

Refereed articles in 2023

- [1] P. Antolin, A. Dolliou, F. Auchère, L. P. Chitta, S. Parenti, D. Berghmans, R. Aznar Cuadrado, K. Barczynski, S. Gissot, L. Harra, Z. Huang, M. Janvier, E. Kraaikamp, D. M. Long, S. Mandal, H. Peter, L. Rodriguez, U. Schühle, P. J. Smith, S. K. Solanki, K. Stegen, L. Teriaca, C. Verbeeck, M. J. West, A. N. Zhukov, T. Appourchaux, G. Aulanier, E. Buchlin, F. Delmotte, J. M. Gilles, M. Haberreiter, J. P. Halain, K. Heerlein, J. F. Hochedez, M. Gyo, S. Poedts, and P. Rochus. Extreme-ultraviolet fine structure and variability associated with coronal rain revealed by Solar Orbiter/EUI HRI_{EUV} and SPICE. *Astron. Astrophys.*, 676:A112, August 2023.
- [2] F. Auchère, D. Berghmans, C. Dumesnil, J. P. Halain, R. Mercier, P. Rochus, F. Delmotte, S. François, A. Hermans, V. Hervier, E. Kraaikamp, E. Meltchakov, G. Morinaud, A. Philippon, P. J. Smith, K. Stegen, C. Verbeeck, X. Zhang, V. Andretta, L. Abbo, E. Buchlin, F. Frassati, S. Gissot, M. Gyo, L. Harra, G. Jerse, F. Landini, M. Mierla, B. Nicula, S. Parenti, E. Renotte, M. Romoli, G. Russano, C. Sasso, U. Schühle, W. Schmutz, E. Soubrié, R. Susino, L. Teriaca, M. West, and A. N. Zhukov. Beyond the disk: EUV coronagraphic observations of the Extreme Ultraviolet Imager on board Solar Orbiter. *Astron. Astrophys.*, 674:A127, June 2023.
- [3] D. Baker, P. Démoulin, S. L. Yardley, T. Mihailescu, L. van Driel-Gesztelyi, R. D'Amicis, D. M. Long, A. S. H. To, C. J. Owen, T. S. Horbury, D. H. Brooks, D. Perrone, R. J. French, A. W. James, M. Janvier, S. Matthews, M. Stangalini, G. Valori, P. Smith, R. Aznar Cuadrado, H. Peter, U. Schuehle, L. Harra, K. Barczynski, D. Berghmans, A. N. Zhukov, L. Rodriguez, and C. Verbeeck. Observational Evidence of S-web Source of the Slow Solar Wind. *Astrophys. J.*, 950(1):65, June 2023.
- [4] Krzysztof Barczynski, Louise Harra, Conrad Schwanitz, Nils Janitzek, David Berghmans, Frédéric Auchère, Regina Aznar Cuadrado, Éric Buchlin, Emil Kraaikamp, David M. Long, Sudip Mandal, Susanna Parenti, Hardi Peter, Luciano Rodriguez, Udo Schühle, Phil Smith, Luca Teriaca, Cis Verbeeck, and Andrei N. Zhukov. Slow solar wind sources. High-resolution observations with a quadrature view. *Astron. Astrophys.*, 673:A74, May 2023.
- [5] D. Berghmans, P. Antolin, F. Auchère, R. Aznar Cuadrado, K. Barczynski, L. P. Chitta, S. Gissot, L. Harra, Z. Huang, M. Janvier, E. Kraaikamp, D. M. Long, S. Mandal, M. Mierla, S. Parenti, H. Peter, L. Rodriguez, U. Schühle, P. J. Smith, S. K. Solanki, K. Stegen, L. Teriaca, C. Verbeeck, M. J. West, A. N. Zhukov, T. Appourchaux, G. Aulanier, E. Buchlin, F. Delmotte, J. M. Gilles, M. Haberreiter, J. P. Halain, K. Heerlein, J. F. Hochedez, M. Gyo, S. Poedts, E. Renotte, and P. Rochus. First perihelion of EUI on the Solar Orbiter mission. *Astron. Astrophys.*, 675:A110, July 2023.
- [6] 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. Verbeeck, K. Barczynski, and S. Parenti. Ultra-high-resolution observations of persistent null-point reconnection in the solar corona. *Nature Communications*, 14:2107, April 2023.
