The contents of the `svst.bib` file

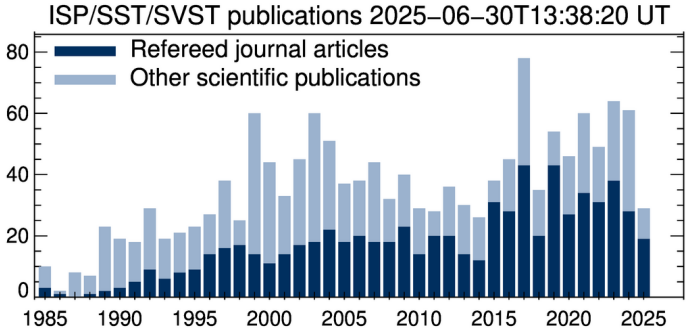
Mats Löfdahl

Institute for Solar Physics, Stockholm University

Printed 3:38pm, June 30, 2025

ABSTRACT

This document is generated mostly in order to test for serious BibTeX/LaTeX errors in `svst.bib`, a file with SST- and ISP-related publications, see `https://dubshen.astro.su.se/~lofda/publications/database/`. The document uses `natbib` and the `apalike` bibliography style.



References

Acton, D. S. (1990). *Real-time solar imaging with a 19-segment active mirror system: A study of the standard atmospheric turbulence model*. PhD thesis, Texas Technological University.

Acton, D. S., Brandt, P., Scharmer, G., Dunn, D., Tarbell, T. D., Title, A. M., and Smithson, R. C. (1987). Power Spectra of Solar Granulation. *BAAS*, 19:1118.

Amarsi, A. M., Asplund, M., Collet, R., and Leenaarts, J. (2015). The Galactic chemical evolution of oxygen inferred from 3D non-LTE spectral line formation calculations. *MNRAS*, 454:L11–L15.

Amarsi, A. M., Asplund, M., Collet, R., and Leenaarts, J. (2016). Non-LTE oxygen line formation in 3D hydrodynamic model stellar atmospheres. *MNRAS*, 455:3735–3751.

Andersson, S. (2004). Närbilder av solen ger svensk prestigepris. *NyTeknik*, 2004(45).

Antolin, P. (2012). *Implications for coronal heating and magnetic field topology from coronal rain observations*. PhD thesis, University of Oslo.

Antolin, P., Carlsson, M., Rouppe van der Voort, L., Verwichte, E., and Vissers, G. (2012a). A sharp look at coronal rain with Hinode/SOT and SST/CRISP. In Bellot Rubio, L. R., Reale, F., and Carlsson, M., editors, *Proc. 4th Hinode Science Meeting: Unsolved Problems and Recent Insights*, volume 455 of *ASP Conference Series*, pages 253–260. Astronomical Society of the Pacific.

Antolin, P. and Froment, C. (2022). Multi-Scale Variability of Coronal Loops Set by Thermal Non-Equilibrium and Instability as a Probe for Coronal Heating. *Frontiers in Astronomy and Space Sciences*, 9:820116.

Antolin, P. and Rouppe van der Voort, L. (2012). Observing the Fine Structure of Loops through High-resolution Spectroscopic Observations of Coronal Rain with the CRISP Instrument at the Swedish Solar Telescope. *ApJ*, 745:152.

Antolin, P., Shibata, K., Carlsson, M., van der Voort, L. R., Vissers, G., and Hansteen, V. (2012b). Implications for Coronal Heating from Coronal Rain. In Sekii, T., Watanabe, T., and Sakurai, T., editors, *Proc. 3rd Hinode Science Meeting*, volume 454 of *ASP Conference Series*, page 171.

Antolin, P., Vissers, G., Pereira, T. M. D., Rouppe van der Voort, L., and Scullion, E. (2015). The multi-thermal and multi-stranded nature of coronal rain. *ApJ*, 806:81.

Antolin, P., Vissers, G., and Rouppe van der Voort, L. (2012c). On-disk coronal rain. *Sol. Phys.*, 280(2):457–474.

Anugu, N. and Garcia, P. (2016). Efficient Solar Scene Wavefront Estimation with Reduced Systematic and RMS Errors: Summary. In Dorotovič, I., Fischer, C., and Temmer, M., editors, *Ground-based Solar Observations in the Space Instrumentation Era*, volume 504 of *ASP Conf. Ser.*, page 113.

Anugu, N., Garcia, P. J. V., and Correia, C. M. (2018). Peak-locking centroid bias in Shack-Hartmann wavefront sensing. *MNRAS*, 476(1):300–306.

Archontis, V. and Dorch, B. (1999). Numerical Simulations of Dynamos Associated with ABC Flows. In Nunez, M. and Ferriz-Mas, A., editors, *Stellar Dynamos: Non-linearity and Chaotic Flows*, volume 178 of *ASP Conf. Ser.*, pages 1–11.

Archontis, V., Dorch, S. B. F., and Nordlund, Å. (2003). Numerical simulations of kinematic dynamo action. *A&A*, 397:393–399.

Armstrong, J. (2020). Learning to Invert Solar Flares with RADYN Physics. ESPOS seminar on 2020-02-20.

Armstrong, J. A. and Fletcher, L. (2021). A machine-learning approach to correcting atmospheric seeing in solar flare observations. *MNRAS*, 501(2):2647–2658.

Arramy, D. (2024). *Jacobian-Free Newton-Krylov method for multilevel NLTE radiative transfer problems*. Licentiate thesis, Stockholm University.

Arramy, D., de la Cruz Rodríguez, J., and Leenaarts, J. (2024). Jacobian-free Newton-Krylov method for multilevel nonlocal thermal equilibrium radiative transfer problems. *A&A*, 690:A12.

Aschwanden, M. J., Crosby, N. B., Dimitropoulou, M., Georgoulis, M. K., Hergarten, S., McAteer, J., Milovanov, A. V., Mineshige, S., Morales, L., Nishizuka, N., Pruessner, G., Sanchez, R., Sharma, A. S., Strugarek, A., and Uritsky, V. (2016). 25 years of self-organized criticality: Solar and astrophysics. *Space Sci. Rev.*, 198(1-4):47–166.

Aschwanden, M. J., De Pontieu, B., and Katrukha, E. A. (2013). Optimization of Curvilinear Tracing Applied to Solar Physics and Biophysics. *Entropy*, 15(8):3007–3030.

Asensio Ramos, A. (2024). Solar multi-object multi-frame blind deconvolution with a spatially variant convolution neural emulator. *A&A*, 688:A88.

Asensio Ramos, A. and de la Cruz Rodríguez, J. (2014). New generation Stokes inversion codes. In Nagendra, K. N., Bagnulo, S., Centeno, R., and Jesús Martínez González, M., editors, *Polarimetry: From the Sun to Stars and Stellar Environments*, volume 10 of *Proc. IAU*, pages 225–233. Symposium 305.

Asensio Ramos, A. and de la Cruz Rodríguez, J. (2015). Sparse inversion of Stokes profiles. I. Two-dimensional Milne-Eddington inversions. *A&A*, 577:A140.

Asensio Ramos, A., de la Cruz Rodríguez, J., Martínez González, M. J., and Pastor Yabar, A. (2016). Inversion of Stokes profiles with systematic effects. *A&A*, 590:A87.

Asensio Ramos, A., de la Cruz Rodríguez, J., Martínez González, M. J., and Socas-Navarro, H. (2017). Inference of the chromospheric magnetic field orientation in the Ca II 8542 Å line fibrils. *A&A*, 599:A133.

Asensio Ramos, A., de la Cruz Rodriguez, J., and Pastor Yabar, A. (2018). Real-time, multiframe, blind deconvolution of solar images. *A&A*, 620:A73.

Asensio Ramos, A. and Diaz Baso, C. (2019). Stokes Inversion based on Convolutional Neural Networks. *A&A*, 626:A102.

Asensio Ramos, A., Díaz Baso, C. J., and Kochukhov, O. (2022). Approximate Bayesian Neural Doppler Imaging. *A&A*, 658:A162.

Asensio Ramos, A., Esteban Pozuelo, S., and Kuckein, C. (2023). Accelerating Multiframe Blind Deconvolution via Deep Learning. *Sol. Phys.*, 298(7):91.

Asensio Ramos, A. and López Ariste, A. (2010). Image reconstruction with analytical point spread functions. *A&A*, 518:A6.

Asensio Ramos, A. and Olspert, N. (2021). Learning to do multiframe wavefront sensing unsupervisedly: applications to blind deconvolution. *A&A*, 646:A100.

Ashfield, W., Polito, V., Lörinčík, J., De Pontieu, B., Chintzoglou, G., Bose, S., Freij, N., Rouppe van der Voort, L., Joshi, R., and Thoen Faber, J. (2025). Spectroscopic Observations of Solar Flare Pulsations Driven by Oscillatory Reconnection. In *American Astronomical Society Meeting Abstracts*, volume 246 of *American Astronomical Society Meeting Abstracts*, page 210.08.

Asplund, M., Carlsson, M., Garcia Perez, A. E., and Kiselman, D. (2000). Oxygen Line Formation in 3D Hydrodynamical Model Atmospheres. In *Oxygen Abundances in Old Stars and Implications to Nucleosynthesis and Cosmology*, volume 24 of *IAU Joint Discussion*, page 8. 24th meeting of the IAU.

Asplund, M., Grevesse, N., Sauval, A. J., Allende Prieto, C., and Kiselman, D. (2004). Line formation in solar granulation: IV. [O I], O I and OH lines and the photospheric O abundance. *A&A*, 417:751–768.

Asplund, M., Grevesse, N., Sauval, A. J., Allende Prieto, C., and Kiselman, D. (2005). Erratum: Line formation in solar granulation. IV. [O I], O I and OH lines and the photospheric O abundance. *A&A*, 435:339–340.

Asplund, M., Gustafsson, B., Kiselman, D., and Eriksson, K. (1997a). (erratum) line-blanketed model atmospheres for R Coronæ Borealis stars and hydrogen-deficient carbon stars. *A&A*, 323:286.

Asplund, M., Gustafsson, B., Kiselman, D., and Eriksson, K. (1997b). Line-blanketed model atmospheres for R Coronæ Borealis stars and hydrogen-deficient carbon stars. *A&A*, 318:521–534.

Astley, V., Komm, R., and Howe, R. (2004). Acoustic power maps of high spatial resolution sunspot data. *BAAS*, 34(2):757.

Astronomy Now (2003). Into the heart of a sunspot. Astronomy Now, Vol. 17, No. 1, p. 25.

Bågenholm, T. (2013). Solar limb darkening. Bachelor's thesis, Stockholm University.

Bakke, H. (2023). *Impact of nanoflare heating in the lower solar atmosphere*. PhD thesis, University of Oslo.

Ballesteros, E., Collados, M., Bonet, J. A., Lorenzo, F., Viera, T., Reyes, M., and Rodrigues Hidalgo, I. (1996). Two-dimensional, high spatial resolution, solar spectroscopy using a correlation tracker. I. Correlation tracker description. *A&AS*, 115:353–365.

Balmaceda, L., Vargas Domínguez, S., Palacios, J., Cabello, I., and Domingo, V. (2010). Evidence of small-scale magnetic concentrations dragged by vortex motion of solar photospheric plasma. *A&A*, 513:L6.

Balmaceda, L. A., Palacios, J., Cabello, I., and Domingo, V. (2009). Observations of Magnetic Elements in the Quiet Sun Internetwork. In B. Lites and M. Cheung and T. Magara and J. Mariska and K. Reeves, editor, *The Second Hinode Science Meeting: Beyond Discovery-Toward Understanding*, volume 415 of *ASP Conference Series*, page 156.

Bard, S. and Carlsson, M. (1997). Shock signature in sunspots. In Wilson, A., editor, *The Corona and Solar Wind Near Minimum Activity*, volume 404 of *ESA SP*, pages 189–191. Proc. Fifth SOHO Workshop.

Bastian, T. S., Chintzoglou, G., De Pontieu, B., Shimojo, M., Schmit, D., Leenaarts, J., and Loukitcheva, M. (2017). A First Comparison of Millimeter Continuum and Mg II Ultraviolet Line Emission from the Solar Chromosphere. *ApJ*, 845:L19.

Battaglia, A. F., Canivete Cuissa, J. R., Calvo, F., Bossart, A. A., and Steiner, O. (2021). The Alfvénic nature of chromospheric swirls. *A&A*, 649:A121.

Baum, R. (1997). An observation of Mercury and its history. *Journal of the British Astronomical Association*, 107:38.

Beckman Berg, G. (2022). Observing the radial velocity of the sun with the albanova heliostat. Bsc thesis, Stockholm University.

Bein, B., Veronig, A., Rybak, J., Gömöry, P., Berkebile-Stoiser, S., and Sütterlin, P. (2009). Multi-wavelength Observations of Microflares Near an Active Region. *Central European Astrophysical Bulletin*, 33:179–182.

Bell, E., Cadavid, A. C., Lawrence, J. K., and Berger, T. E. (2002). Mesogranulation from principal component analysis of SVST photospheric continuum images. *BAAS*, 34:699.

Bello González, N., Bellot Rubio, L. R., Ortiz, A., Rezaei, R., Rouppe van der Voort, L., and Schlichenmaier, R. (2012). Comparing Simultaneous Measurements of two High-Resolution Imaging Spectropolarimeters: The 'Göttingen' FPI@VTT and CRISP@SST. In Rimmele, T. R., Tritschler, A., Wöger, F., Collados Vera, M., Socas-Navarro, H., Schlichenmaier, R., Carlsson, M., Berger, T., Cadavid, A., Gilbert, P. R., Goode, P. R., and Knölker, M., editors, *The Second ATST-EAST Meeting: Magnetic Fields from the Photosphere to the Corona*, volume 463 of *Astronomical Society of the Pacific Conference Series*, page 251.

Bellot Rubio, L. R., Langhans, K., and Schlichenmaier, R. (2005). Multi-line spectroscopy of dark cored penumbral filaments. *A&A*, 443(1):L7–L10.

Bellot Rubio, L. R., Schlichenmaier, R., and Langhans, K. (2010). Searching for overturning convection in penumbral filaments: slit spectroscopy at 0.2 arcsec resolution. *ApJ*, 725(1):11–16.

Bergemann, M., Hoppe, R., Semenova, E., Carlsson, M., Yakovleva, S. A., Voronov, Y. V., Bautista, M., Nemer, A., Belyaev, A. K., Leenaarts, J., Mashonkina, L., Reiners, A., and Ellwarth, M. (2021). Solar oxygen abundance. *MNRAS*, 508(2):2236–2253.

Berger, T. (1996). Observation and analysis of small-scale solar magnetic structure. *BAAS*, 188:33.12.

Berger, T., De Pontieu, B., Schrijver, C., Title, A., and Scharmer, G. B. (1999a). Coordinated observations of transition region dynamics using TRACE and the SVST. In Rimmele, T., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations and Techniques*, volume 183 of *ASP Conf. Ser.*, page 365.

Berger, T., Lites, B., Martinez-Pillet, V., Tarbell, T., and Title, A. (2001). Intercomparison of SOUP, ASP, LPSP, and MDI magnetograms. *Eos Trans. AGU*, pages SP51B–12. Spring Meet. Suppl.

Berger, T., Schrijver, C., Shine, R., Tarbell, T., Title, A., and Scharmer, G. B. (1995a). Motion and evolution of solar magnetic elements. *BAAS*, 187:101.04.

Berger, T., Shine, R., Tarbell, T., Title, A., and Scharmer, G. (1994). On the relation between facular bright points and the magnetic fields. *BAAS*, 185:86.07.

Berger, T. E. (1997). *Observation and Analysis of Small-Scale Solar Magnetic Structure*. PhD thesis, Stanford University.

Berger, T. E. (1999). High resolution observations and modeling of small-scale solar magnetic elements. Annual report NASA SR&T contract NASW-98008, Lockheed-Martin Solar and Astrophysics Laboratory.

Berger, T. E. (2001). High Resolution Observations and Modeling of Small-Scale Solar Magnetic Elements. Technical Report HRMSS-99-01, LMSAL.

Berger, T. E. and Berdyugina, S. V. (2003). The observation of sunspot light-bridge structure and dynamics. *ApJ*, 589(2):L117–L121.

Berger, T. E., de Pontieu, B., Fletcher, L., Schrijver, C. J., Tarbell, T. D., and Title, A. M. (1999b). What is moss? *Sol. Phys.*, 190:409.

Berger, T. E., De Pontieu, B., Schrijver, C. J., and Title, A. M. (1999). Dynamics of transition region moss. *BAAS*, 194(3):79.01.

Berger, T. E., De Pontieu, B., Schrijver, C. J., and Title, A. M. (1999). High resolution imaging of the solar chromosphere/corona transition region. *ApJ*, 519(1):L97–L100.

Berger, T. E. and Lites, B. W. (2002). Weak-Field Magnetogram Calibration using Advanced Stokes Polarimeter Flux-Density Maps - I. Solar Optical Universal Polarimeter Calibration. *Sol. Phys.*, 208:181–210.

Berger, T. E., Löfdahl, M. G., and Bercik, D. J. (2002). Observation and modelling of micropore formation in active network regions. *BAAS*.

Berger, T. E., Löfdahl, M. G., Scharmer, G., and Title, A. M. (2003). Observations of magnetoconvection in sunspots with 100 km resolution. *BAAS*, 35(3):11.08.

Berger, T. E., Löfdahl, M. G., Shine, R. A., and Title, A. M. (1997). Measurements of magnetic element dynamics in the network. *BAAS*, 28(2):02.19.

Berger, T. E., Löfdahl, M. G., Shine, R. A., and Title, A. M. (1998a). Measurements of solar magnetic element dispersal. *ApJ*, 506(1):439–449.

Berger, T. E., Löfdahl, M. G., Shine, R. A., and Title, A. M. (1998b). Measurements of solar magnetic element motion from high resolution filtergrams. *ApJ*, 495(2):973–983.

Berger, T. E., Rouppe van der Voort, L., and Löfdahl, M. (2007). Contrast Analysis of Solar Faculae and Magnetic Bright Points. *ApJ*, 661(2):1272–1288.

Berger, T. E., Rouppe van der Voort, L., and Löfdahl, M. G. (2005). High resolution magnetogram measurements of solar faculae. *AGU Spring Meeting Abstracts*, pages SP31A–02.

Berger, T. E., Rouppe van der Voort, L. H. M., Löfdahl, M. G., Carlsson, M., Fossum, A., Hansteen, V. H., Marthinussen, E., Title, A., and Scharmer, G. (2004a). Solar magnetic elements at 0.″1 resolution – General appearance and magnetic structure. *A&A*, 428:613–628.

Berger, T. E., Rouppe van der Voort, L. H. M., Löfdahl, M. G., Carlsson, M., Fossum, A., Hansteen, V. H., Marthinussen, E., Title, A. M., and Scharmer, G. (2004b). Observations of solar magnetic elements with 0.″1 resolution. *BAAS*, 34(2):20.05.

Berger, T. E., Schrijver, C. J., Shine, R. A., Tarbell, T. D., Title, A. M., and Scharmer, G. B. (1995b). New observations of subarcsecond photospheric bright points. *ApJ*, 454:531.

Berger, T. E. and Title, A. M. (1996). On the dynamics of small-scale solar magnetic elements. *ApJ*, 463:365.

Berger, T. E. and Title, A. M. (2001). On the relation of G-band bright points to the photospheric magnetic field. *ApJ*, 553:449–469.

Berger, T. E. and Title, A. M. (2004). Recent progress in high-resolution observations. In Sakurai, T. and Sekii, T., editors, *The Solar-B Mission and the Forefront of Solar Physics*, volume 325 of *ASP Conf. Ser.*, page 95.

Berger, T. E., Title, A. M., Tarbell, T., Rouppe van der Voort, L., Löfdahl, M. G., and Scharmer, G. B. (2007). What are 'Faculae'? In Shibata, K., Nagata, S., and Sakurai, T., editors, *New Solar Physics with Solar-B Mission*, volume 369 of *ASP Conference Series*, page 103.

Berkebile-Stoiser, S., Gömöry, P., Veronig, A. M., Rybák, J., and Sütterlin, P. (2009). Multi-wavelength fine structure and mass flows in solar microflares. *A&A*, 505:811–823.

Berkefeld, T., Bettonvil, F., Collados, M., López, R., Martín, Y., Peñate, J., Pérez, A., Scharmer, G. B., Sliepen, G., Soltau, D., Waldmann, T. A., and van Werkhoven, T. (2010a). Site-seeing measurements for the European Solar Telescope. In Stepp, L. M., Gilmozzi, R., and Hall, H. J., editors, *Ground-based and Airborne Telescopes III*, volume 7733 of *Proc. SPIE*.

Berkefeld, T., Soltau, D., Del Moro, D., and Löfdahl, M. (2010b). Wavefront sensing and wavefront reconstruction for the 4m European Solar Telescope EST. In Ellerbroek, B. L., Hart, M., Hubin, N., and Wizinowich, P. L., editors, *Adaptive Optics Systems II*, volume 7736 of *Proc. SPIE*.

Bernasconi, P. N., Keller, C. U., Solanki, S. K., and Stenflo, J. O. (1998). Complex magnetic fields in an active region. *A&A*, 329:704–720.

Bernasconi, P. N. and Solanki, S. K. (1996). Inversion of Stokes vector profiles in terms of a 3-component model. *Solar Physics*, 164(1-2):277–290.

Berrilli, F., Del Moro, D., Giovannelli, L., Liberati, F., Reda, R., and Scharmer, G. (2023). NBI Review and Analysis of tolerances. Deliverable D6.15, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Bharti, L., Hirzberger, J., and Solanki, S. K. (2013). Fine structures in the atmosphere above a sunspot umbra. *A&A*, 552:L1.

Bharti, L., Solanki, S. K., and Hirzberger, J. (2017). Lambda-shaped jets from a penumbral intrusion into a sunspot umbra: a possibility for magnetic reconnection. *A&A*, 597:A127.

Bhatnagar, A. (2025). *Spectral and topological study of small-scale energetic events in the solar atmosphere*. PhD thesis, University of Oslo.

Bhatnagar, A., Prasad, A., Nóbrega-Siverio, D., Rouppe van der Voort, L., and Joshi, J. (2025). Small-scale dynamic phenomena associated with interacting fan-spine topologies: quiet-Sun Ellerman bombs, UV brightenings, and chromospheric inverted-Y-shaped jets. *A&A*, 698:A174.

Bhatnagar, A., Prasad, A., Rouppe van der Voort, L., Nóbrega-Siverio, D., and Joshi, J. (2024a). Magnetic Topology of quiet-Sun Ellerman bombs and associated Ultraviolet brightenings. *A&A*, 693:A221.

Bhatnagar, A., Rouppe van der Voort, L., and Joshi, J. (2024b). Transition region response to Quiet Sun Ellerman Bombs. *A&A*, 689:A156.

Bida, T. A., Lites, B. W., Johannesson, A., and Scharmer, G. B. (1990). High resolution spectroscopy of penumbral fine structure. *BAAS*, 22:880.

Bjørgen, J. P. (2017). Non-LTE 3D radiative transfer with a Multigrid Solver. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 24.

Bjørgen, J. P. (2019). *The synthetic chromosphere: Results and techniques with a numerical approach*. PhD thesis, Stockholm University.

Bjørgen, J. P. and Leenaarts, J. (2017). Numerical non-LTE 3D radiative transfer using a multigrid method. *A&A*, 599:A118.

Bjørgen, J. P., Leenaarts, J., Rempel, M., Cheung, M. C. M., Danilovic, S., de la Cruz Rodríguez, J., and Sukhorukov, A. V. (2019). Three-dimensional modeling of chromospheric spectral lines in a simulated active region. *A&A*, 631:A33.

Bjørgen, J. P., Sukhorukov, A. V., Leenaarts, J., Carlsson, M., de la Cruz Rodríguez, J., Scharmer, G. B., and Hansteen, V. H. (2018). Three-dimensional modeling of the Ca II H and K lines in the solar atmosphere. *A&A*, 611:A62.

Blanchflower, S. M., Rucklidge, A., and Weiss, N. O. (1998). Modelling photospheric magnetoconvection. *MNRAS*, 301:593–608.

Blewett, D. T. and Warell, J. (2003). New Ground-based Spectral Observations of Mercury and Comparison with the Moon. In Mackwell, S. and Stansbery, E., editors, *Lunar and Planetary Science Conference*, volume 34 of *Lunar and Planetary Inst. Technical Report*.

Blomberg, H. L. A. (1999). Adaptive optics for the Swedish vacuum solar telescope. Master's thesis, Royal Institute of Technology (KTH), Stockholm, Sweden.

Bogdan, T. J., Rosenthal, C. S., Carlsson, M., Hansteen, V., McMurry, A., Zita, E. J., Johnson, M., Petty-Powell, S., McIntosh, S. W., Nordlund, Å., Stein, R. F., and Dorch, S. B. F. (2002). Waves in magnetic flux concentrations: The critical role of mode mixing and interference. *Astronomische Nachrichten*, 323:196–202.

Bonet, J. A. (1999). High spatial resolution imaging in solar physics. In Hanslmeier, A. and Messerotti, M., editors, *Motions in the Solar Atmosphere*, volume 239 of *Astrophysics and Space Science Library*, pages 1–34. Kluwer.

Bonet, J. A. (2002). On the SUNRISE parameters in relation to phase diversity. In *Proc. 2nd Sunrise Technical Workshop*, MPAe, Katlenburg-Lindau, Germany.

Bonet, J. A. (2006). Ground-based solar telescopes. In Briand, C., editor, *International Heliophysical Year: European General assembly*. IHY European Steering Committee.

Bonet, J. A., Cabello, I., and Sánchez Almeida, J. (2012). Center-to-limb variation of the area covered by magnetic bright points in the quiet Sun. *A&A*, 539:A6.

Bonet, J. A. and Márquez, I. (2003). Phase diversity reconstruction of long time series observations at the SVST. In Trujillo Bueno, J. and Sánchez Almeida, J., editors, *Proc. Third International Workshop on: Solar Polarization*, volume 307 of *ASP Conf. Series*, pages 137–144, Puerto de la Cruz, Tenerife, Spain, 30 Sept-4 Oct.,2002.

Bonet, J. A., Márquez, I., Muller, R., M., S., and Roudier, T. (2005). Phase diversity restoration of sunspot images II. Dynamics around a decaying sunspot. *A&A*, 430:1089–1097.

Bonet, J. A., Márquez, I., Muller, R., Sobotka, M., and Tritschler, A. (2004). Phase diversity restoration of sunspot images. I. Relations between penumbral and photospheric features. *A&A*, 423:737–744.

Bonet, J. A., Márquez, I., and Sánchez Almeida, J. (2006). Proper motions in sunspot penumbrae: Signs of convection. In Casini, R. and Lites, B. W., editors, *Solar Polarization 4*, volume 358 of *ASP Conf. Series*, pages 80–83, Boulder.

Bonet, J. A., Márquez, I., Sánchez Almeida, J., Cabello, I., and Domingo, V. (2008). Convectively Driven Vortex Flows in the Sun. *ApJ*, 687:L131–L134.

Bonet, J. A., Sobotka, M., and Vázquez, M. (1994). Partial solar eclipse of 10 May 1994: First results. *Noticias del Instituto de Astrofísica de Canarias*, 1994(2):10.

Bonet, J. A., Sobotka, M., and Vázquez, M. (1995a). Photometry of sunspot pores from partial eclipse observations. *A&A*, 296:241–247.

Bonet, J. A., Sobotka, M., and Vázquez, M. (1995b). Solar eclipse 10 May 1994: Image reconstruction and photometry of pores. In Saniga, M., editor, *JOSO Annual Report 1994*, page 174.

Borrero, J. M. and Ichimoto, K. (2011). Magnetic Structure of Sunspots. *Living Reviews in Solar Physics*, 8(4).

Borrero, J. M., Jafarzadeh, S., Schüssler, M., and Solanki, S. K. (2017). Solar Magnetoconvection and Small-Scale Dynamo. Recent Developments in Observation and Simulation. *Space Sci. Rev.*, 210(1-4):275–316.

Borrero, J. M., Jafarzadeh, S., Schüssler, M., and Solanki, S. K. (2018). Solar Magnetoconvection and Small-Scale Dynamo. In Balogh, A., Cliver, E., Petrie, G., Solanki, S., Thompson, M., and von Steiger, R., editors, *Solar Magnetic Fields*, volume 57 of *Space Sciences Series of ISSI*, pages 275–316. Springer Netherlands. ISBN: 978-94-024-1520-9.

Borrero, J. M., Milić, I., Pastor Yabar, A., Kaithakkal, A. J., and de la Cruz Rodríguez, J. (2024a). One-dimensional, geometrically stratified semi-empirical models of the quiet-Sun photosphere and lower chromosphere. *A&A*, 688:A56.

Borrero, J. M., Milic, I., Pastor Yabar, A., Kaithakkal, A. J., and de La Cruz Rodriguez, J. (2024b). VizieR Online Data Catalog: Quiet-Sun photosphere and lower chromosphere (Borrero+, 2024). VizieR On-line Data Catalog: J/A+A/688/A56. Originally published in: 2024A&A...688A..56B.

