., Belov, A., Mavromichalaki, H., Eroshenko, E., Yanke, V., **Asvestari, E.**, ... Abunina, M. (2013). The first Forbush decrease of solar cycle 24. In *Journal of physics conference series* (Vol. 409, p. 012202). [doi:10.1088/1742-6596/409/1/012202](https://doi.org/10.1088/1742-6596/409/1/012202)

- 8 Gerontidou, M., Mavromichalaki, H., **Asvestari, E.**, Belov, A., & Kurt, V. (2010). Fluctuations of CMEs Characteristics During the Declining Phase of the Last Solar Cycle. In K. Tsinganos, D. Hatzidimitriou, & T. Matsakos (Eds.), *9th international conference of the hellenic astronomical society* (Vol. 424, p. 37).
- 9 Gerontidou, M., Mavromichalaki, H., **Asvestari, E.**, Papailiou, M., Belov, A., & Kurt, V. (2010). Variations of CMEs Properties during the Different Phases of the Solar Cycle 23. In A. Angelopoulos & T. Fildisis (Eds.), *7th international conference of the balkan physical union organized by the hellenic physical society with the cooperation of the physics departments of greek universities* (Vol. 1203, pp. 115–121).
 doi:10.1063/1.3322330

C Theses

- 1 Asvestari, E. (2016). *Imprints of long term solar variability on cosmic rays and terrestrial archives*. REPORT SERIES IN PHYSICAL SCIENCES, Report No. 108, 201.