- [7] L. P. Chitta, S. K. Solanki, J. C. del Toro Iniesta, J. Woch, D. Calchetti, A. Gandorfer, J. Hirzberger, F. Kahil, G. Valori, D. Orozco Suárez, H. Strecker, T. Appourchaux, R. Volkmer, H. Peter, S. Mandal, R. Aznar Cuadrado, L. Teriaca, U. Schühle, D. Berghmans, C. Verbeeck, A. N. Zhukov, and E. R. Priest. Fleeting Small-scale Surface Magnetic Fields Build the Quiet-Sun Corona. *Astrophys. J. Lett.*, 956(1):L1, October 2023.
 - [8] L. P. Chitta, A. N. Zhukov, D. Berghmans, H. Peter, S. Parenti, S. Mandal, R. Aznar Cuadrado, U. Schühle, L. Teriaca, F. Auchère, K. Barczynski, É. Buchlin, L. Harra, E. Kraaikamp, D. M. Long, L. Rodriguez, C. Schwanitz, P. J. Smith, C. Verbeeck, and D. B. Seaton. Picoflare jets power the solar wind emerging from a coronal hole on the Sun. *Science*, 381(6660):867–872, August 2023.
 - [9] J. Gorman, L. P. Chitta, H. Peter, D. Berghmans, F. Auchère, R. Aznar Cuadrado, L. Teriaca, S. K. Solanki, C. Verbeeck, E. Kraaikamp, K. Stegen, and S. Gissot. Beyond small-scale transients: A closer look at the diffuse quiet solar corona. *Astron. Astrophys.*, 678:A188, October 2023.
 - [10] L. K. Harra, C. H. Mandrini, D. H. Brooks, K. Barczynski, C. Mac Cormack, G. Cristiani, S. Mandal, A. C. Sterling, V. Martinez Pillet, N. Janitzek, U. Schühle, D. Berghmans, F. Auchère, R. Aznar Cuadrado, E. Buchlin, E. Kraaikamp, D. Long, S. Parenti, H. Peter, L. Rodriguez, P. Smith, L. Teriaca, C. Verbeeck, and A. N. Zhukov. The source of unusual coronal upflows with photospheric abundance in a solar active region. *Astron. Astrophys.*, 675:A20, July 2023.
 - [11] Ziwen Huang, L. Teriaca, R. Aznar Cuadrado, L. P. Chitta, S. Mandal, H. Peter, U. Schühle, S. K. Solanki, F. Auchère, D. Berghmans, É. Buchlin, M. Carlsson, A. Fludra, T. Fredrik, A. Giunta, T. Grundy, D. Hassler, S. Parenti, and F. Plaschke. Imaging and spectroscopic observations of extreme-ultraviolet brightenings using EUI and SPICE on board Solar Orbiter. *Astron. Astrophys.*, 673:A82, May 2023.
 - [12] M. Janvier, S. Merguerat, P. R. Young, É. Buchlin, A. Manou, G. Pelouze, D. M. Long, L. Green, A. Warmuth, F. Schuller, P. Dérouin, D. Calchetti, F. Kahil, L. Bellot Rubio, S. Parenti, S. Baccar, K. Barczynski, L. K. Harra, L. A. Hayes, W. T. Thompson, D. Müller, D. Baker, S. Yardley, D. Berghmans, C. Verbeeck, P. J. Smith, H. Peter, R. Aznar Cuadrado, S. Musset, D. H. Brooks, L. Rodríguez, F. Auchère, M. Carlsson, A. Fludra, D. Hassler, D. Williams, M. Caldwell, T. Fredrik, A. Giunta, T. Grundy, S. Guest, E. Kraaikamp, S. Leeks, J. Plowman, W. Schmutz, U. Schühle, S. D. Sidher, L. Teriaca, S. K. Solanki, J. C. del Toro Iniesta, J. Woch, A. Gandorfer, J. Hirzberger, D. Orozco Suárez, T. Appourchaux, G. Valori, J. Sinjan, K. Albert, and R. Volkmer. A multiple spacecraft detection of

the 2 April 2022 M-class flare and filament eruption during the first close Solar Orbiter perihelion. *Astron. Astrophys.*, 677:A130, September 2023.