Borrero, J. M. and Pastor Yabar, A. (2023). Combining magneto-hydrostatic constraints with Stokes profiles inversions. III. Uncertainty in the inference of electric currents. *A&A*, 669:A122.

Borrero, J. M., Pastor Yabar, A., and Ruiz Cobo, B. (2021). Combining magneto-hydrostatic constraints with Stokes profiles inversions. II. Application to Hinode/SP observations. *A&A*, 647:A190.

Borrero, J. M., Pastor Yabar, A., and Ruiz Cobo, B. (2024c). Combining magneto-hydrostatic constraints with Stokes profile inversions. IV. Imposing $\nabla \cdot \mathbf{B} = 0$ condition. *A&A*.

Bose, S. (2021). *On the dynamics of spicules and mass flows in the solar atmosphere*. PhD thesis, University of Oslo.

Bose, S., Henriques, V. M. J., Joshi, J., and Rouppe van der Voort, L. (2019a). Characterization and formation of on-disk spicules in the Ca II K and Mg II k spectral lines. *ApJ*, 631:L5.

Bose, S., Henriques, V. M. J., Joshi, J., and Rouppe van der Voort, L. (2020). Characterization and formation of on-disk spicules in the Ca II K and Mg II k spectral lines (Corrigendum). *A&A*, 637:C1.

Bose, S., Henriques, V. M. J., Rouppe van der Voort, L., and Pereira, T. M. D. (2019b). Semi-empirical model atmospheres for the chromosphere of the sunspot penumbra and umbral flashes. *A&A*, 627:A46.

Bose, S., Joshi, J., Henriques, V. M. J., and Rouppe van der Voort, L. (2021a). Spicules and downflows in the solar chromosphere. *A&A*, 647:A147.

Bose, S., Nóbrega Siverio, D., De Pontieu, B., and Rouppe van der Voort, L. (2022). On the relationship between spicules and coronal bright points. In *44th COSPAR Scientific Assembly*, volume 44, page 2522.

Bose, S., Nóbrega-Siverio, D., De Pontieu, B., and Rouppe van der Voort, L. (2023). The Chromosphere Underneath a Coronal Bright Point. *ApJ*, 944(2):171.

Bose, S., Rouppe van der Voort, L., Joshi, J., Henriques, V. M. J., Nóbrega-Siverio, D., Martínez-Sykora, J., and De Pontieu, B. (2021b). Evidence of the multi-thermal nature of spicular downflows. Impact on solar atmospheric heating. *A&A*, 654:A51.

Bovelet, B. and Wiehr, E. (2001). A new algorithm for pattern recognition and its application to granulation and limb faculae. *Sol. Phys.*, 201:13–26.

Brandt, P. and Wöhl, H. (1998). Solar granulation. Educational video, Institut für den Wissenschaftlichen Film. video.

Brandt, P. N., Erasmus, A., Fuentes Gandia, J., and Kusoffsky, U. (1987). Specification of LEST site survey program 1987–88. *LEST Foundation, Technical Report*, 26:89–96.

Brandt, P. N., Erasmus, D. A., Kusoffsky, U., Righini, A., Rodriguez, A., and Engvold, O. (1989a). *Addendum to Technical Report No. 38: comments of the LEST Site Investigation Team on the referee's reports*. Inst. for Teoretisk Astrofysikk, Oslo.

Brandt, P. N., Erasmus, D. A., Kusoffsky, U., Righini, A., Rodríguez, A., and Engvold, O. (1989b). *Results and conclusions from the meteorological phase of the LEST site survey*. Inst. for Teoretisk Astrofysikk, Oslo.

Brandt, P. N., Ferguson, S., Scharmer, G. B., Shine, R. A., Tarbell, T. D., Title, A. M., and Topka, K. (1991a). Variation of granulation properties on a mesogranular scale. *A&A*, 241:219–226.

Brandt, P. N., Ferguson, S. H., Scharmer, G. B., Shine, R. A., Tarbell, T. D., Title, A. M., and Topka, K. P. (1989a). Variations of granulation properties on a meso-granulation scale. In von der Lühe, O., editor, *High Spatial Resolution Solar Observations*, page 473. Proc. 10th Sacramento Peak Summer Workshop.

Brandt, P. N. and Getling, A. V. (2004). Contrast of time-averaged images of the solar granulation. In Stepanov, A. V., Benevolenskaya, E. E., and Kosovichev, A. G., editors, *Multi Wavelength Investigations of Solar Activity*, volume 223 of *IAU Symposium*, pages 231–232. Cambridge University Press.

Brandt, P. N. and Getling, A. V. (2008). Do long-lived features really exist in the solar photosphere? II. Contrast of time-averaged granulation images. *Sol. Phys.*, 249(2):307–314.

Brandt, P. N., Rutten, R. J., Shine, R. A., and Trujillo Bueno, J. (1991b). Dynamics of the quiet solar atmosphere: K_{2V} cell grains versus magnetic elements. In *Proc. of the Cool Star Workshop*, Cambridge MA.

Brandt, P. N., Rutten, R. J., Shine, R. A., and Trujillo Bueno, J. (1992). Dynamics of the quiet solar atmosphere: K_{2V} cell grains versus magnetic elements. In Giampapa, M. S. and Bookbinder, J. A., editors, *Cool Stars, Stellar Systems, and the Sun*, volume 26 of *ASP Conf. Ser.*, pages 161–164. Proc. Seventh Cambridge Workshop.

Brandt, P. N., Rutten, R. J., Shine, R. A., and Trujillo Bueno, J. (1994). On photospheric flows and chromospheric corks. In Rutten, R. J. and Schrijver, C. J., editors, *Solar Surface Magnetism*, volume 433 of *NATO ASI Series C*, page 251.

Brandt, P. N., Scharmer, G. B., Ferguson, S. H., Shine, R. A., Tarbell, T. D., and Title, A. M. (1988). Vortex flow in the solar photosphere. *Nature*, 335(6187):238–240.

Brandt, P. N., Scharmer, G. B., Ferguson, S. H., Shine, R. A., Tarbell, T. D., and Title, A. M. (1989b). Vortex motion of the solar granulation. In Rutten, R. J. and Severino, G., editors, *Solar and Stellar Granulation*, volume 263 of *NATO ASI Series C*, page 305. Kluwer Academic Publishers.

Brooks, D. H., Kurokawa, H., and Berger, T. E. (2007). An Hα surge provoked by moving magnetic features near an emerging flux region. *ApJ*, 656:1197–1207.

Brooks, D. H., Kurokawa, H., Yoshimura, K., Kozu, H., and Berger, T. E. (2003). A study of the causal relationship between the emergence of a twisted magnetic flux rope and a small halpha two-ribbon flare. *A&A*, 411:273–290.

Brunvoll, A. R. (2024). A Co-Spatial, Co-Temporal View of the Solar Chromosphere in the Balmer H-alpha and H-beta Spectral Lines. Master's thesis, University of Oslo.

Buehler, D., Esteban Pozuelo, S., de la Cruz Rodriguez, J., and Scharmer, G. B. (2019). The Dark Side of Penumbral Microjets: Observations in Hα. *ApJ*, 876(1):47.

Buehler, D., Lagg, A., van Noort, M., and Solanki, S. K. (2019). A comparison between solar plage and network properties. *A&A*, 630:A86.

Burtscher, L., Politopoulos, I., Fernández-Acosta, S., Agocs, T., van den Ancker, M., van Boekel, R., Brandl, B., Käufl, H. U., Pantin, E., Pietrow, A. G. M., Siebenmorgen, R., Stuik, R., Tristram, K. R. W., and de Wit, W.-J. (2020). Towards a physical understanding of the thermal background in large ground-based telescopes. In Evans, C. J., Bryant, J. J., and Motohara, K., editors, *Ground-based and Airborne Instrumentation for Astronomy VIII*, volume 11447 of *Proc. SPIE*, pages 1678–1694. International Society for Optics and Photonics, SPIE.

Bush, R. I., Shine, R. A., Brandt, P., Sobotka, M., and Scharmer, G. (2000). Coordinated MDI/TRACE/SVST observations of sunspots. *BAAS*, 32(1):0122. AAS/Solar Physics Division Meeting.

Bylund, T. (2016). Studies of unidentified lines in the solar spectrum. Master thesis, Stockholm University.

Cabello, I., Domingo, V., Bonet, J. A., Blanco Rodríguez, J., and Balmaceda, L. A. (2013). Study of small magnetic structures in the solar photosphere. In Guirado, J. C., Lara, L. M., Quilis, V., and Gorgas, J., editors, *Highlights of Spanish Astrophysics VII*, pages 805–805. Proceedings of the X Scientific Meeting of the Spanish Astronomical Society (SEA).

Cabello, I., Nóbrega Siverio, D., Rouppe van der Voort, L., Bose, S., and Moreno-Insertis, F. (2022). A textbook example of magnetic flux emergence leading to EBs, UV bursts, surges and EUV signatures. In *44th COSPAR Scientific Assembly*, volume 44, page 2531.

Cadavid, A. C., Lawrence, J. K., Berger, T. E., and Ruzmaikin, A. (2003). Photospheric sources and brightening of the internetwork chromosphere. *ApJ*, 586:1409–1416.

Cadavid, A. C., Lawrence, J. K., and Ruzmaikin, A. A. (1999). Anomalous diffusion of solar magnetic elements. *ApJ*, 521(2):844–850.

Cadavid, A. C., Lawrence, J. K., Ruzmaikin, A. A., and Kayleng-Knight, A. (1994). Multifractal models of small-scale solar magnetic fields. *ApJ*, 429:391–399.

Cadavid, C., Lawrence, J., and Ruzmaikin, A. (2001). Magnetic footpoint motions and superdiffusion. *Eos Trans. AGU*, pages SP51B–07. Spring Meet. Suppl.

Canocchi, G., Lind, K., Lagae, C., Pietrow, A. G. M., Amarsi, A. M., Kiselman, D., Andriienko, O., and Hoeijmakers, H. J. (2023). VizieR Online Data Catalog: NaI 5896, KI 769 SST normalized line profiles (Canocchi+, 2024). VizieR Online Data Catalog: J/A+A/683/A242. Originally published in: 2024A&A...683A.242C.

Canocchi, G., Lind, K., Lagae, C., Pietrow, A. G. M., Amarsi, A. M., Kiselman, D., Andriienko, O., and Hoeijmakers, H. J. (2024). 3D non-LTE modeling of the stellar center-to-limb variation for transmission spectroscopy studies: Na I D and K I resonance lines in the Sun. *A&A*, 683:A242.

Carlsson, M. (2017). On the generation of solar spicules and Alfvén waves. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 46.

Carlsson, M. and De Pontieu, B. (2023). An Optically Thin View of the Solar Chromosphere from Observations of the O I 1355 Å Spectral Line. *ApJ*, 959(2):87.

Carlsson, M., Hansteen, V. H., Gudiksen, B. V., Leenaarts, J., and De Pontieu, B. (2016). A publicly available simulation of an enhanced network region of the Sun. *A&A*, 585:A4.

Carlsson, M., Leenaarts, J., and De Pontieu, B. (2015). What Do IRIS Observations of Mg II k Tell Us about the Solar Plage Chromosphere? *ApJ*, 809:L30.

Carlsson, M., Lefevre, L., Löfdahl, M., Bello Gonzalez, N., and Ermolli, I. (2022). Statistics of access provided 2. Deliverable D10.2, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Carlsson, M., Rouppe van der Voort, L. H. M., and Hansteen, V. H. (2004). Observations at 0.1 arcsec resolution of the dynamic evolution of magnetic elements. In Stepanov, A. V., Benevolenskaya, E. E., and Kosovichev, A. G., editors, *Multi Wavelength Investigations of Solar Activity*, volume 223 of *IAU Symposium*, pages 207–210.

Carlsson, M. and Scharmer, G. B. (1985). Effects of meso-scale velocity fields on the solar Ca II spectral lines. In Lites, B. W., editor, *Chromospheric Diagnostics and Modelling*, pages 137–150.

Carlsson, M., Stein, R. F., Nordlund, Å., and Scharmer, G. B. (2004). High resolution limb images synthesized from 3D MHD simulations. In Stepanov, A. V., Benevolenskaya, E. E., and Kosovichev, A. G., editors, *Multi Wavelength Investigations of Solar Activity*, volume 223 of *IAU Symposium*, pages 233–234.

Carlsson, M., Stein, R. F., Nordlund, Å., and Scharmer, G. B. (2004). Observational Manifestations of Solar Magnetoconvection: Center-to-Limb Variation. *ApJ*, 610:L137–L140.

Carlsson, M., Vasintjan, R., Löfdahl, M., Bello Gonzalez, N., and Ermolli, I. (2023). Statistics of access provided 3. Deliverable D10.3, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Centeno, R., de la Cruz Rodríguez, J., and del Pino Aleman, T. (2021). On the (mis)interpretation of the scattering polarization signatures in the Ca II 8542 Å line through spectral line inversions. *ApJ*, 918(1):15.

Chae, J., Noort, M. V., and Madjarska-Theissen, M. (2024a). High-Speed Dynamics in the Chromosphere of a Very Typical Quiet Solar Region Revealed by the MiHI Integrated Field Spectral Observations. In *45th COSPAR Scientific Assembly*, volume 45, page 1974. Abstract E2.2-0031-24.

Chae, J., van Noort, M., Madjarska, M. S., Lee, K., Kang, J., and Cho, K. (2024b). Large-amplitude transverse MHD waves prevailing in the Hα chromosphere of a solar quiet region revealed by MiHI integrated field spectral observations. *A&A*, 687:A249.

Chamandy, T. M. (2018). Multi-layer observations of sunspot waves at high resolution. Master's thesis, University of Oslo.

Chaurasiya, R., Bayanna, A. R., Louis, R. E., Pereira, T. M. D., and Mathew, S. K. (2024). On the Response of the Transition Region and the Corona to Rapid Excursions in the Chromosphere. *ApJ*, 970(2):179.

Chaurasiya, R., Bayanna, A. R., and Udaipur Solar Observatory, P. R. L. (2025). Observational study of the atmospheric gravity waves in the lower solar atmosphere. *MNRAS*, 537(3):2243–2257.

Chaurasiya, R. and Raja Bayanna, A. (2025). Shock Wave Propagation in the Solar Atmosphere. In *International conference on Sun, Space Weather, and Solar-Stellar Connection*. Indian Institute of Astrophysics. Abstract.

Chen, J. (2017). Physics of erupting solar flux ropes: Coronal mass ejections (cmes)—recent advances in theory and observation. *Physics of Plasmas*, 24(9):090501.

Cheung, C. M. M., Martinez-Sykora, J., Testa, P., De Pontieu, B., Chintzoglou, G., Rempel, M., Polito, V., Kerr, G., Reeves, K., Fletcher, L., Jin, M., Nobrega, D., Danilovic, S., Antolin, P., Allred, J., Hansteen, V., Ugarte-Urra, I., DeLuca, E., Longcope, D., Takasao, S., DeRosa, M., Boerner, P., Jaeggli, S., Nitta, N., Daw, A., Carlsson, M., and Golub, L. (2021). Probing the Physics of the Solar Atmosphere with the Multi-slit Solar Explorer (MUSE): II. Flares and Eruptions. In *AGU Fall Meeting Abstracts*, volume 2021, pages SH51A–08.

Cheung, M. C. M., Martínez-Sykora, J., Testa, P., De Pontieu, B., Chintzoglou, G., Rempel, M., Polito, V., Kerr, G. S., Reeves, K. K., Fletcher, L., Jin, M., Nóbrega-Siverio, D., Danilovic, S., Antolin, P., Allred, J., Hansteen, V., Ugarte-Urra, I., DeLuca, E., Longcope, D., Takasao, S., DeRosa, M. L., Boerner, P., Jaeggli, S., Nitta, N. V., Daw, A., Carlsson, M., Golub, L., and The MUSE team (2022). Probing the Physics of the Solar Atmosphere with the Multi-slit Solar Explorer (MUSE). II. Flares and Eruptions. *ApJ*, 926(1):53.

Chintzoglou, G., De Pontieu, B., Martínez-Sykora, J., Hansteen, V., de la Cruz Rodríguez, J., Szydlarski, M., Jafarzadeh, S., Wedemeyer, S., Bastian, T. S., and Saínz Dalda, A. (2021a). ALMA and IRIS Observations of the Solar Chromosphere I: an On-Disk Type II Spicule. *ApJ*, 906(2):82.

Chintzoglou, G., De Pontieu, B., Martínez-Sykora, J., Hansteen, V., de la Cruz Rodríguez, J., Szydlarski, M., Jafarzadeh, S., Wedemeyer, S., Bastian, T. S., and Sainz Dalda, A. (2021b). ALMA and IRIS Observations of the Solar Chromosphere II: Structure and Dynamics of Chromospheric Plage. *ApJ*, 906(2):83.

Chitta, L., van Ballegooijen, A. A., Rouppe van der Voort, L., DeLuca, E. E., and Kariyappa, R. (2012). Dynamics of the solar magnetic bright points derived from their horizontal motions. *ApJ*, 752:48.

Chitta, L. P., Sukarmadji, A. R. C., Rouppe van der Voort, L., and Peter, H. (2019). Energetics of magnetic transients in solar active region plage. *A&A*, 623:A176.

Chitta, L. P., van Noort, M., Smitha, H. N., Priest, E. R., and Rouppe van der Voort, L. H. M. (2024). Photospheric hot spots at solar coronal loop footpoints revealed by hyperspectral imaging observations. *ApJ*, 976(1):134.

Choudhary, D. P. (2003). The question of life and death of sunspots. *Current Science*, 84(1):14–16.

Collados, M. (2017). SOLARNET WP70: Turbulence characterisation and correction. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 98.

Cristaldi, A. (2012). Interazioni magnetiche osservate ad alta risoluzione da SST e HINODE. Master's thesis, University of Catania, Italy.

Cristaldi, A. (2016). *Atmosphere models of solar magnetic regions derived from high resolution spectro-polarimetric observations*. PhD thesis, INAF – Osservatorio Astronomico di Roma.

Cristaldi, A. and Ermolli, I. (2017). 1D atmosphere models from inversion of Fe I 630 nm observations with an application to solar irradiance studies. *ApJ*, 841:115.

Cristaldi, A., Guglielmino, S. L., Zuccarello, F., Ermolli, I., Falco, M., and Criscuoli, S. (2013). Small-scale brightenings observed in active regions with SST and Hinode . *Mem. Soc. Astron. Italiana*, 84:339.

Cristaldi, A., Guglielmino, S. L., Zuccarello, F., Romano, P., Falco, M., Rouppe van der Voort, L., de la Cruz Rodríguez, J., Ermolli, I., and Criscuoli, S. (2014). Dynamic properties along the neutral line of a delta spot inferred from high-resolution observations. *ApJ*, 789(2):162.

Crockett, P. (2011). *Detection and Tracking of Solar Magnetic Bright Points*. PhD thesis, Queen's University Belfast, UK.

Crockett, P. J., Jess, D. B., Mathioudakis, M., and Keenan, F. P. (2009). Automated detection and tracking of solar magnetic bright points. *MNRAS*, 397(4):1852–1861.

Cumming, R. J., Pietrow, A. G. M., Pietrow, L., Cavallius, M., Petit dit de la Roche, D., Pietrow, C., Schroetter, I., and Skan, M. (2024). Why every observatory needs a disco ball. *Physics Education*, 59(2):025012.

da Silva Santos, J. (2018). *Constraints on the gas temperature in the solar atmosphere from multiwavelength inversions*. Licentiate thesis, Stockholm University.

da Silva Santos, J. a. M. (2020). *A multiwavelength approach to solar chromospheric heating: New insights from the millimeter continuum*. PhD thesis, Stockholm University.

da Silva Santos, J. M., Danilovic, S., Leenaarts, J., de la Cruz Rodríguez, J., Zhu, X., White, S. M., Vissers, G. J. M., and Rempel, M. (2022a). Heating of the solar chromosphere through current dissipation. *A&A*, 661:A59.

da Silva Santos, J. M., de la Cruz Rodríguez, J., and Leenaarts, J. (2018). Temperature constraints from inversions of synthetic solar optical, UV and radio spectra. *A&A*, 620:A124.

da Silva Santos, J. M., de la Cruz Rodríguez, J., Leenaarts, J., Chintzoglou, G., De Pontieu, B., Wedemeyer, S., and Szydlarski, M. (2020a). The multi-thermal chromosphere: inversions of ALMA and IRIS data. *A&A*, 634:A56.

da Silva Santos, J. M., de la Cruz Rodríguez, J., White, S. M., Leenaarts, J., Vissers, G. J. M., and Hansteen, V. H. (2020b). ALMA observations of transient heating in a solar active region. *A&A*, 643:A41.

da Silva Santos, J. M., de la Cruz Rodriguez, J., White, S. M., Leenaarts, J., Vissers, G. J. M., Hansteen, V. H., and Danilovic, S. (2020c). Probing chromospheric heating with millimeter interferometry. In *AGU Fall Meeting Abstracts*, volume 2020, pages SH001–0001.

da Silva Santos, J. M., Dunnington, E., Jarolim, R., Danilovic, S., and Criscuoli, S. (2025). Magnetic Reconnection in a Compact Magnetic Dome: Chromospheric Emissions and High-velocity Plasma Flows. *ApJ*, 985(2):157.

Da Silva Santos, J. M., Dunnington, E., Jarolim, R., Danilovic, S., and Criscuoli, S. (2025). Small-Scale Magnetic Reconnection with DKIST: Emission Signatures and Dynamics. In *American Astronomical Society Meeting Abstracts*, volume 246 of *American Astronomical Society Meeting Abstracts*, page 308.02.

da Silva Santos, J. M., Molnar, M., Milić, I., Rempel, M., Reardon, K., and de la Cruz Rodríguez, J. (2024a). Constraints on Acoustic Wave Energy Fluxes and Radiative Losses in the Solar Chromosphere from Non-LTE Inversions. *ApJ*, 976(1):21.

da Silva Santos, J. M., Molnar, M., Milic, I., Rempel, M., Reardon, K., and de la Cruz Rodrıguez, J. (2024b). Evaluating acoustic wave flux contributions to spatially resolved chromospheric radiative losses. In *AGU Fall Meeting Abstracts*, volume 2024, pages SH21G–2902.

da Silva Santos, J. M., Ramos-Medina, J., Contreras, C. S., and García-Lario, P. (2019). Warm CO in evolved stars from the THROES catalogue. II. Herschel/PACS spectroscopy of C-rich envelopes. *A&A*, 622:A123.

da Silva Santos, J. M., White, S. M., Reardon, K., Cauzzi, G., Gunár, S., Heinzel, P., and Leenaarts, J. (2022b). Subarcsecond Imaging of a Solar Active Region Filament With ALMA and IRIS. *Frontiers in Astronomy and Space Sciences*, 9:898115.

da Silva Santos, J. M., White, S. M., Reardon, K., Cauzzi, G., Gunár, S., Heinzel, P., and Leenaarts, J. (2022c). Subarcsecond imaging of a solar active region filament with ALMA and IRIS. *BAAS*, 54(7). The Third Triennial Earth-Sun Summit (TESS) Abstracts.

Dahlberg, C. (2018). Observing the radial velocity of the Sun. Bachelor's thesis, Stockholm University.

Dakanalis, I., Tsiropoula, G., Tziotziou, K., and Kontogiannis, I. (2022). Chromospheric swirls. I. Automated detection in Hα observations and their statistical properties. *A&A*, 663:A94.

Dakanalis, I., Tsiropoula, G., Tziotziou, K., and Koutroumbas, K. (2021). Automated Detection of Chromospheric Swirls Based on Their Morphological Characteristics. *Sol. Phys.*, 296(1):17.

Dame, L., amd W. A. Brown, M. M., Bruner, M. E., Strong, K., Suematsu, Y., Tsuneta, S., and Schmieder, B. (1996). Coordinated SPDE rocket, YOHKOH and ground observations of an emerging flux region and a filament. *Advances in Space Research*, 17(4-5):189.

Danilovic, S. (2021). What drives peacock jets? In *AGU Fall Meeting Abstracts*, volume 2021, pages SH43A–04.

Danilovic, S. (2023). Modeling of Chromospheric Features and Dynamics in Solar Plage. *Advances in Space Research*, 71(4):1939–1947.

Danilovic, S. (2024). An overview of last October's SST-SolO observational campaign. ESPOS seminar on 2024-05-02.

Danilovic, S. (2024a). Chromospheric features in plages and the present state of numerical modeling. In *45th COSPAR Scientific Assembly*, volume 45, page 1962. Abstract E2.2-0017-24.

Danilovic, S. (2024b). Understanding energetics and dynamics of the quiet lower solar atmosphere with MHD modeling and observations. In *45th COSPAR Scientific Assembly*, volume 45, page 1912. Abstract E2.1-0010-24.

Danilovic, S., Bjørgen, J. P., Leenaarts, J., and Rempel, M. (2023). Rapid Blue- and Red-shifted Excursions in Hα line profiles synthesized from realistic 3D MHD simulations. *A&A*, 670:A50.

Darvann, T. A. and Kusoffsky, U. (1989). Granule Lifetimes and Dimensions as Function of Distance from a Solar Pore Region. In Rutten, R. J. and Severino, G., editors, *Solar and Stellar Granulation*, volume 263 of *NATO Advanced Study Institute (ASI) Series C*, page 313.

Darvann, T. A., Kusoffsky, U., and Li, Z. (1987). A progress report on the LEST site testing. *LEST Foundation, Technical Report*, 25.

de la Cruz Rodriguez, J. (2010). *Measuring the solar atmosphere*. PhD thesis, Stockholm University.

de la Cruz Rodríguez, J. (2017). Non-LTE chromospheric diagnostics and inversions. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 20.

de la Cruz Rodríguez, J. (2019). A method for global inversion of multi-resolution solar data. *A&A*, 631:A153.

de la Cruz Rodríguez, J. (2024). Diagnostics of the magnetic chromosphere. In *EAS Annual Meeting 2024*, page 1297.

de la Cruz Rodríguez, J., De Pontieu, B., Carlsson, M., and Rouppe van der Voort, L. H. M. (2013a). Heating of the Magnetic Chromosphere: Observational Constraints from Ca II λ8542 Spectra. *ApJ*, 764:L11.

de la Cruz Rodríguez, J., Hansteen, V., Bellot-Rubio, L., and Ortiz, A. (2015). Emergence of granular-sized magnetic bubbles through the solar atmosphere. II. Non-LTE chromospheric diagnostics and inversions. *ApJ*, 810(2):145.

de la Cruz Rodríguez, J., Kiselman, D., and M., C. (2011). Solar velocity references from 3D HD photospheric models. *A&A*, 528:A113.

de la Cruz Rodríguez, J. and Leenaarts, J. (2024). Improved reconstruction of solar magnetic fields from imaging spectropolarimetry through spatio-temporal regularisation. *A&A*, 685:A85.

de la Cruz Rodríguez, J., Leenaarts, J., and Asensio Ramos, A. (2016). Non-LTE inversions of the Mg II h & k and UV triplet lines. *ApJ*, 830:L30.

de la Cruz Rodríguez, J., Leenaarts, J., Danilovic, S., and Uitenbroek, H. (2018). STiC: Stockholm inversion code. Astrophysics Source Code Library, record ascl:1810.014.

de la Cruz Rodríguez, J., Leenaarts, J., Danilovic, S., and Uitenbroek, H. (2019). STiC – A multi-atom non-LTE PRD inversion code for full-Stokes solar observations. *A&A*, 623:A74.

de la Cruz Rodríguez, J., Löfdahl, M., Sütterlin, P., Hillberg, T., and Rouppe van der Voort, L. (2015). CRISPRED: A data pipeline for the CRISP imaging spectropolarimeter. *A&A*, 573:A40.

de la Cruz Rodríguez, J., Pastor Yabar, A., and Morosin, R. (2023). Espectroscopía al límite: Modelado multi-resolución de observaciones. *SEA Boletín*, 2023(48):52. `https://www.sea-astronomia.es/sites/default/files/bv2023_espectroscopia.pdf`.

de la Cruz Rodríguez, J., Rouppe van der Voort, L., Socas-Navarro, H., and van Noort, M. (2013b). Physical properties of a sunspot chromosphere with umbral flashes. *A&A*, 556:A115.

de la Cruz Rodríguez, J. and Socas-Navarro, H. (2011). Are solar chromospheric fibrils tracing the magnetic field? *A&A*, 527:L8.

de la Cruz Rodríguez, J., Socas-Navarro, H., Carlsson, M., and Leenaarts, J. (2012a). Chromospheric magnetic fields. Observations, simulations and their interpretation. In Rimmele, T. R., Tritschler, A., Wöger, F., Collados Vera, M., Socas-Navarro, H., Schlichenmaier, R., Carlsson, M., Berger, T., Cadavid, A., Gilbert, P. R., Goode, P. R., and Knölker, M., editors, *2nd ATST - EAST Meeting: Magnetic Fields from the Photosphere to the Corona*, volume 463 of *Conference Series of the Astronomical Society of the Pacific*, page 15.

de la Cruz Rodríguez, J., Socas-Navarro, H., Carlsson, M., and Leenaarts, J. (2012b). Non-local thermodynamic equilibrium inversions from a 3D magnetohydrodynamic chromospheric model. *A&A*, 543:A34.

de la Cruz Rodríguez, J., Socas-Navarro, H., van Noort, M., and Rouppe van der Voort, L. (2010). Observation and analysis of chromospheric magnetic fields. *Mem. Soc. Astron. Italiana*, 81:716. NSO Workshop #25, Chromospheric Structure and Dynamics: From Old Wisdom to New Insights.

de La Cruz Rodriguez, J. and van Noort, M. (2008). SST/CRISP observations of Ca II 854.2 nm. *12th European Solar Physics Meeting, Freiburg, Germany*, 12:2.

de la Cruz Rodríguez, J. and van Noort, M. (2017). Radiative diagnostics in the solar photosphere and chromosphere. *Space Sci. Rev.*, 210(1–4):109–143.