- [13] 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. Schühle, É. Buchlin, C. Verbeeck, R. Aznar Cuadrado, A. N. Zhukov, D. M. Long, L. Teriaca, and L. Rodriguez. Evidence of external reconnection between an erupting mini-filament and ambient loops observed by Solar Orbiter/EUI. *Astron. Astrophys.*, 673:A83, May 2023.
- [14] Sudip Mandal, Hardi Peter, Lakshmi Pradeep Chitta, Sami K. Solanki, Regina Aznar Cuadrado, Udo Schühle, Luca Teriaca, Juan Martínez-Sykora, David Berghmans, Frédéric Auchère, Susanna Parenti, Andrei N. Zhukov, Éric Buchlin, Cis Verbeeck, Emil Kraaijkamp, Luciano Rodriguez, David M. Long, Krzysztof Barczynski, Gabriel Pelouze, and Philip J. Smith. Evolution of dynamic fibrils from the cooler chromosphere to the hotter corona. *Astron. Astrophys.*, 678:L5, October 2023.
- [15] 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, and D. Berghmans. Extreme-ultraviolet brightenings in the quiet Sun: Signatures in spectral and imaging data from the Interface Region Imaging Spectrograph. *Astron. Astrophys.*, 676:A64, August 2023.
- [16] J. D. Nölke, S. K. Solanki, J. Hirzberger, H. Peter, L. P. Chitta, F. Kahil, G. Valori, T. Wiegmann, D. Orozco Suárez, K. Albert, N. Albelo Jorge, T. Appourchaux, A. Alvarez-Herrero, J. Blanco Rodríguez, A. Gandorfer, D. Germerott, L. Guerrero, P. Gutierrez-Marques, M. Kolleck, J. C. del Toro Iniesta, R. Volkmer, J. Woch, B. Fiethe, J. M. Gómez Cama, I. Pérez-Grande, E. Sanchis Kilders, M. Balaguer Jiménez, L. R. Bellot Rubio, D. Calchetti, M. Carmona, W. Deutsch, A. Feller, G. Fernandez-Rico, A. Fernández-Medina, P. García Parejo, J. L. Gasent Blesa, L. Gizon, B. Grauf, K. Heerlein, A. Korpi-Lagg, T. Lange, A. López Jiménez, T. Maue, R. Meller, A. Moreno Vacas, R. Müller, E. Nakai, W. Schmidt, J. Schou, U. Schühle, J. Sinjan, J. Staub, H. Strecker, I. Torralbo, D. Berghmans, E. Kraaijkamp, L. Rodriguez, C. Verbeeck, A. N. Zhukov, F. Auchere, E. Buchlin, S. Parenti, M. Janvier, K. Barczynski, L. Harra, C. Schwanitz, R. Aznar Cuadrado, S. Mandal, L. Teriaca, D. Long, and P. Smith. Coronal voids and their magnetic nature. *Astron. Astrophys.*, 678:A196, October 2023.
- [17] J. E. Plowman, D. M. Hassler, F. Auchère, R. Aznar Cuadrado, A. Fludra, S. Mandal, and H. Peter. SPICE point spread function correction: General framework and capability demonstration. *Astron. Astrophys.*, 678:A52, October 2023.
- [18] Hamish A. S. Reid, Sophie Musset, Daniel F. Ryan, Vincenzo Andretta, Frédéric Auchère, Deborah Baker, Federico Benvenuto, Philippa Brownning, Éric Buchlin, Ariadna Calcines Rosario, Steven D. Christe, Alain Jody Corso, Joel Dahlin, Silvia Dalla, Giulio Del Zanna, Carsten Denker,

Jaroslav Dudík, Robertus Erdélyi, Ilaria Ermolli, Lyndsay Fletcher, Andrzej Fludra, Lucie M. Green, Mykola Gordovskyy, Salvo L. Guglielmino, Iain Hannah, Richard Harrison, Laura A. Hayes, Andrew R. Inglis, Natasha L. S. Jeffrey, Jana Kašparová, Graham S. Kerr, Christian Kintziger, Eduard P. Kontar, Säm Krucker, Timo Laitinen, Philippe Laurent, Olivier Limousin, David M. Long, Shane A. Maloney, Paolo Massa, Anna Maria Massone, Sarah Matthews, Tomasz Mrozek, Valery M. Nakariakov, Susanna Parenti, Michele Piana, Vanessa Polito, Melissa Pesce-Rollins, Paolo Romano, Alexis P. Rouillard, Clementina Sasso, Albert Y. Shih, Marek Stęślicki, David Orozco Suárez, Luca Teriaca, Meetu Verma, Astrid M. Veronig, Nicole Vilmer, Christian Vocks, and Alexander Warmuth. The Solar Particle Acceleration Radiation and Kinetics (SPARK) Mission Concept. *Aerospace*, 10(12):1034, December 2023.