De Pontieu, B. (2001a). High resolution observations of quiet sun magnetic elements. *Eos Trans. AGU*, pages SH31D–02. Spring Meet. Suppl.

De Pontieu, B. (2001b). Solar orbiter and ground-based observations: Lessons from SOHO/TRACE. In Battrick, B. and Sawaya-Lacoste, H., editors, *Solar Encounter: The First Solar Orbiter Workshop*, volume 493 of *ESA SP*, pages 121–125.

De Pontieu, B. (2002). High-Resolution Observations of Small-Scale Emerging Flux in the Photosphere. *ApJ*, 569:474.

De Pontieu, B. (2003). TRACE and ground-based observations of small-scale dynamics in active regions. In Erdelyi, R., Petrovay, K., Roberts, B., and Aschwanden, M., editors, *Turbulence, Waves and Instabilities in the Solar Plasma*, page 277, Dordrecht. Kluwer Academic Publishers. invited review submitted to Proceedings of NATO Advanced Research Workshop, Budapest, Sep 2002.

de Pontieu, B. (2004). Correlated Intensity Oscillations in the Upper Chromosphere and Upper Transition Region above Active Region Plage. In Lacoste, H., editor, *SOHO 13 Waves, Oscillations and Small-Scale Transients Events in the Solar Atmosphere: Joint View from SOHO and TRACE*, volume 547 of *ESA Special Publication*, page 25.

De Pontieu, B. (2007). Chromospheric Dynamics: Spicules and Waves. In Shibata, K., Nagata, S., and Sakurai, T., editors, *New Solar Physics with Solar-B Mission*, volume 369 of *ASP Conference Series*, page 231.

De Pontieu, B., Berger, T. E., Fletcher, L., Schrijver, C. J., and Title, A. M. (1999). Dynamics and plasma diagnostics of transition region "moss" using SOHO/CDS, TRACE and SVST (La Palma). *BAAS*, 194(3):78.04.

De Pontieu, B., Berger, T. E., Schrijver, C. J., and Title, A. M. (1999). Dynamics of Transition Region 'Moss' at high time resolution. *Sol. Phys.*, 190:419.

De Pontieu, B., Carlsson, M., Rouppe van der Voort, L. H. M., Rutten, R. J., Hansteen, V. H., and Watanabe, H. (2012). Ubiquitous torsional motions in type II spicules. *ApJ*, 752:L12.

De Pontieu, B., Carlsson, M., Stein, R., Rouppe van der Voort, L., Löfdahl, M., van Noort, M., Nordlund, Å., and Scharmer, G. (2006). Rapid Temporal Variability of Faculae: High-Resolution Observations and Modeling. *ApJ*, 646:1405–1420.

De Pontieu, B., Erdelyi, R., de Wijn, A., and Löfdahl, M. (2003a). Intensity oscillations in the upper transition region above active region plage. *Eos Trans. AGU*, 84(46). Fall Meet. Suppl., Abstract SH42B-0540.

De Pontieu, B., Erdélyi, R., and de Wijn, A. G. (2003b). Intensity oscillations in the upper transition region above active region plage. *ApJ*, 595:L63–L66.

De Pontieu, B., Erdélyi, R., and James, S. P. (2004). Solar chromospheric spicules from the leakage of photospheric oscillations and flows. *Nature*, 430(6999):536–539.

de Pontieu, B., Hansteen, V. H., Rouppe van der Voort, L., van Noort, M., and Carlsson, M. (2006). Dynamic fibrils are driven by magnetoacoustic shocks. *AGU Fall Meeting Abstracts*, page B359.

De Pontieu, B., Hansteen, V. H., Rouppe van der Voort, L., van Noort, M., and Carlsson, M. (2007a). High-resolution observations and modeling of dynamic fibrils. *ApJ*, 655(1):624–641.

De Pontieu, B., Hansteen, V. H., Rouppe van der Voort, L., van Noort, M., and Carlsson, M. (2007b). High-resolution observations and numerical simulations of chromospheric fibrils and mottles. In Heinzel, P., Dorotovič, I., and Rutten, R. J., editors, *The Physics of Chromospheric Plasmas*, volume 368 of *ASP Conference Series*, page 65.

de Pontieu, B., McIntosh, S. W., Carlsson, M., Hansteen, V. H., Tarbell, T. D., Boerner, P., Martinez-Sykora, J., Schrijver, C. J., and Title, A. M. (2010). The role of the chromosphere in filling the corona with hot plasma (Invited). *AGU Fall Meeting Abstracts*, page C3.

De Pontieu, B., Pereira, T., Rouppe van der Voort, L., and Skogsrud, H. (2014). IRIS observations of twist in the low solar atmosphere. In *40th COSPAR Scientific Assembly. Held 2-10 August 2014, in Moscow, Russia*, volume 40 of *COSPAR Meeting*. Abstract E2.3-6-14.

De Pontieu, B., Rouppe van der Voort, L., McIntosh, S. W., Pereira, T. M. D., Carlsson, M., Hansteen, V., Skogsrud, H., Lemen, J., Title, A., Boerner, P., Hurlburt, N., Tarbell, T. D., Wuelser, J. P., De Luca, E. E., Golub, L., McKillop, S., Reeves, K., Saar, S., Testa, P., Tian, H., Kankelborg, C., Jaeggli, S., Kleint, L., and Martinez-Sykora, J. (2014). On the prevalence of small-scale twist in the solar chromosphere and transition region. *Science*, 346(6207):1255732.

De Pontieu, B. and Tarbell, T. (2002). Active region moss as a diagnostic for the thermal evolution of chromospheric spicule-like jets, and for coronal heating. *BAAS*, 34:790.

De Pontieu, B. and Tarbell, T. (2003). Correlations on arcsecond scales between chromospheric and transition region structures in active regions. In *Fall Meeting 2002, abstract #SH52A-0439*, pages SH52A–0439. American Geophysical Union.

De Pontieu, B., Tarbell, T., and Erdélyi, R. (2003c). Correlations on arcsecond scales between chromospheric and transition region emission in active regions. *ApJ*, 590:502–518.

De Pontieu, B., Testa, P., Martínez-Sykora, J., Antolin, P., Karampelas, K., Hansteen, V., Rempel, M., Cheung, M. C. M., Reale, F., Danilovic, S., Pagano, P., Polito, V., De Moortel, I., Nóbrega-Siverio, D., Van Doorsselaere, T., Petralia, A., Asgari-Targhi, M., Boerner, P., Carlsson, M., Chintzoglou, G., Daw, A., DeLuca, E., Golub, L., Matsumoto, T., Ugarte-Urra, I., McIntosh, S. W., and the MUSE Team (2022). Probing the Physics of the Solar Atmosphere with the Multi-slit Solar Explorer (MUSE). I. Coronal Heating. *ApJ*, 926(1):52.

De Pontieu, B., Title, A. M., Lemen, J. R., Kushner, G. D., Akin, D. J., Allard, B., Berger, T., Boerner, P., Cheung, M., Chou, C., Drake, J. F., Duncan, D. W., Freeland, S., Heyman, G. F., Hoffman, C., Hurlburt, N. E., Lindgren, R. W., Mathur, D., Rehse, R., Sabolish, D., Seguin, R., Schrijver, C. J., Tarbell, T. D., Wülser, J.-P., Wolfson, C. J., Yanari, C., Mudge, J., Nguyen-Phuc, N., Timmons, R., van Bezooijen, R., Weingrod, I., Brookner, R., Butcher, G., Dougherty, B., Eder, J., Knagenhjelm, V., Larsen, S., Mansir, D., Phan, L., Boyle, P., Cheimets, P. N., DeLuca, E. E., Golub, L., Gates, R., Hertz, E., McKillop, S., Park, S., Perry, T., Podgorski, W. A., Reeves, K., Saar, S., Testa, P., Tian, H., Weber, M., Dunn, C., Eccles, S., Jaeggli, S. A., Kankelborg, C. C., Mashburn, K., Pust, N., Springer, L., Carvalho, R., Kleint, L., Marmie, J., Mazmanian, E., Pereira, T. M. D., Sawyer, S., Strong, J., Worden, S. P., Carlsson, M., Hansteen, V. H., Leenaarts, J., Wiesmann, M., Aloise, J., Chu, K.-C., Bush, R. I., Scherrer, P. H., Brekke, P., Martinez-Sykora, J., Lites, B. W., McIntosh, S. W., Uitenbroek, H., Okamoto, T. J., Gummin, M. A., Auker, G., Jerram, P., Pool, P., and Waltham, N. (2014). The Interface Region Imaging Spectrograph (IRIS). *Sol. Phys.*, 289(7):2733–2779.

de Ugarte Postigo, A., Gorosabel, J., Xu, D., Fynbo, J. P. U., Jakobsson, P., Malesani, D., Tanvir, N. R., Gafton, E., and Libbrecht, T. (2014a). GRB 140515A: Optical observations from the 2.5 m NOT. *GRB Coordinates Network*, 16278:1.

de Ugarte Postigo, A., Gorosabel, J., Xu, D., Kruehler, T., Djupvik, A. A., Gafton, E., and Libbrecht, T. (2014b). GRB 140512A: Optical observations from the 2.5 m NOT. *GRB Coordinates Network*, 16253:1.

de Ugarte Postigo, A., Gorosabel, J., Xu, D., Malesani, D., Leloudas, G., Jakobsson, P., Kruehler, T., Djupvik, A. A., Gafton, E., and Libbrecht, T. (2014c). GRB 140512A: Redshift from NOT. *GRB Coordinates Network*, 16310:1.

de Wijn, A., Rouppe van der Voort, L., Snik, F., Leenaarts, J., and Uitenbroek, H. (2022). Obituary: Robert J. Rutten (1942-2022). *BAAS*, 54:076.

de Wijn, A. G. (2006). *Dynamics of fine structure in the solar chromosphere*. PhD thesis, University of Utrecht.

de Wijn, A. G., de la Cruz Rodríguez, J., Scharmer, G. B., Sliepen, G., and Sütterlin, P. (2021). Design and Performance Analysis of a Highly Efficient Polychromatic Full Stokes Polarization Modulator for the CRISP Imaging Spectrometer. *AJ*, 161(2):89.

de Wijn, A. G. and De Pontieu, B. (2006). Dynamic fibrils in Hα and C IV. *A&A*, 460(1):309–316.

de Wijn, A. G., de Pontieu, B., and Erdélyi, R. (2005). A Comparison Between Spicules in Hα and CIV. In Danesy, D., Poedts, S., De Groof, A., and Andries, J., editors, *The Dynamic Sun: Challenges for Theory and Observations*, volume 600 of *ESA Special Publication*, page 14.1.

de Wijn, A. G., de Pontieu, B., and Erdélyi, R. (2005). A comparison between spicules in Hα and CIV. In Innes, D. E., Lagg, A., and Solanki, S. A., editors, *Chromospheric and Coronal Magnetic Fields*, volume 596 of *ESA Special Publication*, page 33.1.

Del Moro, D. (2004). Solar granulation properties derived from three different time series. *A&A*, 428:1007–1015.

Del Moro, D., Berrilli, F., Bonet, J. A., Consolini, G., Kosovichev, A., and Pietropaolo, E. (2003). Granule and Supergranule properties derived from solar timeseries. *Mem. Soc. Astron. Italiana*, 74:584.

Del Moro, D., Giovannelli, L., Berrilli, F., Pietropaolo, E., Ermolli, I., and Kiselman, D. (2017). JP3D compression of solar data-cubes: photospheric imaging and spectropolarimetry. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 121.

del Sol, R., Helios, K. G., Skeeto, M., and del Ray, S. (2024). On Bio-Signatures in Sunspot Activity. GitHub.

Deng, Y., Lin, Y., Schmieder, B., and Engvold, O. (2002). Filament activation and magnetic reconnection. *Sol. Phys.*, 209:153–170.

Deng, Y., Wang, J., and Ai, G. (2009). The detection of "magnetic element" Why we need a one-meter Space Solar Telescope. *Advances in Space Research*, 43:365–368.

Deng, Y. Y., Schmieder, B., Engvold, O., DeLuca, E., and Golub, L. (2000). Emergence of sheared magnetic tubes in an active region observed with the SVST and TRACE. *Sol. Phys.*, 195(2):347–366.

Denker, C., Tritschler, A., and Löfdahl, M. (2005). Image restoration. In Driggers, R. G., editor, *Encyclopedia of Optical Engineering*. Marcel Dekker, Inc., New York.

Denker, C., Tritschler, A., and Löfdahl, M. G. (2004). Image reconstruction in solar physics. In Gallagher, P., editor, *Solar Image Processing Workshop II (abstracts)*, Annapolis, Maryland, USA. NASA's Sun-Earth Connection Division.

Denker, C., Verma, M., Pietrow, A. G. M., Kontogiannis, I., and Kamlah, R. (2023). Spectral Background-subtracted Activity Maps. *Research Notes of the American Astronomical Society*, 7(10):224.

Dettori, P. and Hosinsky, G. (2002). The new Swedish solar telescope control system. In Lewis, H., editor, *Advanced Telescope and Instrumentation Control Software II*, volume 4848 of *Proc. SPIE*, pages 539–544.

Diaz Baso, C., Vissers, G., Calvo, F., Pietrow, A. G. M., Yadav, R., de la Cruz Rodríguez, J., and Zivadinovic, L. (2021). ISP-SST/ISPy: ISPy release v0.2.0. In *Zenodo Software package*, volume 56, page 5608441.

Díaz Baso, C. J. (2018). *Analysis of the magnetic and dynamic structure of solar filaments*. PhD thesis, Universidad de La Laguna. `https://dialnet.unirioja.es/servlet/tesis?codigo=235977`.

Díaz Baso, C. J., Asensio Ramos, A., and de la Cruz Rodríguez, J. (2022). Bayesian Stokes inversion with normalizing flows. *A&A*, 659:A165.

Díaz Baso, C. J., Asensio Ramos, A., de la Cruz Rodríguez, J., da Silva Santos, J. M., and Rouppe van der Voort, L. (2025). Exploring spectropolarimetric inversions using neural fields: Solar chromospheric magnetic field under the weak-field approximation. *A&A*, 693:A170.

Díaz Baso, C. J., de la Cruz Rodríguez, J., and Danilovic, S. (2019a). Solar image denoising with convolutional neural networks. *A&A*, 629:A99.

Díaz Baso, C. J., de la Cruz Rodríguez, J., and Leenaarts, J. (2021). An observationally constrained model of strong magnetic reconnection in the solar chromosphere. Atmospheric stratification and estimates of heating rates. *A&A*, 647:A188.

Díaz Baso, C. J., Martínez González, M. J., and Asensio Ramos, A. (2019b). Spectropolarimetric analysis of an active region filament. I. Magnetic and dynamical properties from single component inversions. *A&A*, 625:A128.

Díaz Baso, C. J., Martínez González, M. J., and Asensio Ramos, A. (2019c). Spectropolarimetric analysis of an active region filament. II. Evidence of the limitations of a single component model. *A&A*, 625:A129.

Díaz Baso, C. J., Martínez González, M. J., Asensio Ramos, A., and de la Cruz Rodríguez, J. (2019). Diagnostic potential of the Ca II 8542 Å line for solar filaments. *A&A*, 623:A178.

Díaz Baso, C. J., Rouppe van der Voort, L., de la Cruz Rodríguez, J., and Leenaarts, J. (2023). Designing wavelength sampling for Fabry-Pérot observations. Information-based spectral sampling. *A&A*, 673:A35.

Díaz Castillo, S. M., Fischer, C., Rezaei, R., Steiner, O., and Berdyugina, S. (2024). Spectropolarimetric observations of multi-phase small-scale magnetic field amplification in a vortical structure. In *EAS Annual Meeting 2024*, page 1240.

Díaz-Castillo, S. M., Fischer, C. E., Moreno-Insertis, F., Guglielmino, S. L., Ishikawa, R., and Criscuoli, S. (2025). Emergence of magnetic flux sheets in the quiet Sun. I. Statistical properties. *A&A*, 695:A45.

Díaz-Castillo, S. M., Fischer, C. E., Rezaei, R., Steiner, O., and Berdyugina, S. (2024). Connectivity between the solar photosphere and chromosphere in a vortical structure. Observations of multi-phase, small-scale magnetic field amplification. *A&A*, 691:A37.

Domínguez Cerdeña, I. (2003). Evidence of mesogranulation from magnetograms of the Sun. *A&A*, 412:L65.

Dorch, B. (2000a). Aktive stjerner med pletter. *Aktuel Astronomi*, 00(2):46–48.

Dorch, B. (2000b). On the structure of the magnetic field in a kinematic ABC flow dynamo. *Phys. Scr*, 61(5):717–722.

Dorch, B., Gudiksen, B., Abbett, W., and Nordlund, Å. (2001). Flux-loss of buoyant ropes interacting with convective flows. *A&A*, 380:734–738.

Dorch, B. and Nordlund, Å. (2000a). Erratum: Numerical 3D simulations of buoyant magnetic flux tubes. *A&A*, 353:1139.

Dorch, B. and Nordlund, Å. (2001a). Convective pumping of magnetic fields: On the flux storage problem for solar-like dynamos. In Brekke, P., Fleck, B., and Gurman, J. B., editors, *Recent Insights into the Physics of the Sun and Heliosphere: Highlights from SoHO and Other Space Missions*, volume 203 of *ASP symp.*, pages 186–189.

Dorch, S. B. F. (2000c). Astrophysical MHD simulation and visualization. In Engquist, B., Johnsson, L., Hammill, M., and Short, F., editors, *Simulation and Visualization on the Grid*, volume 13 of *Lecture Notes on Computational Science and Engineering*, pages 209–220. Springer-Verlag.

Dorch, S. B. F. (2000d). Her stilles skarpt på solen. *Aktuel Astronomi*, 00(1):46–48.

Dorch, S. B. F. (2002). Modelling flux tube dynamics. In Sawaya-Lacoste, H., editor, *Proc. Magnetic Coupling of the Solar Atmosphere Euroconference and IAU Colloquium 188*, volume 505 of *ESA Special Publication*, pages 129–136.

Dorch, S. B. F. (2003). Buoyant Magnetic Flux Ropes and Convection: Evolution Prior to Emergence. In Brown, A., Harper, G. M., and Ayres, T. R., editors, *The Future of Cool-Star Astrophysics*, pages 186–195. Proc. 12th Cambridge workshop on Cool Stars, Stellar systems and the Sun.

Dorch, S. B. F., Archontis, V., and Nordlund, Å. (1999). 3D simulations of twisted magnetic flux ropes. *A&A*, 352:L79–L82.

Dorch, S. B. F. and Freytag, B. (2003). Does Betelgeuse have a magnetic field? In Piskunov, N., Weiss, W. W., and Gray, D. F., editors, *Modelling of Stellar Atmospheres*, volume 210 of *IAU symp. ser.*, page A12. 17-21 June 2002 in Uppsala, Sweden.

Dorch, S. B. F. and Ludwig, H. G. (2002). Small-scale magnetic fields on late-type M-dwarfs. *Astronomische Nachrichten*, 323:402–406.

Dorch, S. B. F. and Nordlund, Å. (2000b). Pumping of magnetic fields by stratified convection: End of the storage problem? In *IAU 24th General Assembly*, page 68. Poster abstract.

Dorch, S. B. F. and Nordlund, Å. (2000). The Solar Dynamo: Flux Pumping by Stratified Convection. In Wilson, A., editor, *The Solar Cycle and Terrestrial Climate, Solar and Space weather*, volume 463 of *ESA SP*, page 305.

Dorch, S. B. F. and Nordlund, Å. (2001b). On the transport of magnetic fields by solar-like stratified convection. *A&A*, 365:562–570.

Dorotovič, I., Erdélyi, R., Freij, N., Karlovský, V., and Márquez, I. (2014). On standing sausage waves in photospheric magnetic waveguides. *A&A*, 563:A12.

Dorotovic, I., Sobotka, M., Brandt, P. N., and Simon, G. W. (2002). Evolution of small-scale structures in and around a large solar pore. In Wilson, A., editor, *Solar variability: from core to outer frontiers*, volume 1 of *ESA SP-506*, pages 435–438.

Dorotovič, I., Sobotka, M., Brandt, P. N., and Simon, G. W. (2002). Evolution and motions of small-scale photospheric structures near a large solar pore. *A&A*, 387:665–671.

Dover, F. M., Sharma, R., Korsós, M. B., and Erdélyi, R. (2020). Signatures of cross-sectional width modulation in solar spicules due to field-aligned flows. *ApJ*, 905(1):72.

Doyle, L. (2020). *Solar and Stellar Flares and Their Connection*. PhD thesis, Northumbria University.

Doyle, L., Wyper, P. F., Scullion, E., McLaughlin, J. A., Ramsay, G., and Doyle, J. G. (2019). Observations and 3D Magnetohydrodynamic Modeling of a Confined Helical Jet Launched by a Filament Eruption. *ApJ*, 887(2):246.

Dravins, D., Ludwig, H.-G., Dahlen, E., and Pazira, H. (2015). Stellar Spectroscopy During Exoplanet Transits: Dissecting Fine Structure Across Stellar Surfaces. In van Belle, G. T. and Harris, H. C., editors, *Proc. 18th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun*, pages 853–868. Lowell Observatory.

Dravins, D., Ludwig, H.-G., Dahlén, E., and Pazira, H. (2016). Exoplanet Transits Enable High-Resolution Spectroscopy Across Spatially Resolved Stellar Surfaces. In Feiden, G. A., editor, *Proc. 19th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun (CS19)*, page 66.

Dravins, D., Ludwig, H.-G., Dahlén, E., and Pazira, H. (2017a). Spatially resolved spectroscopy across stellar surfaces. I. Using exoplanet transits to analyze 3-D stellar atmospheres. *A&A*, 605:A90.

Dravins, D., Ludwig, H.-G., Dahlén, E., and Pazira, H. (2017b). Spatially resolved spectroscopy across stellar surfaces. II. High-resolution spectra across HD209458 (G0V). *A&A*, 605:A91.

Drews, A. (2014). Chromospheric microjets in the penumbra of a sunspot. Master's thesis, Institutt for teoretisk astrofysikk, Universitetet i Oslo.

Drews, A. (2021). *On microjets in sunspot penumbrae*. PhD thesis, University of Oslo.

Drews, A. and Rouppe van der Voort, L. (2017). Microjets in the penumbra of a sunspot. *A&A*, 602:A80.

Drews, A. and Rouppe van der Voort, L. (2020). A multi-diagnostic spectral analysis of penumbral microjets. *A&A*, 638:A63.

Druett, M. (2018). *The Effects of Energetic Particles on Radiative Transfer and Emission from Hydrogen in Solar Flares*. PhD thesis, Northumbria University.

Druett, M., Scullion, E., Zharkova, V., Matthews, S., Zharkov, S., and Rouppe Van der Voort, L. (2017). Beam electrons as a source of Hα flare ribbons. *Nature Communications*, 8:15905. Online.

Druett, M. and Snow, B. (2021). New eyes and ideas for the chromosphere. *Astronomy and Geophysics*, 62(2):2.34–2.39.

Druett, M. K., Pietrow, A. G. M., Vissers, G. J. M., and Robustini, C. (2021). COCOPLOT: COlor COllapsed PLOTting software.

Druett, M. K., Pietrow, A. G. M., Vissers, G. J. M., and Robustini, C. (2022). COCOPLOT: COlor COllapsed PLOTting software : Using color to view 3D data as a 2D image. *RAS Tech. & Instr.*, 1(1):29–42.

Druett, M. K. and Zharkova, V. V. (2019). Non-thermal hydrogen Lyman line and continuum emission in solar flares generated by electron beams. *A&A*, 623:A20.

Duckenfield, T. and Broomhall, A.-M. (2019). Flares on the Sun and on other stars. *Astronomy and Geophysics*, 60(6):6.29–6.33.

Eklund, H. (2022). Image refinement and estimation of intensity contrast degradation at small scales events of Solar observations. In *Proc. 2nd Machine Learning in Heliophysics*, page 35.

Eklund, H. (2022). Image refinement and estimations of radiation formation heights with the Deep Solar ALMA Neural Network Estimator. In Cauzzi, G. and Tritschler, A., editors, *The Era of Multi-Messenger Solar Physics*, volume 18 of *Proc. IAU*, pages 150–155. IAU, Cambridge University Press.

Eklund, H. (2023). Deep solar ALMA neural network estimator for image refinement and estimates of small-scale dynamics. *A&A*, 669:A106.

Eklund, H., Szydlarski, M., and Wedemeyer, S. (2023). Using the slope of the brightness temperature continuum as a diagnostic tool for solar ALMA observations. *A&A*, 669:A105.

Engvold, O. (1997a). Prominence fine structure. In Golub, L., Bookbinder, J., and DeLuca, E., editors, *High Resolution Atmospheric Dynamics*. Smithsonian Observatory 3-4 June, invited.

Engvold, O. (1997b). Structures and dynamics of solar prominences. In Webb, D., Rust, D., and Schmieder, B., editors, *New Perspectives on Solar Prominences*, volume 167 of *Proc. IAU Symp.*, pages 23–31. Invited.

Engvold, O. (2004). Structures and Dynamics of Solar Filaments - challenges in observing and modeling. In Stepanov, A. V., Benevolenskaya, E. E., and Kosovichev, A. G., editors, *Multi-Wavelength Investigations of Solar Activity*, volume 223 of *IAU Symposium*, pages 187–194.

Erasmus, A., Barreto Cabrera, C. M., and Kusoffsky, U. (1987). Instrumentation of the initial LEST site testing campaign. *LEST Foundation, Technical Report*, 26:57–61.

Erdélyi, R., de Pontieu, B., and Sarro, L. M. (1999). Multiwavelength Observations (SOHO, TRACE, La Palma) and Modelling of Explosive Events. In Wilson, A., editor, *Magnetic Fields and Solar Processes*, volume 448 of *ESA SP*, page 1345. Proc. 9th European Meeting on Solar Physics.

Erdelyi, R., Löfdahl, M., Carlson, M., Mathioudakis, M., Sobotka, M., and Leonard, A. J. (2020). Report on the inventory of existing software and expressed needs for solar physics data tools. Deliverable D2.17, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Eriksson, I. (2018). Characterizing the Albanova heliostat and spectrograph. Bachelor's thesis, Stockholm University.

Ermolli, I., Murabito, M., Chatzistergos, T., Jafarzadeh, S., Giorgi, F., and Rouppe van der Voort, L. (2024). Ca II K brightness as a function of magnetic field strength and characteristics of the observations. In *EAS Annual Meeting 2024*, page 2277.

Espedal Moe, T., Pereira, T. M. D., Calvo, F., and Leenaarts, J. (2023). Shape-based clustering of synthetic Stokes profiles using k-means and k-Shape. *A&A*, 675:A130.

Esteban Pozuelo, S. (2012). Velocidades Doppler en twisting motions de filamentos penumbrales. Master's thesis, Universidad de Granada, Spain.

Esteban Pozuelo, S. (2016). *Observations of small-scale flows in sunspot penumbrae*. PhD thesis, Universidad de Granada. https://digibug.ugr.es/bitstream/handle/10481/42207/25642121.pdf.

Esteban Pozuelo, S., Asensio Ramos, A., de la Cruz Rodríguez, J., Trujillo Bueno, J., and Martínez González, M. J. (2023). Estimating the longitudinal magnetic field in the chromosphere of quiet-Sun magnetic concentrations. *A&A*, 672:A141.

Esteban Pozuelo, S., Bellot Rubio, L. R., and de la Cruz Rodriguez, J. (2015). Lateral downflows in sunspot penumbral filaments and their temporal evolution. *ApJ*, 803(2):93.

Esteban Pozuelo, S., Bellot Rubio, L. R., and de la Cruz Rodriguez, J. (2016). Properties of Supersonic Evershed Downflows. *ApJ*, 832(2):170.

Esteban Pozuelo, S., de la Cruz Rodriguez, J., Drews, A., Rouppe van der Voort, L., Scharmer, G., and Carlsson, M. (2017). Polarization in penumbral microjets. In *Our Mysterious Sun: magnetic coupling between solar interior and atmosphere*, page 13. Shota Rustaveli National Science Foundation of Georgia. https://solar-conference.iliauni.edu.ge/.