- [19] Daniel F. Ryan, Stuart Mumford, Will T. Barnes, Ankit Kumar Baruah, Adwait Bhope, Éric Buchlin, Nabil Freij, Adam Ginsburg, Laura A. Hayes, Derek Homeier, J. Marcus Hughes, Chris Lowder, Richard O’Steen, Baptiste Pellorce, Thomas Robitaille, Yash Sharma, David Stansby, Albert Y. Shih, Erik Tollerud, Micah J. Weberg, and Matthew J. West. A Unified Framework for Manipulating N-dimensional Astronomical Data and Coordinate Transformations in Python: The NDCube 2 and Astropy APE-14 World Coordinate System APIs. *Astrophys. J.*, 956(1):44, October 2023.
- [20] Conrad Schwanitz, Louise Harra, Cristina H. Mandrini, Alphonse C. Sterling, Nour E. Raouafi, Cecilia Mac Cormack, David Berghmans, Frédéric Auchère, Krzysztof Barczynski, Regina Aznar Cuadrado, Éric Buchlin, Emil Kraaijkamp, David M. Long, Susanna Parenti, Hardi Peter, Luciano Rodriguez, Udo Schühle, Phil Smith, Luca Teriaca, Cis Verbeeck, and Andrei N. Zhukov. Small-scale EUV features as the drivers of coronal upflows in the quiet Sun. *Astron. Astrophys.*, 674:A219, June 2023.
- [21] J. Sinjan, D. Calchetti, J. Hirzberger, F. Kahil, G. Valori, S. K. Solanki, K. Albert, N. Albelo Jorge, A. Alvarez-Herrero, T. Appourchaux, L. R. Bellot Rubio, J. Blanco Rodríguez, A. Feller, A. Gandorfer, D. Germerott, L. Gizon, J. M. Gómez Cama, L. Guerrero, P. Gutierrez-Marques, M. Kolleck, A. Korpi-Lagg, H. Michalik, A. Moreno Vacas, D. Orozco Suárez, I. Pérez-Grande, E. Sanchis Kilders, M. Balaguer Jiménez, J. Schou, U. Schühle, J. Staub, H. Strecker, J. C. del Toro Iniesta, R. Volkmer, and J. Woch. Magnetic fields inferred by Solar Orbiter: A comparison between SO/PHI-HRT and SDO/HMI. *Astron. Astrophys.*, 673:A31, May 2023.
- [22] G. Valori, D. Calchetti, A. Moreno Vacas, É. Pariat, S. K. Solanki, P. Löschl, J. Hirzberger, S. Parenti, K. Albert, N. Albelo Jorge, A. Álvarez-Herrero, T. Appourchaux, L. R. Bellot Rubio, J. Blanco Rodríguez, A. Campos-Jara, A. Feller, A. Gandorfer, P. García Parejo, D. Germerott, L. Gizon, J. M. Gómez Cama, L. Guerrero, P. Gutierrez-Marques, F. Kahil, M. Kolleck, A. Korpi-Lagg, D. Orozco Suárez, I. Pérez-Grande, E. Sanchis Kilders, J. Schou, U. Schühle, J. Sinjan, J. Staub, H. Strecker, J. C. del Toro Iniesta, R. Volkmer, and J. Woch. Stereoscopic disambiguation of vector magnetograms: First applications to SO/PHI-HRT data. *Astron. Astrophys.*, 677:A25, September 2023.