Esteban Pozuelo, S., de la Cruz Rodriguez, J., Drews, A., Rouppe van der Voort, L., Scharmer, G. B., and Carlsson, M. (2019). Observationally based models of penumbral microjets. *ApJ*, 870(2):88.

Fabbian, D., Asplund, M., Barklem, P. S., Carlsson, M., and Kiselman, D. (2009). Neutral oxygen spectral line formation revisited with new collisional data: large departures from LTE at low metallicity. *A&A*, 500:1221–1238.

Fabbian, D., Asplund, M., Carlsson, M., and Kiselman, D. (2005). CI non LTE spectral line formation in late-type stars. In Hill, V., François, P., and Primas, F., editors, *IAU Symposium*, pages 255–256.

Fabbian, D., Asplund, M., Carlsson, M., and Kiselman, D. (2006). The non-LTE line formation of neutral carbon in late-type stars. *A&A*, 458:899–914.

Faber, J. T., Joshi, R., Rouppe van der Voort, L., Wedemeyer, S., Fletcher, L., Aulanier, G., and Nóbrega-Siverio, D. (2025). High-resolution observational analysis of flare ribbon fine structures. *A&A*, 693:A8.

Falco, M. (2012). Analisi ad altissima risoluzione spaziale di macchie solari con SST e HINODE. Master's thesis, University of Catania, Italy.

Falco, M. (2016). *Analysis of high resolution observations of sunspots fine structures*. PhD thesis, University of Catania.

Falco, M., Borrero, J. M., Guglielmino, S. L., Romano, P., Zuccarello, F., Criscuoli, S., Cristaldi, A., Ermolli, I., Jafarzadeh, S., and Rouppe van der Voort, L. (2016). Kinematics and Magnetic Properties of a Light Bridge in a Decaying Sunspot. *Sol. Phys.*.

Falco, M., Borrero, J. M., Guglielmino, S. L., Romano, P., Zuccarello, F., Criscuoli, S., Cristaldi, A., Ermolli, I., Jafarzadeh, S., and van der Voort, L. R. (2017). Kinematics and Magnetic Properties of a Light Bridge in a Decaying Sunspot. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 34.

Falco, M., Criscuoli, S., Cristaldi, A., de la Cruz Rodriguez, J., Ermolli, I., Guglielmino, S. L., Romano, P., Rouppe van der Voort, L., and Zuccarello, F. (2014). High-resolution observations of a light bridge in a decaying sunspot. In Spitaleri, C., Lamia, L., and Gianluca Pizzone, R., editors, *Proc. 7th European Summer School on Experimental Nuclear Astrophysics*, volume 1595 of *American Institute of Physics Conference Series*, pages 221–223.

Falco, M., Puglisi, G., Guglielmino, S. L., Romano, P., Ermolli, I., and Zuccarello, F. (2017). Comparison of different populations of granular features in the solar photosphere. *A&A*, 605:A87.

Falco, M., Zuccarello, F., Criscuoli, S., Cristaldi, A., Guglielmino, S. L., and Ermolli, I. (2013). Sunspot evolution observed with SST. *Mem. Soc. Astron. Italiana*, 84:345.

Falco, R. E. (2006). A mechanism for the local production of faculae. *Sol. Phys.*, 234(2):213–242.

Faryad, A. (2025). Automatic Detection of Ellerman Bombs in the Strong Chromospheric Absorption Line Hα. Master's thesis, University of Potsdam.

Feder, T. (2002). New Swedish Solar Telescope Basks on La Palma. *Physics Today*, 55(9):30–30.

Fedun, V., Verth, G., Jess, D. B., and Erdélyi, R. (2011). Frequency Filtering of Torsional Alfvén Waves by Chromospheric Magnetic Field. *ApJ*, 740:L46.

Felipe, T., González Manrique, S. J., Martínez-Gómez, D., Gómez-Míguez, M. M., Khomenko, E., Quintero Noda, C., and Socas-Navarro, H. (2025). Observations of umbral flashes in the resonant sunspot chromosphere. *A&A*, 693:A165.

Felipe, T., Henriques, V. M. J., de la Cruz Rodríguez, J., and Socas-Navarro, H. (2021). Downflowing umbral flashes as evidence of standing waves in sunspot umbrae. *A&A*, 645:L12.

Fernandes, D., Scherrer, P., Tarbell, T., and Title, A. (1993). Observations of High Frequency and High Wavenumber Solar Oscillations. In Brown, T. M., editor, *GONG 1992. Seismic Investigation of the Sun and Stars*, volume 42 of *ASP Conf. Ser.*, page 101.

Fernandes, D. N. (1992). *The Detection and Characterization of the High Frequency and High Wavenumber Solar Oscillations*. PhD thesis, Department of Physics, Stanford University.

Fernandes, D. N., Scherrer, P. H., Tarbell, T. D., and Title, A. M. (1992). Observations of high frequency and high wavenumber solar oscillations.

Fernandes, D. N., Sherrer, P. H., Tarbell, T. D., and Title, A. M. (1992). Observations of high-frequency and high-wavenumber solar oscillations. *ApJ*, 392:736–738.

Fischer, C. E., Vigeesh, G., Lindner, P., Borrero, J. M., Calvo, F., and Steiner, O. (2020). Interaction of Magnetic Fields with a Vortex Tube at Solar Subgranular Scale. *ApJ*, 903(1):L10.

Fleck, B., Armstrong, J., Cacciani, A., de Pontieu, B., Finsterle, W., Jefferies, S. M., McIntosh, S. W., and Tarbell, T. D. (2005). Travel Time and Phase Analysis of Waves in the Lower Solar Chromosphere. *AGU Spring Meeting Abstracts*, pages SH13C–04.

Fonte, C. C. and Fernandes, J. (2009). Application of Fuzzy Sets to the Determination of Sunspot Areas. *Sol. Phys.*, 260:21–41.

Foukal, P., Fröhlich, C., Spruit, H., and Wigley, T. M. L. (2006). Variations in solar luminosity and their effect on the Earth's climate. *Nature*, 443(7108):161–166.

Foukal, P., Ortiz, A., and Schnerr, R. (2011). Dimming of the 17th century sun. *ApJ*, 733(2):L38.

Foukal, P. V., Ortiz, A., and Schnerr, R. (2011a). Dimming of the 17th Century Sun. In *American Astronomical Society Meeting Abstracts #218*, page 224.23.

Foukal, P. V., Ortiz, A., and Schnerr, R. (2011b). Dimming of the 17th Century Sun. In *AAS/Solar Physics Division Abstracts #42*, page 702.

Frank, Z., Shine, R., Slater, G., Tarbell, T., and Topka, K. (1990). Generation of waves and electric currents on magnetic flux tubes by horizontal and vertical velocities in the photosphere. *BAAS*, 22:878.

Frank, Z. A., Scharmer, G. B., Keller, C. U., and Lundstedt, H. (1991). Fine scale magnetic fields in a sunspot penumbra and adjacent photosphere. *BAAS*, 23:1052.

Freij, N. (2016). *The identification and analysis of MHD waves and oscillations in localised solar atmospheric wave guides*. PhD thesis, University of Sheffield, UK.

Freij, N., Scullion, E. M., Nelson, C. J., Mumford, S., Wedemeyer, S., and Erdélyi, R. (2014). The detection of upwardly propagating waves channelling energy from the chromosphere to the low corona. *ApJ*, 791:61.

Freytag, B., Steffen, M., and Dorch, B. (2002). Spots on the surface of Betelgeuse – Results from new 3D stellar convection models. *Astronomische Nachrichten*, 323:213–219.

Froment, C., Antolin, P., Henriques, V. M. J., Kohutova, P., and Rouppe van der Voort, L. H. M. (2020). Multi-scale observations of thermal non-equilibrium cycles in coronal loops. *A&A*, 633:A11.

García López, R. J., Lambert, D. L., Edvardsson, B., Gustafsson, B., Kiselman, D., and Rebolo, R. (1998). Boron in very metal-poor stars. *ApJ*, 500:241.

Getling, A. V. (2004). Structure of solar convection: Guesses and observational evidence. In Stepanov, A. V., Benevolenskaya, E. E., and Kosovichev, A. G., editors, *Multi Wavelength Investigations of Solar Activity*, volume 223 of *IAU Symposium*, pages 247–248. Cambridge University Press.

Getling, A. V. and Brandt, P. N. (2002). Regular structures of the solar photosphere. (Persistence of the granular field and trenching in the brightness relief). *A&A*, 382:L5–L8.

Giagkiozis, I., Fedun, V., Scullion, E., Jess, D. B., and Verth, G. (2018). Vortex Flows in the Solar Atmosphere: Automated Identification and Statistical Analysis. *ApJ*, 869(2):169.

Golding, T. P., Carlsson, M., and Leenaarts, J. (2014). Detailed and Simplified Nonequilibrium Helium Ionization in the Solar Atmosphere. *ApJ*, 784:30.

Golding, T. P., Leenaarts, J., and Carlsson, M. (2016). Non-equilibrium Helium Ionization in an MHD Simulation of the Solar Atmosphere. *ApJ*, 817:125.

Golding, T. P., Leenaarts, J., and Carlsson, M. (2017). Formation of the helium EUV resonance lines. *A&A*, 597:A102.

González Manrique, S. J., Kuckein, C., Pastor Yabar, A., Collados, M., Denker, C., Verma, M., Diercke, A., Balthasar, H., Gömöry, P., Cubas Armas, M., Lagg, A., Solanki, S., and Strassmeier, K. (2017). Photospheric and chromospheric observations of dynamic features in an arch filament system. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 38.

González Manrique, S. J., Kuckein, C., Pastor Yabar, A., Diercke, A., Collados, M., Gömöry, P., Zhong, S., Hou, Y., and Denker, C. (2020). Tracking downflows from the chromosphere to the photosphere in a solar arch filament system. *ApJ*, 890(1):82.

Gorosabel, J., Xu, D., de Ugarte Postigo, A., Fynbo, J. P. U., Jakobsson, P., Malesani, D., Tanvir, N. R., Watson, D., Gafton, E., and Libbrecht, T. (2014). GRB 150416A: NOT optical observations. *GRB Coordinates Network*, 16290:1.

Gosic, M., de la Cruz Rodriguez, J., De Pontieu, B., Bellot Rubio, L., Esteban Pozuelo, S., and Ortiz-Carbonell, A. N. (2017a). Chromospheric Heating Driven by Cancellations of Internetwork Magnetic Flux. In *AGU Fall Meeting Abstracts*, volume 2017, pages SH41C–02.

Gosic, M., de la Cruz Rodríguez, J., De Pontieu, B., Bellot Rubio, L., Ortiz, A., and Esteban Pozuelo, S. (2017b). Chromospheric heating due to internetwork magnetic flux cancellations. In *AAS/Solar Physics Division Abstracts #48*, volume 48 of *AAS/Solar Physics Division Meeting*, page 104.04.

Gošic, M., De Pontieu, B., Bellot Rubio, L. R., Sainz Dalda, A., and Esteban Pozuelo, S. (2021). Emergence of internetwork magnetic fields through the solar atmosphere. *ApJ*, 911(1):41.

Gošić, M., de la Cruz Rodríguez, J., De Pontieu, B., Bellot Rubio, L. R., Carlsson, M., Esteban Pozuelo, S., Ortiz, A., and Polito, V. (2018). Chromospheric heating due to cancellation of quiet Sun internetwork fields. *ApJ*, 857:48.

Griñón-Marín, A. B., Pastor Yabar, A., Centeno, R., and Socas-Navarro, H. (2021a). Long-term evolution of three light bridges developed on the same sunspot. *A&A*, 647:A148.

Griñón-Marín, A. B., Pastor Yabar, A., Liu, Y., Hoeksema, J. T., and Norton, A. (2021b). Improvement of the Helioseismic and Magnetic Imager (HMI) Vector Magnetic Field Inversion Code. *ApJ*, 923(1):84.

Grinon Marin, A. B. and Pastor Yabar, A. (2022). A new view into flaring sunspots. In *EAS2022, European Astronomical Society Annual Meeting*, page 1715.

Gudiksen, B. V. (2003). Korona-mysteriet. *Aktuel naturvidenskab*, 2003(1):18–21.

Gudiksen, B. V. (2004a). *The coronal heating problem*. PhD thesis, Stockholm University.

Gudiksen, B. V. (2004b). How the solar corona may truly function. *EAFnytt*, 2004:12–14.

Gudiksen, B. V. and Nordlund, Å. (2002). Bulk Heating and Slender Magnetic Loops in the Solar Corona. *ApJ*, 572:L113–L116.

Gudiksen, B. V. and Nordlund, Å. (2005a). An AB Initio Approach to Solar Coronal Loops. *ApJ*, 618(2):1031–1038.

Gudiksen, B. V. and Nordlund, Å. (2005b). An Ab Initio Approach to the Solar Coronal Heating Problem. *ApJ*, 618(2):1020–1030.

Gudiksen, B. V. and Nordlund, Å. (2005a). Erratum: An ab initio approach to solar coronal loops. *ApJ*, 623(1):597–599.

Gudiksen, B. V. and Nordlund, Å. (2005b). Erratum: An ab initio approach to the solar coronal heating problem. *ApJ*, 623(1):600.

Guevara Gómez, J. C., Jafarzadeh, S., Wedemeyer, S., Grant, S. D. T., Eklund, H., and Szydlarski, M. (2023). The Sun at millimeter wavelengths. IV. Magnetohydrodynamic waves in small-scale bright features. *A&A*, 671:A69.

Guglielmino, S. L., Bellot Rubio, L. R., Zuccarello, F., Aulanier, G., Vargas Domínguez, S., and Kamio, S. (2010). Multiwavelength observations of small-scale reconnection events triggered by magnetic flux emergence in the solar atmosphere. *ApJ*, 724:1083–1098.

Guglielmino, S. L., Bellot Rubio, L. R., Zuccarello, F., Romano, P., and Vargas Domínguez, S. (2010). High-resolution observations of interactions during the emergence of magnetic flux from the photosphere to the corona. *Mem. Societa Astronomica Italiana Supplementi*, 14:184.

Guglielmino, S. L., Zuccarello, F., Romano, P., Cristaldi, A., Ermolli, I., Criscuoli, S., Falco, M., and Zuccarello, F. P. (2016). A Multi-instrument Analysis of a C4.1 Flare Occurring in a δ Sunspot. *ApJ*, 819:157.

Gustafsson, B., Eriksson, K., Kiselman, D., Olander, N., and Olofsson, H. (1997). K I emission from envelopes around N-type stars I. Spectroscopic observations and interpretations. *A&A*, 318:535–542.

Gustafsson, B., Eriksson, K., Kiselman, D., Olander, N., Olofsson, H., and Schwarz, H. E. (2000). Scattered Light from Envelopes around N-type Stars. In Wing, R. F., editor, *The Carbon Star Phenomenon*, volume 177 of *IAU Symp.*, page 409.

Hagenaar, H. J. and Shine, R. A. (2005). Moving Magnetic Features around Sunspots. *ApJ*, 635(1):659–669.

Hagenaar, H. J. and Shine, R. S. (2005). Moving magnetic features around sunspots. In Danesy, D., Poedts, S., de Groof, A., and Andries, J., editors, *The Dynamic Sun: Challenges for Theory and Observations*, volume 600 of *ESA Special Publication*, page 60.1.

Hagfors Haugan, S. V., Carlsson, M., Fredvik, T., Löfdahl, M., and Thompson, W. T. (2020). Update on metadata recommendations for observational data. Deliverable D2.18, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Hagfors Haugan, S. V., Carlsson, M., Fredvik, T., Löfdahl, M., and Thompson, W. T. (2023). Final metadata recommendations for observational data. Deliverable D2.19, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Hamedivafa, H. (2011). Kinematics of Umbral Dots: Their Typical Area, Brightness and Lifetime. *Sol. Phys.*, 270(1):75–88.

Hamedivafa, H. and Sobotka, M. (2004). Observational evidences of Joule heating in some umbral dots. *A&A*, 428:215–218.

Hamedivafa, H., Sobotka, M., Bellot Rubio, L., and Esteban Pozuelo, S. (2016). A study on Ca II 854.2 nm emission in a sunspot umbra using a thin cloud model. *Iranian Journal of Astronomy and Astrophysics*, 3(1):25–45.

Hammerschlag, R. H., Bettonvil, F. C. M., Jägers, A. P. L., and Scharmer, G. B. (2006). Large bearings with incorporated gears, high stiffness and precision for the Swedish Solar Telescope (SST) on La Palma. In Atad-Ettedgui, E., Antebi, J., and Lemke, D., editors, *Optomechanical Technologies for Astronomy*, volume 6273 of *Proc. SPIE*, page 627315.

Hammerschlag, R. H., Kommers, J. N., Visser, S., Bettonvil, F. C. M., van Schie, A. G. M., van Leverink, S. J., Sliepen, G., and Jägers, A. P. L. (2012a). The GREGOR dome, pathfinder for the EST dome. In Navarro, R., Cunningham, C. R., and Prieto, E., editors, *Modern Technologies in Space- and Ground-based Telescopes and Instrumentation II*, volume 8450 of *Proc. SPIE*, page 845007.

Hammerschlag, R. H., Kommers, J. N., Visser, S., Bettonvil, F. C. M., van Schie, A. G. M., van Leverink, S. J., Sliepen, G., Jägers, A. P. L., Schmidt, W., and Volkmer, R. (2012b). Open-foldable domes with high-tension textile membranes: The GREGOR dome. *Astronomische Nachrichten*, 333(9):830.

Hammerschlag, R. H., Sliepen, G., Bettonvil, F. C. M., Jägers, A. P. L., Sütterlin, P., and Martin, S. F. (2012c). Large-field high-resolution mosaic movies. In Stepp, L. M., Gilmozzi, R., and Hall, H. J., editors, *Ground-based and Airborne Telescopes IV*, volume 8444 of *Proc. SPIE*, page 844406.

Hammerstrøm, M. (2022). En solskinnshistorie. Det svenske solteleskopet fyller 20 år. *Astronomi*, 2022(4). Norsk Astronomisk Selskap.

Hansen, I. (2000). *Bright Rims of Prominences*. Hovedfagsoppgave, Institutt for Teoretisk Astrofysikk, Oslo.

Hansen, I., Engvold, O., Schmieder, B., Mein, N., and Mein, P. (1999). Bright Rims of Solar Prominences. In Wilson, A., editor, *Magnetic Fields and Solar Processes*, volume 448 of *ESA SP*, page 491. Proc. 9th European Meeting on Solar Physics.

Hanslmeier, A., Zaqarashvili, T., Koza, J., and Rybak, J. (2017). Probing the lower solar atmosphere with CRISP-SST Data. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 113.

Hansteen, V., Ortiz, A., Archontis, V., Carlsson, M., Pereira, T. M. D., and Bjørgen, J. P. (2019a). Ellerman bombs and UV bursts: transient events in chromospheric current sheets. *A&A*, 626:A33.

Hansteen, V. H., Archontis, V., Pereira, T. M. D., Carlsson, M., Rouppe van der Voort, L., and Leenaarts, J. (2017a). Bombs and Flares at the Surface and Lower Atmosphere of the Sun. *ApJ*, 839:22.

Hansteen, V. H., De Pontieu, B., Rouppe van der Voort, L., van Noort, M., and Carlsson, M. (2006). Dynamic fibrils are driven by magnetoacoustic shocks. *ApJ*, 647(1):L73–L76.

Hansteen, V. H., Ortiz-Carbonell, A. N., Nobrega, D. E., and Rouppe van der Voort, L. (2019b). Ellerman bombs and UV bursts: reconnection at different atmospheric layers. In *AGU Fall Meeting Abstracts*, volume 2019, pages SH13B–06.

Hansteen, V. H., Ortiz-Carbonell, A. N., and Rouppe van der Voort, L. (2017b). Ellerman bombs and UV bursts: reconnection at different atmospheric layers? In *AGU Fall Meeting Abstracts*, volume 2017, pages SH43A–2801.

Hartogensis, O., Hammerschlag, R., Sliepen, G., Sprung, D., von der Lühe, O., and Collados, M. (2017). Micro-meteorological contribution to the SHABAR seeing retrieval. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 102.

Hasan, S. S. (2000). Dynamical Processes in Flux Tubes and their Role in Chromospheric Heating. *Journal of Astrophysics and Astronomy*, 21(3-4):283–287. Special issue on 'Cyclical Evolution of the Solar Magnetic Fields: Advances in Theory and Observations', Proc. IAU Colloquium No. 179.

Hasan, S. S. (2008). Chromospheric dynamics. *Advances in Space Research*, 42:86–95.

Hasan, S. S. and Kalkofen, W. (1999). Excitation of oscillations in the magnetic network on the Sun. *BAAS*, 194:93.09.

Hasan, S. S., Kalkofen, W., and van Ballegooijen, A. A. (2000). Excitation of oscillations in the magnetic network on the sun. *ApJ*, 535(1):L67–L70.

Heinemann, T., Nordlund, Å., Scharmer, G. B., and Spruit, H. C. (2007). MHD simulations of penumbra fine structure. *ApJ*, 669:1390–1394.

Heinzel, P., Schwartz, P., Lörinčík, J., Koza, J., Jejčič, S., and Kuridze, D. (2020). Signatures of Helium Continuum in Cool Flare Loops Observed by SDO/AIA. *ApJ*, 896(2):L35.

Henrichs, H. F., Neiner, C., Schnerr, R. S., Verdugo, E., Alecian, A., Catala, C., Cochard, F., Gutiérrez, J., Huat, A.-L., Silvester, J., and Thizy, O. (2009a). The magnetic field of the B3V star 16 Pegasi. In Strassmeier, K. G., Kosovichev, A. G., and Beckman, J. E., editors, *Cosmic Magnetic Fields: From Planets, to Stars and Galaxies*, volume 259 of *IAU Symposium*, pages 393–394.

Henrichs, H. F., Schnerr, R. S., de Jong, J. A., Kaper, L., Donati, J.-F., and Catala, C. (2009b). Search for the magnetic field of the O7.5 III star ξ Persei. In Strassmeier, K. G., Kosovichev, A. G., and Beckman, J. E., editors, *Cosmic Magnetic Fields: From Planets, to Stars and Galaxies*, volume 259 of *IAU Symposium*, pages 383–384.

Henriques, V. (2021). The corrugated umbra model. ESPOS seminar on 2021-02-11.

Henriques, V., Kiselman, D., and van Noort, M. (2008a). Temperature structure from Ca II H wing inversions. *12th European Solar Physics Meeting, Freiburg, Germany*, 12:2.76.

Henriques, V., Kiselman, D., and van Noort, M. (2008b). Temperature structure from Ca II H wing inversions. In *International Workshop of 2008 Solar Total Eclipse: Solar Magnetism, Corona and Space Weather*. National Astronomical Observatories, CAS. http://sun10.bao.ac.cn/eclipse/en/index.html.

Henriques, V. M. J. (2012). Three-Dimensional Temperature Mapping of Solar Photospheric Fine Structure Using Ca II H Filtergrams. *A&A*, 548:A114.

Henriques, V. M. J. (2013). *Three-dimensional mapping of fine structure in the solar atmosphere*. PhD thesis, Stockholm University.

Henriques, V. M. J. and Kiselman, D. (2009). Temperature stratification in the Sun's photosphere in high horizontal resolution using Ca II H filtergrams. In K. N. Nagendra, P. B. and Ludwig, H.-G., editors, *3D views on cool stellar atmospheres: theory meets observation*, volume 80 of *Mem. Soc. Astron. Italiana*, page 639. Joint Discussion 10, IAU General Assembly, Rio de Janeiro, August 10-11, 2009.

Henriques, V. M. J. and Kiselman, D. (2013). Ca II H sunspot tomography from the photosphere to the chromosphere. *A&A*, 557:A5.

Henriques, V. M. J., Kiselman, D., and van Noort, M. (2010). Photospheric temperatures from Ca II H. In Hasan, S. S. and Rutten, R. J., editors, *Magnetic Coupling between the Interior and the Atmosphere of the Sun*, volume 19 of *Astrophysics and Space Science Proceedings*, pages 511–512. Springer-Verlag, Heidelberg, Berlin.

Henriques, V. M. J., Kuridze, D., Mathioudakis, M., and Keenan, F. P. (2016). Quiet Sun Hα Transients and Corresponding Small-Scale Transition Region and Coronal Heating. *ApJ*, 820:124.

Henriques, V. M. J., Mathioudakis, M., Socas-Navarro, H., and de la Cruz Rodriguez, J. (2017). A Hot Downflowing Model Atmosphere For Umbral Flashes And The Physical Properties Of Their Dark Fibrils. *ApJ*, 845:102.

Henriques, V. M. J., Nelson, C. J., Rouppe van der Voort, L. H. M., and Mathioudakis, M. (2020). Umbral chromospheric fine structure and umbral flashes modelled as one: The corrugated umbra. *A&A*, 642:A215.

Henriques, V. M. J., Scullion, E., Mathioudakis, M., Kiselman, D., Gallagher, P. T., and Keenan, F. P. (2015). Stable Umbral Chromospheric Structures. *A&A*, 574:A131.

Herde, V. (2024). *Instrumentation and Analysis Tools for Studying Solar Spicules in the Sun's Upper Chromosphere*. PhD thesis, University of Colorado at Boulder.

Herde, V. L., Bose, S., Chamberlin, P. C., Schmit, D., Daw, A., Polito, V., and Gonzalez, G. (2024). Identifying Spicules in Mg II: Statistics and Comparisons with Hα. *arXiv*. Withdrawn draft.

Hewitt, R. (2016). *Small-scale structures on the Solar Surface: The Evolution of Magnetic Bright Points*. PhD thesis, Queen's University Belfast, UK.

Hillberg, T. (2006). Spectropolarimetry at the Swedish Solar Telescope. In *Solar Active Regions and 3D Magnetic Structure*, volume 3 of *IAU Joint Discussion*. 26th meeting of the IAU, Joint Discussion 3, 16–17 August, 2006, Prague, Czech Republic, JD03, #81.

Hirzberger, J., Bonet, J. A., Hanslmeier, A., Vázquez, M., and Sobotka, M. (1996). Time evolution of solar granulation phenomena. Astronomische Gesellschaft, Abstract Series, Vol. 12, p. 160, Ed. R. E. Schielicke.

Hirzberger, J., Bonet, J. A., Sobotka, M., Vázquez, M., and Hanslmeier, A. (2002). Fine structure and dynamics in a light bridge inside a solar pore. *A&A*, 383:275–282.

Hirzberger, J., Bonet, J. A., Vásques, M., Hanslmeier, A., and Sobotka, M. (1999a). Granulation in active regions as compared to quiet regions. In Schielicke, R. E., editor, *Astronomische Gesellschaft Abstract Series*, volume 15 of *Astronomische Gesellschaft Abstract Services*, page 88.

Hirzberger, J., Bonet, J. A., Vázquez, M., and Hanslmeier, A. (1999b). Time series of solar granulation images. II. Evolution of individual granules. *ApJ*, 515(1):441–454.

Hirzberger, J., Bonet, J. A., Vázquez, M., and Hanslmeier, A. (1999c). Time series of solar granulation images. III. Dynamics of exploding granules and related phenomena. *ApJ*, 527(1):405–414.

Hirzberger, J., Bonet, J. A., Vázquez, M., and Hanslmeier, A. (2000). The dependence of convective motions on the solar surface magnetism. In Biernat, H. K., Farrugia, C. J., and Vogl, D. F., editors, *Proc. Third International Workshop on The Solar Wind-Magnetosphere System*. Akademie der Wissenschaften, Viena. 21-25 Sept. 1998, Graz (Austria).

Hirzberger, J., Bonet, J. A., Vázquez, M., Hanslmeier, A., and Sobotka, M. (1997a). Are there two different populations of solar granules? In Alissandrakis, C. E., Simnett, G., and Vlahos, L., editors, *Solar and Heliospheric Plasma Physics, Proc. 8th European Solar Physics Meeting*, volume 489 of *Lecture notes in physics*. Springer. 13-18 May 1996 Thessaloniki (Grece).

Hirzberger, J., Hanslmeier, A., Bonet, J., and Vásques, M. (1999d). Time evolution of solar granulation. In Rimmele, T., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations and Techniques*, volume 183 of *ASP Conf. Ser.*, page 507.

Hirzberger, J., Hanslmeier, A., Bonet, J. A., and Vázquez, M. (1995). Area and intensity distribution in solar granulation. In Strassmeier, K. G., editor, *Stellar Surface Structure*, volume 176 of *Proc. IAU Symp.*, pages 114–116. Poster proceedings.

Hirzberger, J., Hanslmeier, A., Bonet, J. A., and Vázquez, M. (2001). High Resolution Observations of a Photospheric Light Bridge. In Hanslmeier, A., Messerotti, M., and Veronig, A., editors, *The Dynamic Sun*, volume 259 of *Astrophysics and Space Science Library*, page 271. Proc. Summerschool and Workshop, Solar Observatory Kanzelhöhe, Kärnten, Austria, Aug. 30–Sep. 10, 1999,.

Hirzberger, J., Riethmüller, T., Lagg, A., Solanki, S. K., and Kobel, P. (2009a). High-resolution spectro-polarimetry of a flaring sunspot penumbra. *A&A*, 505(2):771–790.

Hirzberger, J., Riethmüller, T., Solanki, S. K., and Kobel, P. (2009b). Multi-Channel Observations of a Solar Flare. In Berdyugina, S. V., Nagendra, K. N., and Ramelli, R., editors, *Solar Polarization 5: In Honor of Jan Stenflo*, volume 405 of *ASP Conference Series*, page 125.

Hirzberger, J., Vazquez, M., Bonet, J. A., Hanslmeier, A., and Sobotka, M. (1997b). Time series of solar granulation images. I. Differences between small and large granules in quiet regions. *ApJ*, 480(1):406–419.

Hirzberger, J. and Wiehr, E. (2005). Solar limb faculae. *A&A*, 438:1059–1065.

Hirzberger, J., Wiehr, E., and Stellmacher, G. (2007). Imaging of the He D_3/Hβ emission ratio in quiescent solar prominences. In Heinzel, P., Dorotovič, I., and Rutten, R. J., editors, *The Physics of Chromospheric Plasmas*, volume 368 of *ASP Conference Series*, page 321.

Hoekzema, N. M. (1997). *Statistical Studies of Dynamical Structures in the Quiet Solar Atmosphere*. PhD thesis, Utrecht University.

Hoekzema, N. M. and Brandt, P. N. (1999). On the relation of photospheric oscillations to meso-scale flows. In Rimmele, T., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations and Techniques*, volume 183 of *ASP Conf. Ser.*, page 473.

Hoekzema, N. M. and Brandt, P. N. (2000). Small-scale topology of solar atmosphere dynamics. IV. On the relation of photospheric oscillations to meso-scale flows. *A&A*, 353:389–395.

Hoekzema, N. M., Brandt, P. N., and Rutten, R. J. (1998a). Small-scale topology of solar atmosphere dynamics. III. Granular persistence and photospheric wave amplitudes. *A&A*, 333:322–332.

Hoekzema, N. M. and Rutten, R. J. (1998). Small-scale topology of solar atmosphere dynamics. II. Granulation, K2v grains and waves. *A&A*, 329:725–734.

Hoekzema, N. M., Rutten, R. J., Brandt, P. N., and Shine, R. A. (1998b). Small-scale topology of solar atmosphere dynamics. I. Wave sources and wave diffraction. *A&A*, 329:276–290.

Högbom, J. A. (1989a). On the intensity distribution over the focal volume. In von der Lühe, O., editor, *High Spatial Resolution Solar Observations*, page 166. Proc. 10th Sacramento Peak Summer Workshop.

Högbom, J. A. (1989b). Reconstruction from focal volume information. In Rutten, R. J. and Severino, G., editors, *Solar and Stellar Granulation*, volume 263 of *NATO ASI Series C*, pages 61–68. Kluwer Academic Publishers.

Hole, I. B. A. (2012). The inverse-c shape of the ca ii 8542 å spectral line. Master's thesis, University of Oslo.

Hosinsky, G., Kusoffsky, U., and Wyller, A. (1985). Recent Observational Experiences with the New Swedish Solar Telescope at Observatorio del Roque de los Muchachos, Canary Islands. In de Jager, C. and Chen, B., editors, *Solar Physics and Interplanetary Travelling Phenomena*, page 1199.

Huang, Y., Jia, P., Cai, D., and Cai, B. (2019). Perception Evaluation: A New Solar Image Quality Metric Based on the Multi-fractal Property of Texture Features. *Sol. Phys.*, 294(9):133.

Huang, Z., Madjarska, M. S., Scullion, E. M., Xia, L.-D., Doyle, J. G., and Ray, T. (2017). Explosive events in active region observed by IRIS and SST/CRISP. *MNRAS*, 464:1753–1761.

Hubrig, S., Schöller, M., Briquet, M., De Cat, P., Morel, T., Kurtz, D., Elkin, V., Stelzer, B., Schnerr, R., Grady, C., Pogodin, M., Schütz, O., Curé, M., Yudin, R., and Mathys, G. (2009). Studying the magnetic properties of upper main-sequence stars with FORS1. *The Messenger*, 135:21–25.

Hubrig, S., Schöller, M., Schnerr, R. S., Ilyin, I., Henrichs, H. F., Ignace, R., and González, J. (2009). Magnetic fields in O-type stars measured with FORS 1 at the VLT. In Strassmeier, K. G., Kosovichev, A. G., and Beckman, J. E., editors, *Cosmic Magnetic Fields: From Planets, to Stars and Galaxies*, volume 259 of *IAU Symposium*, pages 381–382.

Ishikawa, R., Trujillo Bueno, J., del Pino Aleman, T., Okamoto, T. J., McKenzie, D. E., Auchere, F., Kano, R., Song, D., Yoshida, M., Rachmeler, L. A., Kobayashi, K., Hara, H., Kubo, M., Narukage, N., Sakao, T., Shimizu, T., Suematsu, Y., Bethge, C., De Pontieu, B., Sainz Dalda, A., Vigil, G. D., Winebarger, A., Alsina Ballester, E., Belluzzi, L., Stepan, J., Asensio Ramos, A., Carlsson, M., and Leenaarts, J. (2021). Mapping Solar Magnetic Fields from the Photosphere to the Base of the Corona. *Science Advances*, 7(8):eabe8406.

Ishikawa, R., Tsuneta, S., Kitakoshi, Y., Katsukawa, Y., Bonet, J. A., Vargas Domínguez, S., Rouppe van der Voort, L. H. M., Sakamoto, Y., and Ebisuzaki, T. (2007). Relationships between magnetic foot points and G-band bright structures. *A&A*, 472(3):911–918.

Izadparast, M. (2015). Multi-wavelength observations of magnetic bright points (MBPs) in the lower solar atmosphere. Master's thesis, University of Oslo.

Jacobson, W. A. and Pasachoff, J. M. (2008). Using SST and TRACE Observations to Test Spicule Models. In *AGU Spring Meeting Abstracts*, volume 2008, pages SP43B–02.

Jafarzadeh, S., Rouppe van der Voort, L., and de la Cruz Rodríguez, J. (2015). Magnetic upflow events in the quiet-Sun photosphere. I. Observations. *ApJ*, 810(1):54.

Janvier, M. (2024). 4 years of the Sun revealed by the Solar Orbiter mission. In *45th COSPAR Scientific Assembly*, volume 45, page 840. Abstract D0.1-0005-24.

Jarolim, R., Da Silva Santos, J. M., Rempel, M., Korsos, M., van Fay-Siebenburgen, R., Veronig, A., Soos, S., and Kuridze, D. (2025). Chromospheric Magnetic Field Extrapolations Unveil the Magnetic Topology of Solar Active Region Filament. In *American Astronomical Society Meeting Abstracts*, volume 246 of *American Astronomical Society Meeting Abstracts*, page 110.10.

Jefferies, S., De Pontieu, B., McIntosh, S., and Hansteen, V. H. (2007). Magneto-acoustic Waves And Their Role In The Energetics And Dynamics Of The Solar Chromosphere. *BAAS*, 39:245.

Jennerholm Hammar, F. (2015). Inference of chromospheric magnetic fields with the Ca II 8542 line. Master's thesis, Uppsala University.

Jensen, E., Engvold, O., and Scharmer, G. B. (1989). Examples of high resolution observations of solar fine structure. In Leer, E. and Maltby, P., editors, *Proc. Mini Workshop on Flux Tubes in the Solar Atmosphere*, Institute for Theoretical Astrophysics, University of Oslo, page 67.

Jensen, E., Yi, Z., and Engvold, O. (1994). Filament oscillations as evidence for Alfvén waves. *Sol. Phys.*, 149(1):209–212.

Jess, D. B., Jafarzadeh, S., Keys, P. H., Stangalini, M., Verth, G., and Grant, S. D. T. (2023). Waves in the lower solar atmosphere: the dawn of next-generation solar telescopes. *Living Reviews in Solar Physics*, 20(1):1.

Jess, D. B., Mathioudakis, M., Browning, P. K., Crockett, P. J., and Keenan, F. P. (2010). Microflare activity driven by forced magnetic reconnection. *ApJ*, 712:L111–L115.

Jess, D. B., Mathioudakis, M., Crockett, P. J., and Keenan, F. P. (2008). Do all flares have white-light emission? *ApJ*, 688:L119–L122.

Jess, D. B., Mathioudakis, M., Erdélyi, R., Crockett, P. J., Keenan, F. P., and Christian, D. J. (2009). Alfvén waves in the lower solar atmosphere. *Science*, 323(5921):1582–1585.

Jess, D. B. and Verth, G. (2016). Ultra-high-resolution Observations of MHD Waves in Photospheric Magnetic Structures. In Keiling, A., Lee, D.-H., and Nakariakov, V., editors, *Low-frequency Waves in Space Plasmas*, volume 216 of *Washington DC American Geophysical Union Geophysical Monograph Series*, chapter 25, pages 449–465. AGU/Wiley.

Johannesson, A. (1992). High spatial resolution imaging from sequences of slit spectra. In *LEST Mini-Workshop on Software for Solar Image Processing*, pages 51–60.

Johannesson, A. (1992). *High Spatial Resolution Imaging of Solar Photospheric Structure*. PhD thesis, Lund Observatory.

Johannesson, A. (1993). The fine scale dynamics of a sunspot penumbra. *A&A*, 273:633–641.

Johannesson, A., Bida, T. A., Lites, B. W., and Scharmer, G. B. (1992). Very high spatial resolution two-dimensional solar spectroscopy with video CCDs. *A&A*, 258(2):572–582.

Johansson, U. (2010). Cross-correlation techniques with different interpolation methods in adaptive optics. Masters thesis, Stockholm University.

Johnson, Z. M. (2003). Here comes the sun. *V Magazine*, 2003(22).

Jordahl, E. H. F. (2013). Investigation of dynamic fibrils in H-alpha 6563 and Ca II 8542. Master's thesis, University of Oslo.

Joshi, J. (2014). *Magnetic and Velocity Field of Sunspots in the Photosphere and Upper Chromosphere*. PhD thesis, Technischen Universität Braunschweig. ISBN 978-3-944072-01-2.

Joshi, J. (2017). Magnetic field variations associated with umbral flashes and penumbral waves. ESPOS seminar on 2017-05-18.

Joshi, J. and de la Cruz Rodríguez, J. (2018). Magnetic field variations associated with umbral flashes and penumbral waves. *A&A*, 619:A63.

Joshi, J., Lagg, A., Hirzberger, J., and Solanki, S. K. (2017a). Three-dimensional magnetic structure of a sunspot: comparison of the photosphere and upper chromosphere. *A&A*, 604:A98.

Joshi, J., Lagg, A., Hirzberger, J., Solanki, S. K., and Tiwari, S. K. (2017b). Vertical magnetic field gradient in the photospheric layers of sunspots. *A&A*, 599:A35.

Joshi, J., Lagg, A., Solanki, S. K., Feller, A., Collados, M., Orozco Suárez, D., Schlichenmaier, R., Franz, M., Balthasar, H., Denker, C., Berkefeld, T., Hofmann, A., Kiess, C., Nicklas, H., Pastor Yabar, A., Rezaei, R., Schmidt, D., Schmidt, W., Sobotka, M., Soltau, D., Staude, J., Strassmeier, K. G., Volkmer, R., von der Lühe, O., and Waldmann, T. (2016). Upper Chromospheric Magnetic Field of a Sunspot Penumbra: Observations of Fine Structure. *A&A*, 596:A8.

Joshi, J., Pietarila, A., Hirzberger, J., Solanki, S. K., Aznar Cuadrado, R., and Merenda, L. (2011a). Convective Nature of Sunspot Penumbral Filaments: Discovery of Downflows in the Deep Photosphere. *ApJ*, 734:L18.

Joshi, J., Pietarila, A., Hirzberger, J., Solanki, S. K., Aznar Cuadrado, R., and Merenda, L. (2011b). Erratum: "Convective Nature of Sunspot Penumbral Filaments: Discovery of Downflows in the Deep Photosphere" (2011, ApJ, 734, L18). *ApJ*, 740:L55.

Joshi, J., Rouppe van der Voort, L. H. M., and de la Cruz Rodríguez, J. (2020). Signatures of ubiquitous magnetic reconnection in the lower solar atmosphere. *A&A*, 641:L5.

Joshi, R., Aulanier, G., Radcliffe, A., Rouppe van der Voort, L., Pariat, E., Nóbrega-Siverio, D., and Schmieder, B. (2024a). Generic low-atmosphere signatures of swirled-anemone jets. *A&A*.

Joshi, R., Rouppe van der Voort, L., Schmieder, B., Moreno-Insertis, F., Prasad, A., Aulanier, G., and Nóbrega-Siverio, D. (2024b). High-resolution observations of recurrent jets from an arch filament system. *A&A*, 691:A198.

Judge, P. G., Tritschler, A., and Chye Low, B. (2011). Thermal Fine Structure and Magnetic Fields in the Solar Atmosphere: Spicules and Fibrils. *ApJ*, 730:L4.

Jurcak, J., Collados, M., Leenaarts, J., van Noort, M., and Schlichenmaier, R. (2019). Recent advancements in the EST project. *Advances in Space Research*, 63:1389–1395. Proc. 15th European Solar Physics Meeting.

Jurčák, J., Sobotka, M., and Martínez-Pillet, V. (2005). Velocity fields in an irregular sunspot. In Hanslmeier, A., Veronig, A., and Messerotti, M., editors, *Solar Magnetic Phenomena*, volume 320 of *Astronomy and Astrophysics Space Science Library*, pages 227–230. Springer, Dordrecht, The Netherlands. Proc. 3rd Summerschool and Workshop, at the Solar Observatory Kanzelhöhe, Kärnten, Austria, August 25 – September 5, 2003.

Jurčák, J., Lemmerer, B., and van Noort, M. (2017). Granular cells in the presence of magnetic field. In Vargas Domínguez, S., Kosovichev, A. G., Antolin, P., and Harra, L., editors, *IAU Symposium*, volume 327 of *IAU Symposium*, pages 34–39.

Jurčák, J., Martinez Pillet, V., and Sobotka, M. (2007). The Use of Spectro-Polarimetric Measurements to determine the Plasma Heating. In Shibata, K., Nagata, S., and Sakurai, T., editors, *New Solar Physics with Solar-B Mission*, volume 369 of *ASP Conference Series*, page 171.

Jurčák, J. and Sobotka, M. (2007). The observational counterpart of the rising flux tube model? In Kneer, F., Puschmann, K. G., and Wittmann, A. D., editors, *Modern Solar Facilities – Advanced Solar Science*, pages 225–228. Universitätsverlag Göttingen.

Jurčák, J., Sobotka, M., and Martínez Pillet, V. (2006). The Canopy Structure above Light Bridges. *Central European Astrophysical Bulletin*, 30:55–64.

Jurčák, J., Martínez Pillet, V., and Sobotka, M. (2006). The magnetic canopy above light bridges. *A&A*, 453(3):1079–1088.

Jurčák, J., Sobotka, M., and Martínez-Pillet, V. (2003). Velocity fields in an irregular sunspot. In Wilson, A., editor, *Solar Variability as an Input to the Earth's Environment*, volume 535 of *ESA Special Publication*, pages 109–112.

Kaithakkal, A. J., Borrero, J. M., Yabar, A. P., and de la Cruz Rodríguez, J. (2023). A reconnection-driven magnetic flux cancellation and a quiet Sun Ellerman bomb. *MNRAS*, 521(3):3882–3897.

Kalkofen, W., Linsky, J., Rybicki, G., Scharmer, G., and Weherse, R. (1985). Pannel discussion on radiative transfer methods. In Beckman, J. E. and Crivellari, L., editors, *Progress in Stellar Spectral Line Formation Theory*, volume 152 of *NATO Advanced Study Institute (ASI) Series C*, pages 233–237.

Keller, C. and von der Lühe, O. (1993). Narrow-Band Speckle Imaging. In Radick, R. R., editor, *Real Time and Post Facto Solar Image Correction*, page 129.

Keller, C. U. (1992). *High Resolution Observations of Solar Magnetic Fields*. PhD thesis, ETH Zürich.

Keller, C. U. (1992a). Resolution of magnetic flux tubes on the Sun. *Nature*, 359(6393):307–308.

Keller, C. U. (1992b). Small-scale structures in solar active regions. In Ai, G. and Zirin, H., editors, *The Magnetic and Velocity Fields of Solar Active Regions*, volume 141 of *IAU Coll.*

Keller, C. U. (1993). Small-scale structures in active regions. In Zirin, H., Ai, G., and Wang, H., editors, *The Magnetic and Velocity Fields of Solar Active Regions*, volume 46 of *ASP Conf. Ser.*, pages 3–10. IAU Colloq. 141.

Keller, C. U. (1995). Properties of solar magnetic fields from speckle polarimetry. *Reviews in Modern Astronomy*, 8:27–60. Ludwig Biermann Award Lecture 1994.

Keller, C. U. and Johannesson, A. (1995). Speckle spectrography of extended objects. *A&AS*, 110:565.

Keller, C. U., Schüssler, M., Vögler, A., and Zakharov, V. (2004). On the Origin of Solar Faculae. *ApJ*, 607(1):L59–L62.

Keller, C. U., Stenflo, J. O., Solanki, S. K., Tarbell, T. D., and Title, A. M. (1990). Solar magnetic field strength determinations from high spatial resolution filtergrams. *A&A*, 236(1):250–255.

Keller, C. U. and von der Lühe, O. (1992a). Application of differential speckle imaging to solar polarimetry. In Beckers, J. M. and Merkle, F., editors, *High Resolution Imaging by Interferometry II. Ground-Based Interferometry at Visible and Infrared Wavelengths*, volume 39 of *ESO Conference and Workshop Proceedings*, page 453.

Keller, C. U. and von der Lühe, O. (1992b). Solar speckle polarimetry. *A&A*, 261(1):321–328.

Kendrick, R. L., Bell, R., Benson, L., Cuneo, P., Duncan, A. L., Holmes, B., Löfdahl, M., Mitchell, K., Reardon, B., Sigler, R., Stone, R., Stubbs, D., and Zarifis, V. (1999). Experimental results from a multiple telescope imaging array. In *Proc. 1999 IEEE Aerospace Conference. (Cat. No.99TH8403)*, volume 5, page 421.

Keppens, R. (2000). Sunspot Pores. In Murdin, P., editor, *Encyclopedia of Astronomy and Astrophysics*, page 2043. Institute of Physics Publishing and Nature Publishing Group.

Kerr, R. A. (2009). Unseen link may solve the mystery of the sun's superhot corona. *Science*, 323(5921):1551. News of the week.

Keys, P. (2010). Chromospheric velocities of a C-class flare. Master's thesis, Queen's University Belfast, UK.

Keys, P. H., Jess, D. B., Mathioudakis, M., and Keenan, F. P. (2011). The chromospheric velocities of a C-class flare. *A&A*, 529:A127.

Keys, P. H., Reid, A., Mathioudakis, M., Shelyag, S., Henriques, V. M. J., Hewitt, R. L., Del Moro, D., Jafarzadeh, S., Jess, D. B., and Stangalini, M. (2019). The magnetic properties of photospheric magnetic bright points with high resolution spectropolarimetry. *MNRAS*, 488(1):L53–L58.

Keys, P. H., Reid, A., Mathioudakis, M., Shelyag, S., Henriques, V. M. J., Hewitt, R. L., Del Moro, D., Jafarzadeh, S., Jess, D. B., and Stangalini, M. (2020). High-resolution spectropolarimetric observations of the temporal evolution of magnetic fields in photospheric bright points. *A&A*, 633:A60.

Kianfar, S. (2021). *Physical characteristics of Ca II K bright fibrils in the solar chromosphere*. Licentiate thesis, Stockholm University.

Kianfar, S. (2024). *Fine dynamic features in the lower solar atmosphere: An investigation of physical characteristics and temporal evolution*. PhD thesis, Stockholm University.

Kianfar, S., Jafarzadeh, S., Mirtorabi, M. T., and Riethmüller, T. L. (2018). Linear Polarization Features in the Quiet-Sun Photosphere: Structure and Dynamics. *Sol. Phys.*, 293:123.

Kianfar, S., Leenaarts, J., Danilovic, S., de la Cruz Rodríguez, J., and José Díaz Baso, C. (2020). Physical properties of bright Ca II K fibrils in the solar chromosphere. *A&A*, 637:A1.

Kianfar, S., Leenaarts, J., Esteban Pozuelo, S., da Silva Santos, J. M., de la Cruz Rodríguez, J., and Danilovic, S. (2025). Transverse oscillations in 3D along Ca II K bright fibrils in the Solar chromosphere. *A&A*, 698:A124.

KIS, IAC, INAF, CNRS, MPQ, UiO, AIP, SU, UPS, QUB, UCL-MSSL, AISAS, AIASCR, HVAR, ROB, IGAM, UWR, ISS-CSIC, NSO, and CfA-SAO (2017a). SOLARNET WP20: Integrated operation and exploitation of solar physics facilities and coordination. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 92.

KIS, IAC, INAF, CNRS, SU, and QUB (2017b). SOLARNET WP90: Transnational access programme. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 100.

Kiselman, D. (1993). *Implications of Departures from LTE and Homogeneity in the Sun and Solar-Type Stars*. PhD thesis, Uppsala University.

Kiselman, D. (1993). *Implications of departures from LTE and homogeneity in the sun and solar-type stars*. Acta Universitatis Upsaliensis. Uppsala University. Comprehensive Summaries of Uppsala Dissertations from the Faculty of Science.

Kiselman, D. (1993). Reliability of classical abundance analysis: boron and oxygen. In Alloin, D. and Stasińska, G., editors, *The feedback of chemical evolution on the stellar content of galaxies*, Publication de l'Observatoire de Paris, page 35.

Kiselman, D. (1994). High-spatial-resolution solar observations of spectral lines used for abundance analysis. *A&AS*, 104:23–77.

Kiselman, D. (1995). Impact of granulation on line formation. In Strassmeier, K. G., editor, *Stellar Surface Structure*, volume 176 of *Proc. IAU Symp.*

Kiselman, D. (1997). Formation of Li I lines in photosperic granulation. *ApJ*, 489(1):L107–L110.

Kiselman, D. (1998). The 671 nm Li I line in solar granulation. *A&A*, 333:732–740.

Kiselman, D. (1999a). Effects of NLTE and granulation on LiBeB abundance determinations. In Ramaty, R., Vangioni-Flam, E., Cassé, M., and Olive, K., editors, *LiBeB, Cosmic Rays and Gamma-Ray Line Astronomy*, volume 171 of *ASP Conf. Ser.*, pages 85–95.

Kiselman, D. (1999b). Finns solkromosfären? In Larsson, A. and Schildt, J., editors, *Astronomisk Årsbok 2000*, page 51. INOVA.

Kiselman, D. (2000). NLTE effects on oxygen lines. In *Oxygen Abundances in Old Stars and Implications to Nucleosynthesis and Cosmology*, volume 8 of *IAU Joint Discussion*, page 5. 24th meeting of the IAU.

Kiselman, D. (2001). NLTE effects on oxygen lines. *New A Rev.*, 45(8):559–563. Proc. JD8 of IAU GA 2000.

Kiselman, D. (2002). Natt och dag på La Palma: Dagen. *Populär astronomi*, 2002(4):11–15. `https://www.popularastronomi.se/wp-content/uploads/2015/07/dagen04-02.pdf`.

Kiselman, D. (2002). NLTE effects on oxygen lines. *Highlights of Astronomy*, 12:429–431.

Kiselman, D. (2003a). First results of the Swedish 1-m solar telescope. *EAS Newsletter*, 2003(25):13–15.

Kiselman, D. (2003b). Solens många ansikten. *Populär astronomi*, 2003(2):6–13. `https://www.popularastronomi.se/wp-content/uploads/2009/08/2003-2_solen.pdf`.

Kiselman, D. (2008). Solar 3D models vs. observations – a few comments. *Phys. Scr*, T133(1):014016.

Kiselman, D. (2012). Mytomspunnen händelse när Venus passerar solen. *Fysikaktuellt*, 2012(2):10–11.

Kiselman, D. (2013). Svensk solfysik – forskning i detalj. *Fysikaktuellt*, 2013(2):14–19.

Kiselman, D. (2015a). E-ELT. *Fysikaktuellt*, 2015(4):24–25.

Kiselman, D. (2015b). Solens ljus – var kommer det ifrån? *Fysikaktuellt*, 2015(1):6–8.

Kiselman, D. (2017). SOLARNET WP50: The SOLARNET data pipeline activity. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 95.

Kiselman, D. (2018). Extremt rymdväder. *Fysikaktuellt*, 2018(1):24–26. `http://www.fysikersamfundet.se/wp-content/uploads/Fysikaktuellt_1-18_Web3019.pdf`.

Kiselman, D. (2020). 1st Report on the activities of the EAST TAC and promotion of the Access programmes. Deliverable D2.1, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Kiselman, D. (2023). 3rd Report on the activities of the EAST TAC and promotion of the Access programmes. Deliverable D2.3, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Kiselman, D. (2024). Svenska sextiocentimetern nedmonterad – ett teleskop har lämnat oss. *Populär Astronomi*, 2024(1):6.

Kiselman, D. and Asplund, M. (2001). Spatially resolved solar lines as diagnostics of NLTE effects. In Garcia Lopez, R. J., Rebolo, R., and Zapaterio Osorio, M. R., editors, *11th Cambridge Workshop on Cool Stars, Stellar Systems and the Sun*, volume 223 of *ASP Conf. Proc.*, pages CD–684. Astronomical Society of the Pacific.

Kiselman, D. and Asplund, M. (2003). The Granulation Fingerprints of Spectral Lines. In Piskunov, N., Weiss, W. W., and Gray, D. F., editors, *IAU Symposium*, page 62P.

Kiselman, D. and Carlsson, M. (1996). The NLTE formation of neutral boron lines in cool stars. *A&A*, 311:680–689.

Kiselman, D. and Dorch, B. (1999). Solens yta. In *Ytor på djupet*, Naturvetenskapliga forskningsrådets årsbok 1998/1999, pages 27–38.

Kiselman, D., Kärnfelt, J., and Sollerman, J., editors (2021a). *Universum på gläntt. Hundra år av svensk astronomi*. Svenska astronomiska sällskapet.

Kiselman, D. and Löfdahl, M. (2004). Svarta droppen. *Populär astronomi*, 2004(2):38. `https://www.popularastronomi.se/wp-content/uploads/2011/07/PopAst2004_2.pdf`.

Kiselman, D., Löfdahl, M., and Scharmer, G. (2007a). EST: the European solar telescope. In *Astronomdagar i Kiruna*. Poster.

Kiselman, D., Löfdahl, M., Scharmer, G., and van Noort, M. (2007b). The Swedish 1-m solar telescope. In *Astronomdagar i Kiruna*. Poster.

Kiselman, D. and Lundqvist, S. (2002a). Utsikt från jorden 1: Snurra min jord. *Populär astronomi*, 2002(1):12–13. `https://www.popularastronomi.se/wp-content/uploads/2015/07/utsikt01-02.pdf`.

Kiselman, D. and Lundqvist, S. (2002b). Utsikt från jorden 2: Luft och ljus. *Populär astronomi*, 2002(2):12–13.

Kiselman, D. and Lundqvist, S. (2002c). Utsikt från jorden 3: Månen vandrar sin tysta ban. *Populär astronomi*, 2002(4):15–17.

Kiselman, D. and Lundqvist, S. (2003a). Utsikt från jorden 4: Nu i färg! *Populär astronomi*, 2003(1):17.

Kiselman, D. and Lundqvist, S. (2003b). Utsikt från jorden 5: Jag såg en stjärna falla... *Populär astronomi*, 2003(2):17. https://www.popularastronomi.se/wp-content/uploads/2009/08/2003-2_utsikt.pdf.

Kiselman, D. and Lundqvist, S. (2003c). Utsikt från jorden 6: Kosmiska perspektiv. *Populär astronomi*, 2003(3):21.

Kiselman, D. and Lundqvist, S. (2003d). Utsikt från jorden 7: Sudda, sudda... *Populär astronomi*, 2003(4):19.

Kiselman, D. and Lundqvist, S. (2004a). Utsikt från jorden 10: Mer om stjärnbilder. *Populär astronomi*, 2004(3):39.

Kiselman, D. and Lundqvist, S. (2004b). Utsikt från jorden 11: Flamma stolt mot dunkla skyar. *Populär astronomi*, 2004(4):17.

Kiselman, D. and Lundqvist, S. (2004c). Utsikt från jorden 8: Det där med stjärnbilder. *Populär astronomi*, 2004(1):19.

Kiselman, D. and Lundqvist, S. (2004d). Utsikt från jorden 9: Sol ute, sol inne. *Populär astronomi*, 2004(2):17. https://www.popularastronomi.se/wp-content/uploads/2011/07/PopAst2004_2.pdf.

Kiselman, D. and Lundqvist, S. (2005a). Utsikt från jorden 12: Vacker som en dag. *Populär astronomi*, 2005(1):45.