- [23] Matthew J. West, Daniel B. Seaton, David B. Wexler, John C. Raymond, Giulio Del Zanna, Yeimy J. Rivera, Adam R. Kobelski, Bin Chen, Craig DeForest, Leon Golub, Amir Caspi, Chris R. Gilly, Jason E. Kooi, Karen A. Meyer, Benjamin L. Altermann, Nathalia Alzate, Vincenzo Andretta, Frédéric Auchère, Dipankar Banerjee, David Berghmans, Phillip Chamberlin, Lakshmi Pradeep Chitta, Cooper Downs, Silvio Giordano, Louise Harra, Aleida Higginson, Russell A. Howard, Pankaj Kumar, Emily Mason, James P. Mason, Richard J. Morton, Katariina Nykyri, Ritesh Patel, Laurel Rachmeler, Kevin P. Reardon, Katharine K. Reeves, Sabrina Savage, Barbara J. Thompson, Samuel J. Van Kooten, Nicholeen M. Viall, Angelos Vourliidas, and Andrei N. Zhukov. Defining the Middle Corona. *Solar Phys.*, 298(6):78, June 2023.
- [24] D. Yang, L. Gizon, H. Barucq, J. Hirzberger, D. Orozco Suárez, K. Albert, N. Albelo Jorge, T. Appourchaux, A. Alvarez-Herrero, J. Blanco Rodríguez, A. Gandorfer, D. Germerott, L. Guerrero, P. Gutierrez-Marques, F. Kahil, M. Kolleck, S. K. Solanki, J. C. del Toro Iniesta, R. Volkmer, J. Woch, I. Pérez-Grande, E. Sanchis Kilders, M. Balaguer Jiménez, L. R. Bellot Rubio, D. Calchetti, M. Carmona, W. Deutsch, A. Feller, G. Fernandez-Rico, A. Fernández-Medina, P. García Parejo, J. L. Gasent Blesa, B. Grauf, K. Heerlein, A. Korpi-Lagg, T. Lange, A. López Jiménez, T. Maue, R. Meller, A. Moreno Vacas, R. Müller, E. Nakai, W. Schmidt, J. Schou, U. Schühle, J. Sinjan, J. Staub, H. Strecker, I. Torralbo, and G. Valori. Direct assessment of SDO/HMI helioseismology of active regions on the Sun's far side using SO/PHI magnetograms. *Astron. Astrophys.*, 674:A183, June 2023.
- [25] Stephanie L. Yardley, Christopher J. Owen, David M. Long, Deborah Baker, David H. Brooks, Vanessa Polito, Lucie M. Green, Sarah Matthews, Mathew Owens, Mike Lockwood, David Stansby, Alexander W. James, Gherardo Valori, Alessandra Giunta, Miho Janvier, Nawin Ngampoopun, Teodora Mihailescu, Andy S. H. To, Lidia van Driel-Gesztelyi, Pascal Dé-moulin, Raffaella D'Amicis, Ryan J. French, Gabriel H. H. Suen, Alexis P. Rouillard, Rui F. Pinto, Victor Réville, Christopher J. Watson, Andrew P. Walsh, Anik De Groof, David R. Williams, Ioannis Zouganelis, Daniel Müller, David Berghmans, Frédéric Auchère, Louise Harra, Udo Schuehle, Krysztof Barczynski, Éric Buchlin, Regina Aznar Cuadrado, Emil Kraakamp, Sudip Mandal, Susanna Parenti, Hardi Peter, Luciano Rodriguez, Conrad Schwanitz, Phil Smith, Luca Teriaca, Cis Verbeeck, Andrei N. Zhukov, Bart De Pontieu, Tim Horbury, Sami K. Solanki, Jose Carlos del Toro Iniesta, Joachim Woch, Achim Gandorfer, Johann Hirzberger, David Orozco Suárez, Thierry Appourchaux, Daniele Calchetti, Jonas Sinjan, Fatima Kahil, Kinga Albert, Reiner Volkmer, Mats Carlsson, Andrzej Fludra, Don Hassler, Martin Caldwell, Terje Fredrik, Tim Grundy, Steve Guest, Margit Haberreiter, Sarah Leeks, Gabriel Pelouze, Joseph Plowman, Werner Schmutz, Sunil Sidher, William T. Thompson, Philippe Louarn, and Andrei Federov. Slow Solar Wind Connection Science during Solar Orbiter's First Close Perihelion Passage. *Astrophys. J. Suppl.*, 267(1):11, July 2023.