Kiselman, D. and Lundqvist, S. (2005b). Utsikt från jorden 13: Latitud. *Populär astronomi*, 2005(2):15.

Kiselman, D. and Lundqvist, S. (2005c). Utsikt från jorden 14: Gott nytt år! *Populär astronomi*, 2005(4):15. https://www.popularastronomi.se/wp-content/uploads/2013/01/2005-4_utsiktfranjorden.pdf.

Kiselman, D. and Lundqvist, S. (2006a). Utsikt från jorden 15: Att mäta himlarna. *Populär astronomi*, 2006(1):21.

Kiselman, D. and Lundqvist, S. (2006b). Utsikt från jorden 16: Storlekar. *Populär astronomi*, 2006(2):15.

Kiselman, D. and Lundqvist, S. (2006c). Utsikt från jorden 17: Med alla sinnen. *Populär astronomi*, 2006(3):15. https://www.popularastronomi.se/wp-content/uploads/2012/06/anita-utsikt-2006-3.pdf.

Kiselman, D. and Lundqvist, S. (2006d). Utsikt från jorden 18: Som en satellit. *Populär astronomi*, 2006(4):15. https://www.popularastronomi.se/wp-content/uploads/2012/06/2006_4_utsikt.pdf.

Kiselman, D. and Lundqvist, S. (2007a). Utsikt från jorden 19: Det bara händer. *Populär astronomi*, 2007(2):39. http://www.popularastronomi.se/tidningen/nummer-2-juni-2007.

Kiselman, D. and Lundqvist, S. (2007b). Utsikt från jorden 20: Longitud. *Populär astronomi*, 2007(3):46. http://www.popularastronomi.se/tidningen/nummer-3-september-2007.

Kiselman, D. and Lundqvist, S. (2007c). Utsikt från jorden 21: Lik en diamant i skyn. *Populär astronomi*, 2007(4):50. http://www.popularastronomi.se/tidningen/nummer-4-december-2007.

Kiselman, D. and Lundqvist, S. (2008a). Utsikt från jorden 22: När natt blir dag. *Populär astronomi*, 2008(1):22. http://www.popularastronomi.se/tidningen/nr-1-mars-2008.

Kiselman, D. and Lundqvist, S. (2008b). Utsikt från jorden 23: Allting har en ände. *Populär astronomi*, 2008(2):46. https://www.popularastronomi.se/tidningen/nummer-2-juni-2008/.

Kiselman, D. and Nordlund, Å. (1995). 3D non-LTE line formation in the solar photosphere and the solar oxygen abundance. *A&A*, 302:578–586.

Kiselman, D., Pereira, T., Gustafsson, B., Asplund, M., Meléndez, J., and Langhans, K. (2011). Is the solar spectrum latitude dependent? An investigation with SST/TRIPPEL. *A&A*, 535:A14.

Kiselman, D., Rouppe van der Voort, L., and Kleint, L. (2021b). Guidelines for service observations. Deliverable D2.10, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Kiselman, D., Rutten, R. J., and Plez, B. (2001). The formation of G-band bright points. I. Standard LTE modelling. In Brekke, P., Fleck, B., and Gurman, J. B., editors, *Recent Insights into the Physics of the Sun and Heliosphere: Highlights from SOHO and other Space Missions*, volume 203 of *IAU Symposium*, pages 287–290. ASP Conf. Ser.

Kiselman, D. and Som, T. (2021). 2nd Report on the activities of the EAST TAC and promotion of the Access programmes. Deliverable D2.2, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Kiselman, D. and Som, T. (2022). 2nd Periodic Report on the Trans-National Access programme. Deliverable D9.2, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Kiselman, D. and Som, T. (2023). 3rd Periodic and final report on the Trans-National Access programme. Deliverable D9.3, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Kjelseth, I. M. E. (2020). Intensity contrast as a function of underlying magnetic field through the solar atmosphere. Master's thesis, University of Oslo.

Kleint, L. and Gandorfer, A. (2017). Prospects of solar magnetometry – from ground and in space. *Space Sci. Rev.*, 210(1–4):397–426.

Kobel, P., Hirzberger, J., Gandorfer, A., Solanki, S. K., and Zakharov, V. (2008). Discriminant Analysis of Bright Points and Faculae: Center-to-Limb Distribution, Contrast and Morphology. *12th European Solar Physics Meeting, Freiburg, Germany*, 12:2.

Kobel, P., Hirzberger, J., and Solanki, S. K. (2014). Discriminant analysis of solar bright points and faculae II. Contrast and morphology analysis. *ArXiv*, 1410.5354.

Kobel, P., Hirzberger, J., Solanki, S. K., Gandorfer, A., and Zakharov, V. (2009). Discriminant analysis of solar bright points and faculae. I. Classification method and center-to-limb distribution. *A&A*, 502:303–314.

Koskelainen, F. (2020). Investigating magnetic reconnection events in the solar chromosphere. Master's thesis, Stockholm University.

Koza, J. (2019). Spectral diagnostics of cool flare loops observed by SST. ESPOS seminar on 2019-11-21.

Koza, J. (2024). Equilibria and the protomodel of the Sun's atmosphere by Karl Schwarzschild in hindsight. *European Physical Journal H*, 49(1):22.

Koza, J., Kuridze, D., Heinzel, P., Jejčič, S., Morgan, H., and Zapiór, M. (2019). Spectral diagnostics of cool flare loops observed by SST: I. Inversion of the Ca II 8542 Å and Hβ lines. *ApJ*, 885(2).

Koza, J., Sütterlin, P., Gömöry, P., Rybák, J., and Kučera, A. (2013). Search for Alfvén waves in a bright network element observed in Hα. *Contributions of the Astronomical Observatory Skalnate Pleso*, 43:5–26.

Koza, J., Vashalomidze, Z., Zaqarashvili, T., Rybák, J., and Hanslmeier, A. (2017). Spectral inversion of the halpha and ca ii 8542 a lines by modified cloud model. In *Our Mysterious Sun: magnetic coupling between solar interior and atmosphere*, page 36. Shota Rustaveli National Science Foundation of Georgia. https://solar-conference.iliauni.edu.ge/.

Kozu, H., Kitai, R., Brooks, D. H., Kurokawa, H., Yoshimura, K., and Berger, T. E. (2006). Horizontal and Vertical Flow Structure in Emerging Flux Regions. *PASJ*, 58:407–421.

Kriginsky, M. (2021). Magnetic field inference in spicules and coronal rain clumps. ESPOS seminar on 2021-05-06.

Kriginsky, M. and Oliver, R. (2025). On the Magnetic and Thermodynamic Properties of Dark Fibrils in the Chromosphere. *ApJ*, 981(2):121.

Kriginsky, M., Oliver, R., Freij, N., Kuridze, D., Asensio Ramos, A., and Antolin, P. (2020a). Magnetic field inference in the chromosphere and lower corona. In *XIV.0 Scientific Meeting (virtual) of the Spanish Astronomical Society*, page 201.

Kriginsky, M., Oliver, R., Freij, N., Kuridze, D., Asensio Ramos, A., and Antolin, P. (2020b). Ubiquitous hundred-Gauss magnetic fields in solar spicules. *A&A*, 642:A61.

Kriginsky, M., Oliver, R., and Kuridze, D. (2023). Temperature diagnostics of chromospheric fibrils. *A&A*, 672:A89.

Krikova, K. (2025). *Small-scale energetic phenomena in He: line formation and diagnostic potential*. PhD thesis, University of Oslo.

Krikova, K., Pereira, T. M. D., and Rouppe van der Voort, L. H. M. (2023). Formation of He in the solar atmosphere. *A&A*, 677:A52.

Krishnakumar, V. and Venkatakrishnan, P. (1999). Transverse motions and wave heating of the solar atmosphere. *Sol. Phys.*, 186(1):43–59.

Krishnakumar, V., Venkatakrishnan, P., and Srikanth, R. (2000). Morphology of Ca II K bright points and their link to G band bright points. *Bulletin of the Astronomical Society of India*, 28:123. Proc. XIX Astronomical Society of India.

Kucera, T. A., Tovar, M., and De Pontieu, B. (2002). Transverse prominence motions from 10,000–250,000K. In Wilson, A., editor, *Proceedings of the SOHO 11 Symposium on From Solar Min to Max: Half a Solar Cycle with SOHO*, volume SP-508 of *ESA*, pages 307–310.

Kucera, T. A., Tovar, M., and De Pontieu, B. (2003). Prominence motions observed at high cadences in temperatures from 10 000 to 250 000 K. *Sol. Phys.*, 212:81–97.

Kuridze, D. (2017). Line diagnostics of the flare chromosphere in the visible - a comparison of observations with RHD simulations. ESPOS seminar on 2017-06-08.

Kuridze, D. (2018). Spectropolarimetric Inversions of the Ca II 8542 Å Line in an M-class Solar Flare. espos SEMINAR ON 2018-11-01.

Kuridze, D., Heinzel, P., Koza, J., and Oliver, R. (2022). Dark Off-limb Gap: Manifestation of a Temperature Minimum and the Dynamic Nature of the Chromosphere. *ApJ*, 937(2):56.

Kuridze, D., Henriques, V., Mathioudakis, M., de la Cruz Rodriguez, J., and Carlsson, M. (2017). Spectropolarimetric inversions of the ca 8542 and fe i 6173 å lines in a m-class solar flare. In *Our Mysterious Sun: magnetic coupling between solar interior and atmosphere*, page 11. Shota Rustaveli National Science Foundation of Georgia. `https://solar-conference.iliauni.edu.ge/`.

Kuridze, D., Henriques, V., Mathioudakis, M., Erdélyi, R., Zaqarashvili, T. V., Shelyag, S., Keys, P. H., and Keenan, F. P. (2015a). The Dynamics of Rapid Redshifted and Blueshifted Excursions in the Solar Halpha line. *ApJ*, 802:26.

Kuridze, D., Henriques, V., Mathioudakis, M., Koza, J., Zaqarashvili, T. V., Rybák, J., Hanslmeier, A., and Keenan, F. P. (2017). Spectroscopic inversions of the Ca II 8542 Å line in a C-class solar flare. *ApJ*, 846:9.

Kuridze, D., Henriques, V., Mathioudakis, M., Rouppe van der Voort, L., de la Cruz Rodríguez, J., and Carlsson, M. (2018). Spectropolarimetric inversions of the Ca II 8542 Å line in a M-class solar flare. *ApJ*, 860:10.

Kuridze, D., Mathioudakis, M., Heinzel, P., Koza, J., Morgan, H., Oliver, R., Kowalski, A. F., and Allred, J. C. (2020). Spectral Characteristics and Formation Height of Off-Limb Flare Ribbons. *ApJ*, 896(2):120.

Kuridze, D., Mathioudakis, M., Morgan, H., Oliver, R., Kleint, L., Zaqarashvili, T. V., Reid, A., Koza, J., Löfdahl, M. G., Hillberg, T., Kukhianidze, V., and Hanslmeier, A. (2019). Mapping the magnetic field of flare coronal loops. *ApJ*, 874:126.

Kuridze, D., Mathioudakis, M., Simões, P. J. A., Rouppe van der Voort, L., Carlsson, M., Jafarzadeh, S., Allred, J. C., Kowalski, A. F., Kennedy, M., Fletcher, L., Graham, D., and Keenan, F. P. (2015b). Hα line profile asymmetries and the chromospheric flare velocity field. *ApJ*, 813:125.

Kuridze, D., Socas-Navarro, H., Koza, J., and Oliver, R. (2021). Semi-empirical models of spicule from inversion of Ca II 8542 Å line. *ApJ*, 908(2):168.

Kuridze, D., Uitenbroek, H., Wöger, F., Mathioudakis, M., Morgan, H., Campbell, R., Fischer, C., Cauzzi, G., Schad, T., Reardon, K., da Silva Santos, J. M., Beck, C., Tritschler, A., and Rimmele, T. (2024). Insight into the solar plage chromosphere with DKIST. *ApJ*, 965(1):15.

Kuridze, D., Wöger, F., Fischer, C., Mathioudakis, M., Rimmele, T., Cauzzi, G., Reardon, K., and Uitenbroek, H. (2023). DKIST observations of the fine-scale chromospheric structures. *BAAS*, 55(7). AAS/Solar Physics Division Meeting presentation 407.02.

Kuridze, D., Zaqarashvili, T. V., Henriques, V., Mathioudakis, M., Keenan, F. P., and Hanslmeier, A. (2016). Kelvin-Helmholtz instability in solar chromospheric jets: theory and observation. *ApJ*, 830:133.

Kurokawa, H., Ishii, T. T., Wang, T. J., and Shine, R. (2002). Preflare heating around the temperature minimum region found right prior to an X-class flare. In Martens, P. C. H. and Cauffman, D., editors, *Multi-Wavelength Observations of Coronal Structure and Dynamics*, COSPAR Colloquia Series, page 257.

Kusoffsky, U. and Lundstedt, H. (1986). Lifetimes of umbral dots in sunspots. *A&A*, 160(1):51–55.

Lagae, C. R. (2024). *Looking back in time: 3D non-LTE chemical compositions of metal-poor stars*. PhD thesis, Stockholm University.

Lagg, A., Lites, B., Harvey, J., Gosain, S., and Centeno, R. (2017). Measurements of Photospheric and Chromospheric Magnetic Fields. *Space Sci. Rev.*, 210(1–4):37–76.

Langangen, Ø., Carlsson, M., and Rouppe van der Voort, L. (2005). The diagnostic potential of the Mg I 4571.1 Å line. In Danesy, D., Poedts, S., de Groof, A., and Andries, J., editors, *The Dynamic Sun: Challenges for Theory and Observations*, volume 600 of *ESA-SP*.

Langangen, O., Carlsson, M., Rouppe van der Voort, L., Hansteen, V., and De Pontieu, B. (2007). Chromospheric spectrometry at high spatial resolution. In Heinzel, P., Dorotovič, I., and Rutten, R. J., editors, *The Physics of Chromospheric Plasmas*, volume 368 of *ASP Conference Series*, page 145.

Langangen, Ø., Carlsson, M., Rouppe van der Voort, L., Hansteen, V., and De Pontieu, B. (2008). Spectroscopic measurements of dynamic fibrils in the Ca II λ8662 line. *ApJ*, 673(2):1194–1200.

Langangen, Ø., Carlsson, M., Rouppe van der Voort, L., and Stein, R. F. (2007a). Velocities Measured in Small-Scale Solar Magnetic Elements. *ApJ*, 655(1):615–623.

Langangen, Ø., Rouppe van der Voort, L., and Lin, Y. (2007b). Measurements of plasma motions in dynamic fibrils. *ApJ*, 673(2):1201–1208.

Langhans, K. (2006). Signatures of penumbral magnetic field at very high spatial resolution. In Casini, R. and Lites, B. W., editors, *Solar Polarization 4*, volume 358 of *ASP Conf. Series*, pages 3–12, Boulder.

Langhans, K., Scharmer, G. B., Kiselman, D., and Löfdahl, M. G. (2007). Observations of dark-cored filaments in sunspot penumbrae. *A&A*, 464:763–774.

Langhans, K., Scharmer, G. B., Kiselman, D., Löfdahl, M. G., and Berger, T. E. (2005). Inclination of magnetic fields and flows in sunspot penumbrae. *A&A*, 436(3):1087–1101.

Langhans, K., Schmidt, W., and Rimmele, T. (2004). Diagnostic spectroscopy of G-band brightenings in the photosphere of the sun. *A&A*, 423:1147–1157.

Larsson, B. (1989). Solar magnetic field measurements on la palma. In Leer, E. and Maltby, P., editors, *Proc. Mini Workshop on Flux Tubes in the Solar Atmosphere*, Institute for Theoretical Astrophysics, University of Oslo, page 71.

Larsson, B., Solanki, S., and Grossmann-Doerth, U. (1990). At what heights are spectral lines formed in solar magnetic flux tubes? In C.-I. Lagerkvist, D. Kiselman, M. L., editor, *Proc. Nordic-Baltic Astronomy Meeting*, page 169. Uppsala University.

Lawrence, J. K. and Cadavid, A. C. (2008). Fine Scale, Rapid Dynamics of the Solar Atmosphere from Space-Based Versus Ground-Based Observations. *AGU Fall Meeting Abstracts*, page A1609.

Lawrence, J. K., Cadavid, A. C., McIntosh, S. W., and Berger, T. E. (2005). Magnetic Topology and Wave Propagation in the Solar Atmosphere. *AGU Spring Meeting Abstracts*, pages SH13C–01.

Lawrence, J. K., Cadavid, A. C., Miccolis, D., Berger, T. E., and Ruzmaikin, A. (2003). Influence of Photospheric Magnetic Fields and Dynamics on Chromospheric K-Line Emission. *ApJ*, 597:1178–1189.

Lawrence, J. K., Cadavid, A. C., Miccolis, D., Berger, T. E., and Ruzmaikin, A. (2003). Influence of Photospheric Magnetism and Dynamics on Chromospheric K-line Emission. *BAAS*, 35(3):07.04.

Lawrence, J. K., Cadavid, A. C., Ruzmaikin, A., and Berger, T. E. (2001). Spatiotemporal scaling of solar surface flows. *Phys. Rev. Lett.*, 86(26):5894–5897.

Lawrence, J. K., Ruzmaikin, A. A., and Cadavid, A. C. (1993). Multifractal measure of the solar magnetic field. *ApJ*, 417:805–811.

Lawrence, J. K., Topka, K. P., and Jones, H. P. (1993). Contrast of faculae near the disk center and solar variability. *Journal of Geophysical Research*, 98(A11):18911–18918.

Ledvina, V. E., Kazachenko, M. D., Criscuoli, S., Tilipman, D., Ermolli, I., Falco, M., Guglielmino, S., Jafarzadeh, S., van der Voort, L. R., and Zuccarello, F. (2022). Quantifying Properties of Photospheric Magnetic Cancellations in the Quiet Sun Internetwork. *ApJ*, 934(1):38.

Leenaarts, J. (2017). Helium lines in the solar spectrum: spatial structure in He I 10830 and the anomalous intensity of the resonance lines. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 25.

Leenaarts, J. (2020). Radiation hydrodynamics in simulations of the solar atmosphere. *Living Reviews in Solar Physics*, 17(1):3.

Leenaarts, J., Carlsson, M., Hansteen, V., and Rouppe van der Voort, L. (2009). Three-Dimensional Non-LTE Radiative Transfer Computation of the Ca 8542 Infrared Line From a Radiation-MHD Simulation. *ApJ*, 694(2):L128–L131.

Leenaarts, J., Carlsson, M., and Rouppe van der Voort, L. (2012). The formation of the Hα line in the solar chromosphere. *ApJ*, 746:158.

Leenaarts, J., Carlsson, M., and Rouppe van der Voort, L. (2015). On fibrils and field lines: The nature of Hα fibrils in the solar chromosphere. *ApJ*, 802:136.

Leenaarts, J., de la Cruz Rodríguez, J., Danilovic, S., Scharmer, G., and Carlsson, M. (2018). Chromospheric heating during flux emergence in the solar atmosphere. *A&A*, 612.

Leenaarts, J., de la Cruz Rodríguez, J., Kochukhov, O., and Carlsson, M. (2014). The Effect of Isotopic Splitting on the Bisector and Inversions of the Solar Ca II 854.2 nm Line. *ApJ*, 784:L17.

Leenaarts, J., Golding, T., Carlsson, M., Libbrecht, T., and Joshi, J. (2016). The cause of spatial structure in solar He I 1083 nm multiplet images. *A&A*, 594:A104.

Leenaarts, J., van Noort, M., de la Cruz Rodríguez, J., Danilovic, S., Díaz Baso, C. J., Hillberg, T., Sütterlin, P., Kiselman, D., Scharmer, G., and Solanki, S. K. (2025). High flow speeds and transition-region-like temperatures in the solar chromosphere during flux emergence – evidence from imaging spectropolarimetry in he i 1083 nm and numerical simulations. *A&A*, 696:A3.

Li, Q., Liao, S., Wei, H., and Shen, M. (2007). Restoration of solar and star images with phase diversity-based blind deconvolution. *Chinese Optics Letters*, 5:201–203.

Libbrecht, T. (2016). Exploring the diagnostic value of He I D_3 in the solar chromosphere. Licentiate thesis, Stockholm University.

Libbrecht, T. (2017). Ellerman bomb emission features in He I D3 and He I 10830: observations and modelling. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 51.

Libbrecht, T. (2019). *The diagnostic potential of the He I D_3 spectral line in the solar atmosphere*. PhD thesis, Stockholm University.

Libbrecht, T., Bjørgen, J. P., Leenaarts, J., de la Cruz Rodríguez, J., Hansteen, V., and Joshi, J. (2021). Line formation of He I D_3 and He I 10830 Å in a small-scale reconnection event. *A&A*, 652:A146.

Libbrecht, T., de la Cruz Rodriguez, J., Danilovic, S., Leenaarts, J., and Pazira, H. (2019). Chromospheric condensations and magnetic field in a C3.6-class flare studied via He I D_3 spectro-polarimetry. *A&A*, 621:A35.

Libbrecht, T., Joshi, J., de la Cruz Rodríguez, J., Leenaarts, J., and Asensio Ramos, A. (2017). Observations of Ellerman bomb emission features in He I D3 and He I 10830 Å. *A&A*, 598:A33.

Limaye, S. S. (1996). Temporal Evolution of SL-9 Impact Sites on Jupiter and Global Maps of Jupiter from Multi-Observatory Visible and Infrared Images. Technical Report NASA/CR-1996-207820; NAS 1.26:207820, NASA Space Science and Engineering Center.

Limaye, S. S. et al. (1996). Height of Shoemaker–Levy 9 impact features on Jupiter from parallax measurements. In Encrenaz, T. and Fulchignoni, M., editors, *The SL9-Jupiter Collision*, volume 45 of *Planetary and space science*. Proc. International Conference on the SL-9 Jupiter Collision, Observatoire de Paris, Meudon, France, July 3-5, 1996.

Limaye, S. S. and Lindgren, M. (1995). Temporal evolution of the SL-9 impact features on Jupiter from CCD imaging: A video animation. In *The Collision of Comet P/Shoemaker–Levy 9 and Jupiter*, Proc. IAU Colloquium 156.

Limaye, S. S., Lindgren, M., and Parker, D. (1995). Height of Shoemaker–Levy 9 impact features on Jupiter from parallax measurements. *BAAS*, 27:26.08.

Limaye, S. S., Warell, J., and Carsenty, U. (1996). Imaging of Galileo probe entry site on Jupiter: A daytime adventure. *BAAS*, 28:21.06. Division of Planetary Sciences Meeting.

Lin, H.-H., Carlsson, M., and Leenaarts, J. (2017). The Formation of IRIS Diagnostics. IX. The Formation of the C I 135.58 NM Line in the Solar Atmosphere. *ApJ*, 846:40.

Lin, Y. (2004). *Magnetic field topology inferred from studies of fine threads in solar filaments*. PhD thesis, University of Oslo, Norway.

Lin, Y., Engvold, O., Martin, S., and Panasenco, O. (2008a). The unique 3D magnetic structure of filaments. *AGU Spring Meeting Abstracts*, pages SH23A–05.

Lin, Y., Engvold, O., Rouppe van der Voort, L., and van Noort, M. (2007). Evidence of traveling waves in filament threads. *Sol. Phys.*, 246:65–72.

Lin, Y., Engvold, O., Rouppe van der Voort, L., Wiik, J. E., and Berger, T. (2005a). Thin threads of solar filaments. *Sol. Phys.*, 226(2):239–254.

Lin, Y., Engvold, O., and Rouppe van der Voort, L. H. M. (2012). Small-scale, Dynamic Bright Blobs in Solar Filaments and Active Regions. *ApJ*, 747:129.

Lin, Y., Engvold, O., and Wiik, J. E. (2003). Counterstreaming in a large polar crown filament. *Sol. Phys.*, 216(1):109–120.

Lin, Y., Martin, S. F., Engvold, O., Rouppe van der Voort, L. H. M., and van Noort, M. (2006). Dynamics of an active region filament, fibrils and surges in high resolution. In *COSPAR, Plenary Meeting*, page 3193.

Lin, Y., Martin, S. F., Engvold, O., Rouppe van der Voort, L. H. M., and van Noort, M. (2008b). On small active region filaments, fibrils and surges. *Advances in Space Research*, 42:803–811.

Lin, Y., Soler, R., Engvold, O., Ballester, J. L., Langangen, Ø., Oliver, R., and Rouppe van der Voort, L. H. M. (2009). Swaying Threads of a Solar Filament. *ApJ*, 704:870–876.

Lin, Y., Wiik, J. E., Engvold, O., Rouppe van der Voort, L., and Frank, Z. (2005b). Solar filaments and supergranular network. *Sol. Phys.*, 227(2):283–297.

Lind, K., Amarsi, A., Asplund, M., Barklem, P., Bautista, M., Bergemann, M., Collet, R., Kiselman, D., Leenaarts, J., and Pereira, T. (2017). Non-LTE line formation of Fe in late-type stars IV: Modelling of the solar centre-to-limb variation in 3D. *MNRAS*, 468(4):4311–4322.

Lindberg, A. (2016). Measuring the solar Fe abundance using a 1D model atmosphere. Bachelor thesis, Stockholm University.

Lindgren, M. (1995). *Jupiter as the Arbiter of Comets*. PhD thesis, Uppsala University.

Lindner, P. (2023). *Evolution of sunspots and the role of the coupling between atmospheric layers*. PhD thesis, Kiepenheuer-Institut für Sonnenphysik.

Lindner, P., Schlichenmaier, R., Bello González, N., and de la Cruz Rodríguez, J. (2023). Decay of a photospheric transient filament at the boundary of a pore and the chromospheric response. *A&A*, 673:A65.

Lindström, B. (2018). A study of magnetic canopies in the solar chromosphere. Bsc thesis, Stockholm University.

Lites, B. W., Bida, T. A., Johannesson, A., and Scharmer, G. B. (1991). High-resolution spectra of solar magnetic features. II. Magnetic fields of umbral brightenings. *ApJ*, 373:683–694.

Lites, B. W., Bida, T. A., and Scharmer, G. B. (1989). The Magnetic Field Strength of Umbral Dots. *BAAS*, 21:854.

Lites, B. W., Keil, S. L., Scharmer, G. B., and Wyller, A. A. (1985a). Steady flows in active regions observed with the He I 10830 Å line. *Sol. Phys.*, 97:35–49.

Lites, B. W., Keil, S. L., Scharmer, G. B., and Wyller, A. A. (1985b). Steady flows in active regions observed with the He I 10830 Å line. In Lites, B. W., editor, *Chromospheric Diagnostics and Modelling*, page 287.

Lites, B. W., Low, B. C., Martinez, P. V., Seagraves, P., Skumanich, A., Frank, Z. A., Shine, R. A., and Tsuneta, S. (1995). The possible ascent of a closed magnetic system through the photosphere. *ApJ*, 446:877.

Lites, B. W., Nordlund, Å., and Scharmer, G. B. (1989). Constraints imposed by very high resolution spectra and images on theoretical simulations of granular convection. In Rutten, R. J. and Severino, G., editors, *Solar and Stellar Granulation*, pages 349–357. Kluwer Academic Publishers.

Lites, B. W., Rutten, R. J., and Berger, T. E. (1999). Dynamics of the solar chromosphere. II. Ca II H2v and K2v grains versus internetwork fields. *ApJ*, 517(2):1013–1033.

Lites, B. W. and Scharmer, G. B. (1988). High Resolution Observations of Penubral Magnetic Fields. *BAAS*, 20:681.

Lites, B. W. and Scharmer, G. B. (1989). High resolution spectra of umbral fine structure from the Swedish solar telescope at La Palma. In von der Lühe, O., editor, *High Spatial Resolution Solar Observations*, page 286. Proc. 10th Sacramento Peak Summer Workshop.

Lites, B. W., Scharmer, G. B., Berger, T. E., and Title, A. M. (2004). Three-Dimensional Structure of the Active Region Photosphere as Revealed by High Angular Resolution. *Sol. Phys.*, 221(1):65–84.

Lites, B. W., Scharmer, G. B., and Skumanich, A. (1990). High-resolution spectra of solar magnetic features. I. Analysis of penumbral fine structure. *ApJ*, 355:329–341.

Liu, G., Milić, I., Castellanos Durán, J. S., Borrero, J. M., van Noort, M., and Kuckein, C. (2025). Fine-scale opposite-polarity magnetic fields in a solar plage revealed by integral field spectropolarimetry. *A&A*, 697:L7.

Liu, J., Jess, D., Erdélyi, R., and Mathioudakis, M. (2023). Five-minute oscillations of photospheric and chromospheric swirls. *A&A*, 674:A142.

Liu, J., Nelson, C. J., and Erdélyi, R. (2019). Automated Swirl Detection Algorithm (ASDA) and Its Application to Simulation and Observational Data. *ApJ*, 872:22.

Lobato, J. P. (2011). Luz sobre a penumbra. *Super Interessante*, 2011(159):18–21.

Löfdahl, M. (1992). The ROYACS user library. In Yi, Z., Darvann, T., and Molowny Horas, R., editors, *Proc. LEST Mini-Workshop: Software for Solar Image Processing*, volume 56 of *LEST Technical Report*, pages 65–68. Institute of Theoretical Astrophysics, University of Oslo.

Löfdahl, M. (1996). En störande atmosfär. *Akademiska Gobitar*, 1996(1):29–31.

Löfdahl, M. (2016a). A comparison of solar image restoration techniques for SST/CRISP data (summary). In Dorotovič, I., Fischer, C., and Temmer, M., editors, *Ground-based Solar Observations in the Space Instrumentation Era*, volume 504 of *ASP Conf. Ser.*, page 111.

Löfdahl, M. (2021). Image restoration: basics and requirements for EST instrumentation. *EST News*, 2021(8). `https://www.est-east.eu/images/Newsletter/June2021/ESTNewsletter8_Jun_2021.pdf`.

Löfdahl, M. (2023). Improvements on Image Reconstruction Techniques. Deliverable D5.2, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Löfdahl, M. and Kiselman, D. (2019). Minutes of the 1st SOLARNET Forum for telescopes and databases. Deliverable D2.4, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Löfdahl, M. and Kiselman, D. (2020). Minutes of the 2nd SOLARNET Forum for telescopes and databases. Deliverable D2.5, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Löfdahl, M. and Kiselman, D. (2021). Minutes of the 3rd SOLARNET Forum for telescopes and databases. Deliverable D2.6, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Löfdahl, M. and Kiselman, D. (2023). Minutes of the 4th SOLARNET Forum for telescopes and databases. Deliverable D2.7, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Löfdahl, M., Scharmer, G., and Kiselman, D. (2023). Results of turbulence profile comparison. Deliverable D7.10, European Commission. SOLARNET EU H2020 project (Integrating High Resolution Solar Physics, grant 824135).

Löfdahl, M. G. (1996). *Phase diversity wavefront sensing and image restoration applied to high-resolution solar observations*. PhD thesis, Stockholm University, Department of Astronomy.

Löfdahl, M. G. (1999). Orthogonalization of basis functions for diagonalized wavefront sensing. In Rimmele, T., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations and Techniques*, volume 183 of *ASP Conf. Ser.*, page 320.

Löfdahl, M. G. (2002). Multi-frame blind deconvolution with linear equality constraints. In Bones, P. J., Fiddy, M. A., and Millane, R. P., editors, *Image Reconstruction from Incomplete Data II*, volume 4792 of *Proc. SPIE*, pages 146–155.

Löfdahl, M. G. (2007). Multi-frame deconvolution with space-variant point spread functions by use of inverse filtering and fast Fourier transform. *Appl. Opt.*, 46(21):4686–4693.

Löfdahl, M. G. (2010). Evaluation of image shift measurement algorithms for solar Shack–Hartmann wavefront sensors. *A&A*, 524:A90.

Löfdahl, M. G. (2012). Restoration of the contrast in solar images. In Cauzzi, G., Tritschler, A., and Deng, Y., editors, *Proc. Special Session 6 of the 2012 IAU General Assembly: Science with large solar telescopes*.

Löfdahl, M. G. (2016b). Off-disk straylight measurements for the Swedish 1-meter Solar Telescope. *A&A*, 585:A140.

Löfdahl, M. G., Berger, T. E., and Seldin, J. H. (2001). Two dual-wavelength sequences of high-resolution solar photospheric images captured over several hours and restored by use of phase diversity. *A&A*, 377:1128–1135.

Löfdahl, M. G., Berger, T. E., Shine, R. A., and Title, A. M. (1997). Phase-diversity restoration of two simultaneous 70-minute photospheric sequences. *BAAS*, 29(2):02.18.

Löfdahl, M. G., Berger, T. E., Shine, R. A., and Title, A. M. (1998a). Preparation of a dual wavelength sequence of high-resolution solar photospheric images using phase diversity. *ApJ*, 495:965–972.

Löfdahl, M. G., Duncan, A. L., and Scharmer, G. B. (1998b). Fast phase diversity wavefront sensing for mirror control. In Bonaccini, D. and Tyson, R. K., editors, *Adaptive Optical System Technologies*, volume 3353 of *Proc. SPIE*, pages 952–963.

Löfdahl, M. G. and Eriksson, H. (2000). Resolving piston ambiguities when phasing a segmented mirror. In Breckinridge, J. B. and Jakobsen, P., editors, *UV, Optical, and IR Space Telescopes and Instruments VI*, volume 4013 of *Proc. SPIE*, pages 774–782.

Löfdahl, M. G. and Eriksson, H. (2001). Algorithm for resolving 2π ambiguities in interferometric measurements by use of multiple wavelenghts. *Opt. Eng.*, 40(6):984–990.

Löfdahl, M. G., Henriques, V. M. J., and Kiselman, D. (2011). A tilted interference filter in a converging beam. *A&A*, 533:A82.

Löfdahl, M. G. and Hillberg, T. (2022). Multi-frame blind deconvolution and phase diversity with statistical inclusion of uncorrected high-order modes. *A&A*, 668:A129.

Löfdahl, M. G., Hillberg, T., de la Cruz Rodríguez, J., Vissers, G., Andriienko, O., Scharmer, G. B., Haugan, S. V. H., and Fredvik, T. (2021). SSTRED: Data- and metadata-processing pipeline for CHROMIS and CRISP. *A&A*, 653:A68.

Löfdahl, M. G. and Scharmer, G. B. (1993). Phase-diversity restoration of solar images. In Radick, R. R., editor, *Real Time and Post Facto Solar Image Correction*, pages 89–104. Proc. 13th Sacramento Peak Summer Workshop.

Löfdahl, M. G. and Scharmer, G. B. (1994a). Application of phase-diversity to solar images. In Schultz, T. J. and Snyder, D. L., editors, *Image reconstruction and restoration*, volume 2302 of *Proc. SPIE*, pages 254–267.

Löfdahl, M. G. and Scharmer, G. B. (1994b). Wavefront sensing and image restoration from focused and defocused solar images. *A&AS*, 107:243–264.

Löfdahl, M. G. and Scharmer, G. B. (1997). The use of the Shack-Hartmann wavefront data for phase-diversity analysis. In *LEST workshop: Towards a Next Generation, Large Solar Telescope*, Kiepenheuer Institut für Sonnenphysik, Freiburg. Abstract.

Löfdahl, M. G. and Scharmer, G. B. (2000). A predictor approach to closed-loop phase-diversity wavefront sensing. In Breckinridge, J. B. and Jacobsen, P., editors, *UV, Optical, and IR Space Telescopes and Instruments VI*, volume 4013 of *Proc. SPIE*, pages 737–748.

Löfdahl, M. G. and Scharmer, G. B. (2003). Phase diverse speckle inversion applied to data from the Swedish 1-meter solar telescope. In Keil, S. and Avakyan, S., editors, *Innovative Telescopes and Instrumentation for Solar Astrophysics*, volume 4853 of *Proc. SPIE*, pages 567–575.

Löfdahl, M. G. and Scharmer, G. B. (2004). Image quality effects from wavelength dependent pupil apodisation in narrow-band filters. In Gallagher, P., editor, *Solar Image Processing Workshop II (abstracts)*, Annapolis, Maryland, USA. NASA's Sun-Earth Connection Division.

Löfdahl, M. G. and Scharmer, G. B. (2012). Sources of straylight in the post-focus imaging instrumentation of the Swedish 1-m Solar Telescope. *A&A*, 537:A80.

Löfdahl, M. G., Scharmer, G. B., and Wei, W. (2000). Calibration of a deformable mirror and Strehl ratio measurements by use of phase diversity. *Appl. Opt.*, 39(1):94–103.

Löfdahl, M. G., van Noort, M. J., and Denker, C. (2007). Solar image restoration. In Kneer, F., Puschmann, K. G., and Wittmann, A. D., editors, *Modern Solar Facilities – Advanced Solar Science*, pages 119–126. Universitätsverlag Göttingen. Invited.

Louis, R. E., Bellot Rubio, L. R., de la Cruz Rodriguez, J., Socas-Navarro, H., and Ortiz, A. (2015). Small-scale magnetic flux emergence in a sunspot light bridge. *A&A*, 584:A1.

Lundstedt, H. and Johannesson, A. (1990). CCD-magnetograms obtained with the Swedish solar telescope on La-Palma. In C.-I. Lagerkvist, D. Kiselman, M. L., editor, *Proc. Nordic-Baltic Astronomy Meeting*, page 197. Uppsala University.

Lundstedt, H., Johannesson, A., and Larsson, B. (1991a). Visualization of intergranular magnetic fields. In November, L. J., editor, *Solar Polarimetry*, pages 272–275. Proc. 11th Sacramento Peak Summer Workshop.

Lundstedt, H., Johannesson, A., Scharmer, G., Stenflo, J. O., Kusoffsky, U., and Larsson, B. (1991b). Magnetograph observations with the Swedish solar telescope on La Palma. *Sol. Phys.*, 132(2):233–245.

Macrae, C., Zharkov, S., Zharkova, V., Druett, M., Matthews, S., and Kawate, T. (2018). Lost and found sunquake in the 6 September 2011 flare caused by beam electrons. *A&A*, 619:A65.

Madjarska, M. S., Doyle, J. G., and De Pontieu, B. (2009). Explosive Events Associated with a Surge. *ApJ*, 701:253–259.

Malherbe, J.-M., Tarbell, T., Wiik, J. E., Schmieder, B., Frank, Z., Shine, R. A., and Van Driel-Gesztelyi, L. (1997). The Postflare Loops and the Nearby Active Chromosphere of 1992 June 26. *ApJ*, 482(1):535–540.

Malherbe, J.-M., Tarbell, T., Wiik, J. E., Schmieder, B., Frank, Z., Shine, R. A., and Van Driel-Gesztelyi, L. (1998). The postflare loops and the nearby active chromosphere of 1992 June 26: Addendum. *ApJ*, 495(1):502.

Mardini, E. (2022). Spectral series limits of the hydrogen atom. Bsc thesis, Stockholm University.

Márquez, I., Bonet, J. A., Sánchez Almeida, J., and Domínguez Cerdeña, I. (2006a). The evershed effect observed with 0.2″ angular resolution. In Casini, R. and Lites, B. W., editors, *Solar Polarization 4*, volume 358 of *ASP Conf. Series*, pages 96–99, Boulder.

Márquez, I., Sánchez Almeida, J., and Bonet, J. A. (2006b). High-resolution proper motions in a sunspot penumbra. *ApJ*, 638(1):553–563.

Marténez-Sykora, J., Rouppe van der Voort, L., Carlsson, M., De Pontieu, B., Pereira, T. M. D., Boerner, P., Hurlburt, N., Kleint, L., Lemen, J., Tarbell, T. D., Title, A., Wuelser, J.-P., Hansteen, V. H., Golub, L., McKillop, S., Reeves, K. K., Saar, S., Testa, P., Tian, H., Jaeggli, S., and Kankelborg, C. (2015). Internetwork Chromospheric Bright Grains Observed With IRIS and SST. *ApJ*, 803(1):44.

Martens, P. C. H., Hurlburt, N. E., Title, A. M., and Acton, L. W. (1996). An Analytical Model for Fluted Sunspots and a New Interpretation of Evershed Flow and X-Ray Anemones. *ApJ*, 463:372.

Marthinussen, E. (2004). Imaging of the solar photosphere: Simulation, observation and methods of interpretation. Master's thesis, Universitetet i Oslo.

Martin, T. Z. and Orton, G. S. (1997). Shoemaker-Levy 9: distribution of radiant energy. *Planetary and Space Science*, 45(10):1287–1298.

Martínez González, M. J., Asensio Ramos, A., Arregui, I., Collados, M., Beck, C., and de la Cruz Rodríguez, J. (2016). On the Magnetism and Dynamics of Prominence Legs Hosting Tornadoes. *ApJ*, 825:119.

Martínez González, M. J., del Pino Alemán, T., Yabar, A. P., Noda, C. Q., and Asensio Ramos, A. (2023). On the Magnetic Nature of Quiet-Sun Chromospheric Grains. *ApJ*, 955(2):L40.

Martinez Gonzalez, M. J., Manso Sainz, R., Asensio Ramos, A., Beck, C., de la Cruz Rodriguez, J., and Diaz, A. J. (2015). Spectropolarimetric Imaging Reveals Helical Magnetic Fields in Solar Prominence Feet. *ApJ*, 802:3.

Martínez Pillet, V. (2000). Chromosphere: Emerging Flux Regions. In Murdin, P., editor, *Encyclopedia of Astronomy and Astrophysics*, page 2000. Institute of Physics Publishing and Nature Publishing Group.

Martinez Pillet, V., Collados, M., Sanches Almeida, J., Gonzalez, V., Cruz-Lopez, A., Manescau, A., Joven, E., Paes, E., Diaz, J. J., Feeney, O., Sanchez, V., Scharmer, G. B., and Soltau, D. (1999). LPSP & TIP: Full stokes polarimeters for the Canary islands observatories. In Rimmele, T., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations and Techniques*, volume 183 of *ASP Conf. Ser.*, page 264.

Martinez Pillet, V., Trujillo Bueno, J., and Collados, M. (2001). Full Stokes LPSP observations of the Na D1 and D2 lines in magnetized regions close to the solar limb. In Sigwarth, M., editor, *Advanced solar polarimetry: Theory, observation and instrumentation*, volume 236 of *ASP Conf. Ser.*, pages 133–140.

Martínez Sykora, J., de la Cruz Rodríguez, J., Gošić, M., Sainz Dalda, A., Hansteen, V. H., and De Pontieu, B. (2023). Chromospheric Heating from Local Magnetic Growth and Ambipolar Diffusion Under Non-Equilibrium Conditions. *ApJ*, 943(2):L14.

Martinez-Sykora, J., De Pontieu, B., Cruz la de Rodriguez, J., and Chintzoglou, G. (2020). The Formation Height of Millimetre-wavelength Emission in the Solar Chromosphere. *ApJ*, 891(1):L8.

Martinez-Sykora, J., De Pontieu, B., Leenaarts, J., Pereira, T. M. D., Carlsson, M., Hansteen, V., Stern, J. V., Tian, H., McIntosh, S. W., and Rouppe van der Voort, L. (2013). A Detailed Comparison Between The Observed and Synthesized Properties of a Simulated Type II Spicule. *ApJ*, 771:66.

Martínez-Sykora, J., Leenaarts, J., De Pontieu, B., Nóbrega-Siverio, D., Hansteen, V. H., Carlsson, M., and Szydlarski, M. (2020). Ion-neutral Interactions and Nonequilibrium Ionization in the Solar Chromosphere. *ApJ*, 889(2):95.

Martínez-Sykora, J., Pontieu, B. D., Hansteen, V. H., Rouppe van der Voort, L., Carlsson, M., and Pereira, T. M. D. (2017). On the generation of solar spicules and alfvénic waves. *Science*, 356(6344):1269–1272.

Mathioudakis, M., Jess, D. B., and Erdelyi, R. (2013). Alfvén Waves in the Solar Atmosphere: From Theory to Observations. *Space Sci. Rev.*, 175:1–27.

Mathur, H., Joshi, J., Nagaraju, K., Rouppe van der Voort, L., and Bose, S. (2022). Properties of shock waves in the quiet Sun chromosphere. *A&A*, 668:A153.

Mathur, H., Nagaraju, K., Joshi, J., and de la Cruz Rodríguez, J. (2023). Do Hα Stokes V profiles probe the chromospheric magnetic field? An observational perspective. *ApJ*, 946(1):38.

McFadden, L.-A., Weissman, P. R., and Johnson, T. V., editors (2007). *Encyclopedia of the solar system*, volume 2007. Academic Press (Elsevier), 2 edition.

McIntosh, S. W., de Pontieu, B., Hansteen, V. H., and Schrjver, K. (2009). Observing the Roots of Coronal Heating - in the Chromosphere. *AGU Fall Meeting Abstracts*, page A1.

Medkeff, J. (1999). A beginner's guide to solar observing. *S&T*, pages 122–126.

Mein, N., Mein, P., Schmieder, B., Engvold, O., Molowny, R., and Ai, G. X. (1992). Active region evolution through coordinated observations. In *Proc. SUMER/CDS SOHO Meeting*.

Mein, N., Mein, P., Schmieder, B., Engvold, O., Molowny, R., and Ai, G. X. (1993). Active Region Evolution Through Coordinated Observations. In Zirin, H., Ai, G., and Wang, H., editors, *IAU Colloq. 141: The Magnetic and Velocity Fields of Solar Active Regions*, volume 46 of *ASP Conf. Ser.*, pages 63–66.

Mein, N., Schmieder, B., DeLuca, E. E., Heinzel, P., Mein, P., Malherbe, J. M., and Staiger, J. (2001). A Study of Hydrogen Density in Emerging Flux Loops from a Coordinated Transition Region and Coronal Explorer and Canary Islands Observation Campaign. *ApJ*, 556(1):438.

Mein, P., Mein, N., Démoulin, P., Engvold, O., Gontikakis, C., Molowny Horas, R., and Heinzel, P. (1996). Dynamics of solar magnetic arches in the photosphere and the chromosphere. *A&A*, 305:343–351.

Mein, P., Mein, N., Démoulin, P., Gontikakis, C., Engvold, O., and Molowny, R. (1994). Dynamics of solar magnetic arches in photosphere and chromosphere. In Schüssler, M. and Schmidt, W., editors, *Solar Magnetic Fields*, page 366. Cambridge University Press.

Mein, P., Schmieder, B., Malherbe, J. M., Wiik, J. E., Engvold, O., Brekke, P., Zirker, J. B., Poland, A. I., Delaboudiniere, J. P., and Staiger, J. (1998). Velocity Fields of a Filament Region Observed with Ground-Based Telescopes and from SOHO. In Webb, D. F., Schmieder, B., and Rust, D. M., editors, *New Perspectives on Solar Prominences*, volume 150 of *ASP Conf. Ser.*, page 135. IAU Colloq. 167.

Melandri, A., Bernardini, M. G., D'Avanzo, P., Sánchez-Ramírez, R., Nappo, F., Nava, L., Japelj, J., de Ugarte Postigo, A., Oates, S., Campana, S., Covino, S., D'Elia, V., Ghirlanda, G., Gafton, E., Ghisellini, G., Gnedin, N., Goldoni, P., Gorosabel, J., Libbrecht, T., Malesani, D., Salvaterra, R., Thöne, C. C., Vergani, S. D., Xu, D., and Tagliaferri, G. (2015). The high-redshift gamma-ray burst GRB 140515A. A comprehensive X-ray and optical study. *A&A*, 581:A86.

Melina Gerosa Bellows (2003). Sunny spots. In Bellows, M. G., editor, *National Geographic Kids*, page 10. National Geographic Society.

Mendillo, M., Warell, J., Limaye, S. S., Baumgardner, J., Sprague, A., and Wilson, J. K. (2001). Imaging the surface of Mercury with groundbased telescopes. *Planetary and Space Science*, 49(14-15):1501–1505.

Milić, I. (2025). Spectral resolution effects on the information content in solar spectra. ESPOS seminar on 2025-04-24.

Milić, I., Centeno, R., Sun, X., Rempel, M., and de la Cruz Rodriguez, J. (2024). Spatial resolution effects on the solar open flux estimates. *A&A*, 683:A134.

Milić, I. and van Noort, M. (2024). Structure of a solar plage inferred from high-resolution, high-spectral fidelity spectropolarimetry. In *EAS Annual Meeting 2024*, page 1507.

Millar, D. C. L., Fletcher, L., and Joshi, J. (2024). Intensity and velocity oscillations in a flaring active region. *MNRAS*, 527(3):5916–5928.

Millar, D. C. L., Fletcher, L., and Milligan, R. O. (2021). The effect of a solar flare on chromospheric oscillations. *MNRAS*, 503(2):2444–2456.

Moe, T. E. (2023). *Line formation in the magnetized solar chromosphere*. PhD thesis, University of Oslo.

Moe, T. E., Pereira, T. M. D., Rouppe van der Voort, L., Carlsson, M., Hansteen, V., Calvo, F., and Leenaarts, J. (2024). Comparative clustering analysis of Ca II 854.2 nm spectral profiles from simulations and observations. *A&A*, 682:A11.

Molowny-Horas, R. (1994a). Modelling of geometric transformations of solar images. *A&AS*, 107:121–127.

Molowny-Horas, R. (1994b). Proper motion measurements of umbral and penumbral structure. *Solar Physics*, 154:29–39.

Molowny-Horas, R. (1995). Erratum - Proper-Motion Measurements of Umbral and Penumbral Structure. *Sol. Phys.*, 159:405.

Molowny-Horas, R. L. (1994c). *Dynamics and Structure of the Solar Chromosphere*. PhD thesis, University of Oslo.

Molowny Horas, R. L. and Yi, Z. (1993). An IDL package for image processing and data reduction. In Høgda, K. A., Braathen, B., and Heia, K., editors, *Proc. 8th Scandinavian Conference on Image Analysis*.

Moore, R. L., Schmieder, B., Hathaway, D. H., and Tarbell, T. D. (1997). 3-D magnetic field configuration late in a large two-ribbon flare. *Sol. Phys.*, 176(1):153–169.

Mooroogen, K. (2018). *Observing the dynamic Sun: MHD waves in the chromosphere*. PhD thesis, Northumbria University.

Mooroogen, K., Morton, R. J., and Henriques, V. (2017). Dynamics of internetwork chromospheric fibrils: Basic properties and MHD kink waves. *A&A*, 607:A46.

Moreels, M. G., Freij, N., Erdélyi, R., Van Doorsselaere, T., and Verth, G. (2015). Observations and mode identification of sausage waves in a magnetic pore. *A&A*, 579:A73.

Morosin, R. (2022). *Constraining magnetic heating in the solar chromosphere*. PhD thesis, Stockholm University.

Morosin, R., de la Cruz Rodríguez, J., Díaz Baso, C. J., and Leenaarts, J. (2022). Spatio-temporal analysis of chromospheric heating in a plage region. *A&A*, 664:A8.

Morosin, R., de la Cruz Rodríguez, J., Vissers, G. J. M., and Yadav, R. (2020). Stratification of canopy magnetic fields in a plage region. Constraints from a spatially-regularized weak-field approximation method. *A&A*, 642:A210.

Morton, R. J., Mooroogen, K., and Henriques, V. M. J. (2021). Transverse motions in sunspot super-penumbral fibrils. *Philosophical Transactions of the Royal Society A*, 379(2190):20200183.

Morton, R. J., Sharma, R., Tajfirouzhe, E., and Miriyala, H. (2023). Alfvénic waves in the inhomogeneous solar atmosphere. *Reviews of Modern Plasma Physics*, 7(1):17.

Möstl, C., Hanslmeier, A., Sobotka, M., Puschmann, K., and Muthsam, H. J. (2006). Dynamics of magnetic bright points in an active region. *Sol. Phys.*, 237(1):13–23.

Mühlmann, W., Hanslmeier, A., and Brandt, P. N. (1996). Properties of the solar granulation and the mesogranulation. In *Astronomische Gesellschaft Abstract Series*, volume 12 of *Astronomische Gesellschaft Abstract Series*, page 161.

Mühlmann, W., Hanslmeier, A., and Brandt, P. N. (1997). Some properties of the solar granulation and mesogranulation. In *Astronomische Gesellschaft Abstract Series*, volume 13 of *Astronomische Gesellschaft Abstract Series*, page 166.

Mühlmann, W., Hanslmeier, A., and Brandt, P. N. (1999a). Searching for mesogranulation - problems and possible methods. In Antalová, A., Balthasar, H., and Kučera, A., editors, *JOSO Annual Report 1998*, pages 145–146. JOSO.

Mühlmann, W., Hanslmeier, A., and Brandt, P. N. (1999b). Some properties of the solar granulation and mesogranulation. In Hanslmeier, A. and Messerotti, M., editors, *Motions in the solar atmosphere*, volume 239 of *Astrophysics and Space Science Library*, pages 223–226. Kluwer.

Müller, D. A. N., de Groof, A., de Pontieu, B., and Hansteen, V. H. (2005). a Multi-Wavelength View on Coronal Rain. In Danesy, D., Poedts, S., De Groof, A., and Andries, J., editors, *The Dynamic Sun: Challenges for Theory and Observations*, volume 600 of *ESA Special Publication*, page 30.1.

Müller, D. A. N., Steiner, O., Schlichenmaier, R., and Brandt, P. N. (2001). Time-slice diagrams of solar granulation. *Sol. Phys.*, 203(2):211–232.

Muller, R. (2000). Solar Photosphere: Filigree. In Murdin, P., editor, *Encyclopedia of Astronomy and Astrophysics*, page 2254. Institute of Physics Publishing and Nature Publishing Group.

Murabito, M. (2022). Formation and disappearance of a penumbra: Recent results. ESPOS seminar on 2022-02-03.

Murabito, M. (2024). Ca II K brightness as a function of magnetic field strength and characteristics of the observations. ESPOS seminar on 2024-09-19.

Murabito, M., Ermolli, I., Chatzistergos, T., Jafarzadeh, S., Giorgi, F., and Rouppe van der Voort, L. (2023). Investigating the effect of solar ambient and data characteristics on Ca II K observations and line profile measurements. *ApJ*, 947(1):18.

Murabito, M., Guglielmino, S. L., Ermolli, I., Romano, P., Jafarzadeh, S., and Rouppe van der Voort, L. H. M. (2021). Penumbral decay observed in active region NOAA 12585. *A&A*, 653:A93.

Murray, R. (2019). Horizontal Magnetic Fields in the Sun's Atmosphere. Msc thesis, Queen's University Belfast.

Narayan, G. (2011a). *Imaging spectropolarimetry of solar active regions*. PhD thesis, Stockholm University.

Narayan, G. (2011b). Transient downflows associated with the intensification of small-scale magnetic features and bright point formation. *A&A*, 529:A79.

Narayan, G. and Scharmer, G. B. (2010). Small-scale convection signatures associated with strong plage solar magnetic field. *A&A*, 524:A3.

Narayan, G., Scharmer, G. B., Hillberg, T., Löfdahl, M., van Noort, M., Sutterlin, P., and Lagg, A. (2008). SST/CRISP Magnetometry with Fe I 630.2 nm. In Peter, H., editor, *European Solar Physics Meeting*, volume 12, pages 2.2–64. 12th European Solar Physics Meeting, Freiburg, Germany.

Narayan, G., van Noort, M., and Scharmer, G. (2007). Ca II H line wing images of sunspot penumbrae recorded with the Swedish 1-m Solar Telescope. In Kneer, F., Puschmann, K. G., and Wittmann, A. D., editors, *Modern Solar Facilities – Advanced Solar Science*, pages 213–216. Universitätsverlag Göttingen.

Nelson, C. (2015). *Properties of Ellerman Bombs and Implications about Formation Mechanisms*. PhD thesis, University of Sheffield.

Nelson, C. J., Freij, N., Bennett, S., Erdélyi, R., and Mathioudakis, M. (2019). Spatially resolved signatures of bi-directional flows observed in inverted-Y shaped jets. *ApJ*, 883(2):115.

Nelson, C. J., Freij, N., Reid, A., Oliver, R., Mathioudakis, M., and Erdélyi, R. (2017a). IRIS Burst Spectra Co-spatial to a Quiet-Sun Ellerman-like Brightening. *ApJ*, 845:16.

Nelson, C. J., Henriques, V. M. J., Mathioudakis, M., and Keenan, F. P. (2017b). The formation of small-scale umbral brightenings in sunspot atmospheres. *A&A*, 605:A14.

Nelson, C. J., Scullion, E. M., Doyle, J. G., Freij, N., and Erdélyi, R. (2015). Small-scale structuring of Ellerman bombs at solar limb. *ApJ*, 798:19.

Nemiroff, R. and Bonnell, J. (2002a). Light bridges on the sun. Astronomy Picture of the Day. `http://antwrp.gsfc.nasa.gov/apod/ap000522.html`.

Nemiroff, R. and Bonnell, J. (2002b). The sharpest view of the sun. Astronomy Picture of the Day. `http://antwrp.gsfc.nasa.gov/apod/ap021114.html`.

Nemiroff, R. and Bonnell, J. (2003). The sun's surface in 3D. Astronomy Picture of the Day. `http://antwrp.gsfc.nasa.gov/apod/ap030624.html`.

Nemiroff, R. and Bonnell, J. (2004a). Spicules: Jets on the sun. Astronomy Picture of the Day. `http://antwrp.gsfc.nasa.gov/apod/ap040802.html`.

Nemiroff, R. and Bonnell, J. (2004b). Venus at the edge. Astronomy Picture of the Day. `http://antwrp.gsfc.nasa.gov/apod/ap040610.html`.

Nilsson, L.-G. (2013). Solen strålar och stormar. *Allt om vetenskap*, 2013(6):28–33.

Nisenson, P. (1992). Single Speckle Frame Imaging Using Ayers-Dainty Blind Iterative Deconvolution. In Beckers, J. M. and F.Merkle, editors, *European Southern Observatory Conference and Workshop Proceedings*, volume 39 of *ESO Conf. and Workshop Proc.*, page 299.

Nisenson, P. (1992). Single speckle frame imaging using Ayers-Dainty blind iterative deconvolution. In Beckers and Dainty, editors, *High-Resolution Imaging by Interferometry II*, Proc. ESO conf.

Nived, V. N. (2023). Searching for signatures of Hα spicule-like features in the solar transition region. ESPOS seminar on 2023-09-21.

Nived, V. N., Scullion, E., Doyle, J. G., Susino, R., Antolin, P., Spadaro, D., Sasso, C., Sahin, S., and Mathioudakis, M. (2022). Implications of spicule activity on coronal loop heating and catastrophic cooling. *MNRAS*, 509(4):5523–5537.

Nóbrega-Siverio, D. (2024). Deciphering solar coronal heating: Energizing small-scale loops through surface convection. ESPOS seminar on 2024-04-04.

Nóbrega-Siverio, D., Cabello, I., Bose, S., Rouppe van der Voort, L. H. M., Joshi, R., Froment, C., and Henriques, V. M. J. (2024). Small-scale magnetic flux emergence preceding a chain of energetic solar atmospheric events. *A&A*, 686:A218.

Nóbrega-Siverio, D., Martínez-Sykora, J., Moreno-Insertis, F., and Rouppe van der Voort, L. (2017). Surges and Si IV bursts in the solar atmosphere. Understanding IRIS and SST observations through RMHD experiments. *ApJ*, 850:153.

Nóbrega-Siverio, D., Moreno-Insertis, F., Galsgaard, K., Krikova, K., Rouppe van der Voort, L., Joshi, R., and Madjarska, M. S. (2023). Deciphering Solar Coronal Heating: Energizing Small-scale Loops through Surface Convection. *ApJ*, 958(2):L38.

Noll, K. S., Lindgren, M., and Martin, T. Z. (1994). Periodic comet Shoemaker-Levy 9 (1993e). *IAU Circ.*, 6031:1.

Nordlander, T., Amarsi, A. M., Lind, K., Asplund, M., Barklem, P. S., Casey, A. R., Collet, R., and Leenaarts, J. (2017). 3D NLTE analysis of the most iron-deficient star, SMSS0313-6708. *A&A*, 597:A6.

Nordlund, Å., Dorch, S. B. F., and Stein, R. F. (2000). Magnetoconvection and the solar dynamo. In Venkatakrishnan, P., Engvold, O., and Choudhuri, A. R., editors, *Cyclical Evolution of Solar Magnetic Fields: Advances in Theory and Observations*, volume 21 of *J. Astrophys. Astr.*, pages 307–313. IAU Colloquium 179.

Nordlund, Å. and Gudiksen, B. (2003a). Coronal heating and coronal loop formation. In *Stars as suns: Activity, Evolution and Planets*, IAU Symposium 219 meeting abstract. IAU, Sydney, Australia.

Nordlund, Å. and Gudiksen, B. (2003b). Heating of the solar corona by topological dissipation. In *Stars as suns: Activity, Evolution and Planets*, IAU Symposium 219 meeting abstract. IAU, Sydney, Australia.

Nordlund, Å. and Scharmer, G. B. (2010). Convection and the Origin of Evershed Flows. In Hasan, S. S. and Rutten, R. J., editors, *Magnetic Coupling between the Interior and the Atmosphere of the Sun*, volume 19 of *Astrophysics and Space Science Proceedings*, pages 243–254. Springer-Verlag, Heidelberg, Berlin.

Nordlund, Å. and Stein, R. F. (1996). Convection: Significance for stellar structure and evolution. In Noels, A., Fraipont-Cro, D., Gabriel, M., Grevesse, N., and Demarque, P., editors, *Proceedings from the 32nd Liege Colloquium*, pages 75–93. Universite de Liege, Institut d'Astrophyique.

Nordlund, Å. and Stein, R. F. (1997). Stellar convection: General properties. In Pijpers, F. P., J.Christensen-Dalsgaard, and Rosenthal, C. S., editors, *Solar Convection, Oscillations and their Relationship; SCORe'96*, volume 225 of *Astrophysics and Space Science Library*, pages 79–103, Dordrecht. Kluwer Academic Press.

Nordlund, Å. and Stein, R. F. (1999). Convection simulations. In Giménez, A., Guinan, E., and Montesinos, B., editors, *Theory and Tests of Convection in Stellar Structure*, volume 173 of *ASP Conf. Ser.*, pages 91–102. American Society of Physics.

Nordlund, Å. and Stein, R. F. (2000). 3-D convection models: Are they compatible with 1-D models? In Szabados, L. and Kurtz, D., editors, *ASP Conf. Ser. 203: IAU Colloq. 176: The Impact of Large-Scale Surveys on Pulsating Star Research*, pages 362–372.

Nordlund, Å., Stein, R. F., and Brandenburg, A. (1996). Supercomputer windows into the solar convection zone. In Antia, H. M. and Chitre, S. M., editors, *Windows on the Sun's Interior*, volume 24 of *Bull. of the Astronomical Soc. of India*, pages 261–279.

Norén, A. (2013). Calibration of the SST image scale through the use of imaging techniques. Bachelor's thesis, Stockholm University.

Ondratschek, P., Przybylski, D., Smitha, H. N., Cameron, R., Solanki, S. K., and Leenaarts, J. (2024). Mg II h&k spectra of an enhanced network region simulated with the MURaM-ChE code. Results using 1.5D synthesis. *A&A*, 692:A6.

Orozco Suárez, D., del Toro Iniesta, J. C., Bailén Martínez, F. J., Balaguer Jiménez, M., Álvarez García, D., Serrano, D., Peñin, L. F., Vázquez-Ramos, A., Bellot Rubio, L. R., Atienzar, J., Pérez Grande, I., Torralbo Gimeno, I., Sanchis Kilders, E., Gasent Blesa, J. L., Hernández Expósito, D., Ruiz Cobo, B., Trujillo Bueno, J., Erdélyi, R., Davies, J. A., Green, L. M., Matthews, S. A., Long, D. M., Mathioudakis, M., Kintziger, C., Leenaarts, J., Fineschi, S., and Scullion, E. (2023). CMAG: A Mission to Study and Monitor the Inner Corona Magnetic Field. *Aerospace*, 10(12):987.

Ortiz, A. (2017). Emergence of granular-sized magnetic bubbles through the solar atmosphere. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 32.

Ortiz, A. (2018). Ellerman bombs and UV bursts: reconnection at different atmospheric layers? ESPOS seminar on 2018-11-29.

Ortiz, A., Bellot Rubio, L., Hansteen, V., de la Cruz Rodríguez, J., and Rouppe van der Voort, L. (2014). Emergence of granular-sized magnetic bubbles through the solar atmosphere: I. Spectropolarimetric observations and simulations. *ApJ*, 781:126.

Ortiz, A., Bellot Rubio, L. R., and Rouppe van der Voort, L. (2010). Downflows in Sunspot Umbral Dots. *ApJ*, 713:1282–1291.

Ortiz, A., Hansteen, V. H., Nóbrega-Siverio, D., and Rouppe van der Voort, L. (2020). Ellerman bombs and UV bursts: reconnection at different atmospheric layers. *A&A*, 633:A58.

Ortiz, A., Hansteen, V. H., Ramón Bellot Rubio, L., de la Cruz Rodríguez, J., De Pontieu, B., Carlsson, M., and Rouppe van der Voort, L. (2016). Emergence of Granular-sized Magnetic Bubbles Through the Solar Atmosphere. III. The Path to the Transition Region. *ApJ*, 825:93.

Ortiz, A. and Rouppe van der Voort, L. H. M. (2010). Spectropolarimetry with CRISP at the Swedish 1-m Solar Telescope. In Hasan, S. S. and Rutten, R. J., editors, *Magnetic Coupling between the Interior and the Atmosphere of the Sun*, volume 19 of *Astrophysics and Space Science Proceedings*, pages 150–155. Springer-Verlag, Heidelberg, Berlin.

Ortiz, A., Rubio, L. B., and Rouppe van der Voort, L. (2012). Velocities in Magnetoconvective Structures inside Sunspot Umbrae. In Sekii, T., Watanabe, T., and Sakurai, T., editors, *Hinode-3: The 3rd Hinode Science Meeting*, volume 454 of *Astronomical Society of the Pacific Conference Series*, page 217.

Ortiz Carbonell, A., De Pontieu, B., Bellot Rubio, L. R., Hansteen, V., Rouppe van der Voort, L., and Carlsson, M. (2014). Effects of flux emergence in the outer solar atmosphere. Observational advances. In *40th COSPAR Scientific Assembly*, volume 40, pages E2.4–14–14.

Orton, G., Ortiz, J. L., Baines, K., Bjoraker, G., Carsenty, U., Colas, F., Dayal, A., Deming, D., Drossart, P., Frappa, E., Friedson, J., Goguen, J., Golisch, W., Griep, D., Hernandez, C., Hoffmann, W., Jennings, D., Kaminski, C., Kuhn, J., Laques, P., Limaye, S., Lin, H., Lecacheux, J., Martin, T., McCabe, G., Momary, T., Parker, D., Puetter, R., Ressler, M., Reyes, G., Sada, P., Spencer, J., Spitale, J., Stewart, S., Varsik, J., Warell, J., Wild, W., Yanamandra-Fisher, P., Fazio, G., Hora, J., and Deutsch, L. (1996). Earth-Based Observations of the Galileo Probe Entry Site. *Science*, 272(5263):839–840.

Osborne, C. M. J., Armstrong, J. A., and Fletcher, L. (2019). RADYNVERSION: Learning to Invert a Solar Flare Atmosphere with Invertible Neural Networks. *ApJ*, 873:128.

Palacios, J., Domingo, V., Cabello, I., Bonet, J. A., and Sánchez Almeida, J. (2008). Small magnetic structures in the photosphere, radiative properties. In *37th COSPAR Scientific Assembly, 13–20 July 2008, Montréal, Canada*, volume 37 of *COSPAR, Plenary Meeting*, page 2331.

Palacios, J., Vargas Dominguez, S., Balmaceda, L. A., Cabello, I., and Domingo, V. (2016). Multi-wavelength Observations of Photospheric Vortex Flows in the Photosphere Using Ground-based and Space-borne Telescopes. In Dorotovič, I., Fischer, C., and Temmer, M., editors, *Ground-based Solar Observations in the Space Instrumentation Era*, volume 504 of *ASP Conf. Ser.*, page 139.

Pandit, S. (2023). *A new look at Solar-Stellar Activity with the Atacama Large Millimeter/submillimeter Array*. PhD thesis, University of Oslo.

Papadogiannakis, S., Dhawan, S., Morosin, R., and Goobar, A. (2019). Characterizing the secondary maximum in the r-band for Type Ia supernovae: diagnostic for the ejecta mass. *MNRAS*, 485(2):2343–2354.

Park, S.-H., Tsiropoula, G., Kontogiannis, I., Tziotziou, K., Scullion, E., and Doyle, J. G. (2016). First simultaneous SST/CRISP and IRIS observations of a small-scale quiet Sun vortex. *A&A*, 586:A25.

Pasachoff, J. M. and Bruck, M. A. (2007). High-spectral-resolution Observations of the Solar Chromosphere and Corona. *BAAS*, 38:224.

Pasachoff, J. M., Jacobson, W. A., and Sterling, A. C. (2009). Limb Spicules from the Ground and from Space. *Sol. Phys.*, 260:59–82.

Pasachoff, J. M., Kozarev, K. A., Butts, D. L., Gangestad, J. W., Seaton, D. B., de Pontieu, B., Golub, L., Deluca, E., Wilhelm, K., and Dammasch, I. (2005). Spicules, mass transfer, oscillations, and the heating of the corona. *AGU Spring Meeting Abstracts*, pages SH13C–02.

Pastor Yabar, A. (2017). *Solar poles magnetism*. PhD thesis, University of La Laguna.

Pastor Yabar, A. (2023). Quiet Sun radiative losses as inferred from spatially coupled inversions. ESPOS seminar on 2023-04-13.

Pastor Yabar, A., Asensio Ramos, A., Manso Sainz, R., and Collados, M. (2022). Polarimetric characterization of segmented mirrors. *Appl. Opt.*, 61(16):4908.

Pastor Yabar, A., Borrero, J. M., Quintero Noda, C., and Ruiz Cobo, B. (2021). Inference of electric currents in the solar photosphere. *A&A*, 656:L20.

Pastor Yabar, A. and de la Cruz Rodríguez, J. (2022). Quiet-Sun radiative losses: contribution to chromospheric heating. In *44th COSPAR Scientific Assembly. Held 16-24 July*, volume 44, page 2517.

Paxman, R. and Seldin, J. (1993). Fine-Resolution Imaging of Solar Features Using Phase-Diverse Speckle Imaging. In Radick, R. R., editor, *Real Time and Post Facto Solar Image Correction*, page 112. Proc. 13th Sacramento Peak Summer Workshop.

Paxman, R. G. (1995a). Fine-resolution imaging of solar features using Phase-Diverse Speckle. Technical report, Environmental Research Institute of Michigan.

Paxman, R. G. (1995b). Fine-resolution imaging of solar features using phase-diverse speckle. Technical report, Advanced Modular Power Systems, Inc.

Paxman, R. G., Seldin, J. H., and Elste, G. H. (1995). Fine-Resolution Imaging of Solar Features using Phase-Diverse Speckle. *BAAS*, 26:950.

Paxman, R. G., Seldin, J. H., Löfdahl, M. G., Scharmer, G. B., and Keller, C. U. (1996). Evaluation of phase-diversity techniques for solar-image restoration. *ApJ*, 466:1087–1099.

Pazira, H. (2017). Chromospheric line formation of OI 7772 Å. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 30.

Pazira, H., Kiselman, D., and Leenaarts, J. (2017). Solar off-limb emission of the OI 7772 Å line. *A&A*, 604:A49.

Pereira, T. M. D. (2009). *Confronting the new generation of stellar model atmospheres with observations*. PhD thesis, Australian National University, Canberra.

Pereira, T. M. D., Asplund, M., and Kiselman, D. (2009a). Oxygen lines in solar granulation. II. Centre-to-limb variation, NLTE line formation, blends, and the solar oxygen abundance. *A&A*, 508:1403–1416.

Pereira, T. M. D., Asplund, M., and Kiselman, D. (2009b). Testing 3D solar models against observations: Center-to-limb variations of oxygen lines, spatially-resolved line formation and probing for departures from LTE. In Nagendra, K. N., Bonifacio, P., and Ludwig, H.-G., editors, *3D views on cool stellar atmospheres: theory meets observation*, volume 80 of *Mem. Soc. Astron. Italiana*, page 650. Joint Discussion 10, IAU General Assembly, Rio de Janeiro, August 10-11, 2009.

Pereira, T. M. D., Kiselman, D., and Asplund, M. (2009c). Oxygen lines in solar granulation. I. Testing 3D models against new observations with high spatial and spectral resolution. *A&A*, 507:417–432.

Pereira, T. M. D., Kiselman, D., and Asplund, M. (2009d). VizieR Online Data Catalog: Oxygen lines in solar granulation. I. (Pereira+, 2009). VizieR On-line Data Catalog: J/A+A/507/417. Originally published in: 2009A&A...507..417P.

Pereira, T. M. D., Rouppe van der Voort, L., and Carlsson, M. (2016). The Appearance of Spicules in High Resolution Observations of Ca II H and H-alpha. *ApJ*, 824:65.

Pereira, T. M. D., Rouppe van der Voort, L., Hansteen, V. H., and De Pontieu, B. (2018). Chromospheric counterparts of solar transition region unresolved fine structure loops. *A&A*, 611:L6.

Peter, H., Gudiksen, B. V., and Nordlund, Å. (2004). Coronal Heating through Braiding of Magnetic Field Lines. *ApJ*, 617(1):L85–L88.

Petersen, L. (2003). Solen og månen går næsten i sort. *Illustreret Videnskap*, 2003(7):86.

Petrova, E., Van Doorsselaere, T., van Noort, M., Berghmans, D., and Castellanos Durán, J. S. (2025). Transverse waves observed in a fibril with the MiHI prototype. *A&A*, 697:A168.

Photonics Spectra (2003). Filament cores observed on sun. In *Photonics Spectra*, page 44. Laurin Publishing, Pittsfield, MA, USA.

Pietarila, A., Aznar Cuadrado, R., Hirzberger, J., and Solanki, S. K. (2011). Kink Waves in an Active Region Dynamic Fibril. *ApJ*, 739:92.

Pietarila, A., Hirzberger, J., Zakharov, V., and Solanki, S. K. (2009). Bright fibrils in Ca II K. *A&A*, 502:647–660.

Pietarila, A., Solanki, S., Hirzberger, J., and Zakharov, V. (2008). Fibrils in Ca II K. In Peter, H., editor, *European Solar Physics Meeting*, volume 12 of *European Solar Physics Meeting*, page 2.51. 12th European Solar Physics Meeting, Freiburg, Germany.

Pietrow, A. (2025). Sun-as-a-star flare observations with HARPS-N and SST. ESPOS seminar on 2025-01-30.

Pietrow, A. G. M. (2019a). CRISpy: A Python module for working with CRISP data from the Swedish 1-m Solar Telescope. In *Zenodo Software Releas*, volume 32, page 29961. `https://zenodo.org/record/3368313`.

Pietrow, A. G. M. (2019b). Investigations into the origin of Einstein's Sink. *Studium: Tijdschrift voor Wetenschaps- en Universiteitsgeschiedenis*, 11(4):1.

Pietrow, A. G. M. (2020). *Investigating magnetic fields in the solar chromosphere*. Licentiate thesis, Stockholm University.

Pietrow, A. G. M. (2022). *Physical properties of chromospheric features: Plage, peacock jets, and calibrating it all*. PhD thesis, Stockholm University.

Pietrow, A. G. M. (2023). Did Christiaan Huygens need glasses? A study of Huygens' telescope equations and tables. *Notes and Records: the Royal Society Journal of the History of Science*.

Pietrow, A. G. M., Burtscher, L., and Brandl, B. (2019). Inverse Chop Addition: Thermal IR Background Subtraction without Nodding. *Research Notes of the AAS*, 3(2):42.

Pietrow, A. G. M., Cretignier, M., Druett, M. K., Alvarado-Gómez, J. D., Hofmeister, S. J., Verma, M., Kamlah, R., Baratella, M., Amazo-Gomez, E. M., Kontogiannis, I., Dineva, E., Warmuth, A., Denker, C., Poppenhaeger, K., Andriienko, O., Dumusque, X., and Löfdahl, M. G. (2023a). Bridging the gap: Sun-as-a-star flare observations with HARPS-N. In *ESA Heliophysics In Europe workshop 2023*. `https://cloud.aip.de/index.php/s/FYSEkDjCGaJfcM5/download/PosterESA_saas.pdf`.

Pietrow, A. G. M., Cretignier, M., Druett, M. K., Alvarado-Gómez, J. D., Hofmeister, S. J., Verma, M., Kamlah, R., Baratella, M., Amazo-Gómez, E. M., Kontogiannis, I., Dineva, E., Warmuth, A., Denker, C., Poppenhaeger, K., Andriienko, O., Dumusque, X., and Löfdahl, M. G. (2024a). A comparative study of two X2.2 and X9.3 solar flares observed with HARPS-N. Reconciling Sun-as-a-star spectroscopy and high-spatial resolution solar observations in the context of the solar-stellar connection. *A&A*, 682:A46.

Pietrow, A. G. M., Cretignier, M., Druett, M. K., Alvarado-Gómez, J. D., Hofmeister, S. J., Verma, M., Kamlah, R., Barlatella, M., Amazo-Gómez, E. M., Kontogiannis, I., Dineva, E., Warmuth, A., Denker, C., Poppenhaeger, K., Andriienko, O., Dumusque, X., and Löfdahl, M. G. (2024b). Investigating the absence of stellar CMEs through solar observations. In *EGU General Assembly 2024*, EGU General Assembly Conference Abstracts, page 12140.

Pietrow, A. G. M., Druett, M. K., de la Cruz Rodriguez, J., Calvo, F., and Kiselman, D. (2022). Physical properties of a fan-shaped jet backlit by an X9.3 flare. *A&A*, 659:A58.

Pietrow, A. G. M., Druett, M. K., and Singh, V. (2024c). Spectral variations within solar flare ribbons. *A&A*, 685:A137.

Pietrow, A. G. M., Hoppe, R., Bergemann, M., and Calvo, F. (2023b). Solar oxygen abundance using SST/CRISP center-to-limb observations of the O I 7772 Å line. *A&A*, 672:L6.

Pietrow, A. G. M. and Kiselman, D. (2019). Centre-to-limb variation of the ca ii h & k lines. Poster at IAU symposium 354 in Chile.

Pietrow, A. G. M., Kiselman, D., Andriienko, O., Petit dit de la Roche, D. J. M., Díaz Baso, C. J., and Calvo, F. (2023c). Center-to-limb variation of spectral lines and continua observed with SST/CRISP and SST/CHROMIS. *A&A*, 671:A130.

Pietrow, A. G. M., Kiselman, D., de la Cruz Rodríguez, J., Díaz Baso, C. J., Pastor Yabar, A., and Yadav, R. (2020). Inference of the chromospheric magnetic field configuration of solar plage using the Ca II 8542 Å line. *A&A*, 644:A43.

Pietrow, A. G. M. and Pastor Yabar, A. (2024). Center-to-limb variation of spectral lines and their effect on full-disk observations. In Getling, A. V. and Kitchatinov, L. L., editors, *IAU Symposium 365: Dynamics of Solar and Stellar Convection Zones and Atmosphere*, volume 19 of *Proc. IAU*, pages 389–393. `https://iaus365.sinp.msu.ru/`.

Poirier, N. (2024). Transverse oscillations in coronal loops and photospheric driving: combining high-resolution coronal and photospheric diagnostics together. ESPOS seminar on 2024-10-03.

Poirier, N., Danilovic, S., Kohutova, P., Díaz Baso, C. J., Rouppe van der Voort, L., Calchetti, D., and Sinjan, J. (2025). Coronal kink oscillations and photospheric driving: Combining SolO/EUI and SST/CRISP high-resolution observations. *A&A*, 696:A125.

Pötzi, W. and Brandt, P. N. (2007). Divergence and vorticity at solar mesogranular scales. *Central European Astrophysical Bulletin*, 31:11–20.

Pötzi, W., Brandt, P. N., and Hanslmeier, A. (2003). Variation of granular evolution at meso-scales. *Hvar Observatory Bulletin*, 27:39–46.

Priest, E. (2014). *Magnetohydrodynamics of the Sun*. Cambridge University Press.

Przybylski, D., Cameron, R., Solanki, S. K., Rempel, M., Leenaarts, J., Anusha, L. S., Witzke, V., and Shapiro, A. I. (2022). Chromospheric extension of the MURaM code. *A&A*, 664:A91.

Puschmann, K. G. and Kneer, F. (2005). On super-resolution in astronomical imaging. *A&A*, 436:373–378.

Puschmann, K. G. and Sailer, M. (2006). Speckle reconstruction of photometric data observed with adaptive optics. *A&A*, 454(3):1011–1019.

Puschmann, K. G. and Wiehr, E. (2006). The flux-gap between bright and dark solar magnetic structures. *A&A*, 445(1):337–340.

Quinn, S., Reid, A., Mathioudakis, M., Nelson, C., Krishna Prasad, S., and Zharkov, S. (2019). The Chromospheric Response to the Sunquake generated by the X9.3 Flare of NOAA 12673. *ApJ*, 881(1):82.

Quintero Noda, C., Iijima, H., Katsukawa, Y., Shimizu, T., Carlsson, M., de la Cruz Rodríguez, J., Ruiz Cobo, B., Orozco Suárez, D., Oba, T., Anan, T., Kubo, M., Kawabata, Y., Ichimoto, K., and Suematsu, Y. (2019). Chromospheric polarimetry through multiline observations of the 850 nm spectral region III: Chromospheric jets driven by twisted magnetic fields. *MNRAS*, 486(3):4203–4215.

Quintero Noda, C., Kato, Y., Katsukawa, Y., Oba, T., de la Cruz Rodríguez, J., Carlsson, M., Shimizu, T., Orozco Suárez, D., Ruiz Cobo, B., Kubo, M., Anan, T., Ichimoto, K., and Suematsu, Y. (2017a). Chromospheric polarimetry through multiline observations of the 850-nm spectral region - II. A magnetic flux tube scenario. *MNRAS*, 472:727–737.

Quintero Noda, C., Khomenko, E., Collados, M., Ruiz Cobo, B., Gafeira, R., Vitas, N., Rempel, M., Campbell, R. J., Pastor Yabar, A., Uitenbroek, H., and Orozco Suárez, D. (2023). A study of the capabilities for inferring atmospheric information from high-spatial-resolution simulations. *A&A*, 675:A93.

Quintero Noda, C., Schlichenmaier, R., Bellot Rubio, L. R., Löfdahl, M. G., Khomenko, E., Jurčák, J., Leenaarts, J., Kuckein, C., González Manrique, S. J., Gunár, S., Nelson, C. J., de la Cruz Rodríguez, J., Tziotziou, K., Tsiropoula, G., Aulanier, G., Aboudarham, J., Allegri, D., Alsina Ballester, E., Amans, J. P., Asensio Ramos, A., Bailén, F. J., Balaguer, M., Baldini, V., Balthasar, H., Barata, T., Barczynski, K., Barreto Cabrera, M., Baur, A., Béchet, C., Beck, C., Belío-Asín, M., Bello-González, N., Belluzzi, L., Bentley, R. D., Berdyugina, S. V., Berghmans, D., Berlicki, A., Berrilli, F., Berkefeld, T., Bettonvil, F., Bianda, M., Bienes Pérez, J., Bonaque-González, S., Brajša, R., Bommier, V., Bourdin, P. A., Burgos Martín, J., Calchetti, D., Calcines, A., Calvo Tovar, J., Campbell, R. J., Carballo-Martín, Y., Carbone, V., Carlin, E. S., Carlsson, M., Castro López, J., Cavaller, L., Cavallini, F., Cauzzi, G., Cecconi, M., Chulani, H. M., Cirami, R., Consolini, G., Coretti, I., Cosentino, R., Cózar-Castellano, J., Dalmasse, K., Danilovic, S., De Juan Ovelar, M., Del Moro, D., del Pino Alemán, T., del Toro Iniesta, J. C., Denker, C., Dhara, S. K., Di Marcantonio, P., Díaz Baso, C. J., Diercke, A., Dineva, E., Díaz-García, J. J., Doerr, H. P., Doyle, G., Erdelyi, R., Ermolli, I., Escobar Rodríguez, A., Esteban Pozuelo, S., Faurobert, M., Felipe, T., Feller, A., Feijoo Amoedo, N., Femenía Castellá, B., Fernandes, J., Ferro Rodríguez, I., Figueroa, I., Fletcher, L., Franco Ordovas, A., Gafeira, R., Gardenghi, R., Gelly, B., Giorgi, F., Gisler, D., Giovannelli, L., González, F., González, J. B., González-Cava, J. M., González García, M., Gömöry, P., Gracia, F., Grauf, B., Greco, V., Grivel, C., Guerreiro, N., Guglielmino, S. L., Hammerschlag, R., Hanslmeier, A., Hansteen, V., Heinzel, P., Hernández-Delgado, A., Hernández Suárez, E., Hidalgo, S. L., Hill, F., Hizberger, J., Hofmeister, S., Jägers, A., Janett, G., Jarolim, R., Jess, D., Jiménez Mejías, D., Jolissaint, L., Kamlah, R., Kapitán, J., Kašparová, J., Keller, C. U., Kentischer, T., Kiselman, D., Kleint, L., Klvana, M., Kontogiannis, I., Krishnappa, N., Kučera, A., Labrosse, N., Lagg, A., Landi Degl'Innocenti, E., Langlois, M., Lafon, M., Laforgue, D., Le Men, C., Lepori, B., Lepreti, F., Lindberg, B., Lilje, P. B., López Ariste, A., López Fernández, V. A., López Jiménez, A. C., López López, R., Manso Sainz, R., Marassi, A., Marco de la Rosa, J., Marino, J., Marrero, J., Martín, A., Martín Gálvez, A., Martín Hernando, Y., Masciadri, E., Martínez González, M., Matta-Gómez, A., Mato, A., Mathioudakis, M., Matthews, S., Mein, P., Merlos García, F., Moity, J., Montilla, I., Molinaro, M., Molodij, G., Montoya, L. M., Munari, M., Murabito, M., Núñez Cagigal, M., Oliviero, M., Orozco Suárez, D., Ortiz, A., Padilla-Hernández, C., Paéz Mañá, E., Paletou, F., Pancorbo, J., Pastor Cañedo, A., Pastor Yabar, A., Peat, A. W., Pedichini, F., Peixinho, N., Peñate, J., Pérez de Taoro, A., Peter, H., Petrovay, K., Piazzesi, R., Pietropaolo, E., Pleier, O., Poedts, S., Pötzi, W., Podladchikova, T., Prieto, G., Quintero Nehrkorn, J., Ramelli, R., Ramos Sapena, Y., Rasilla, J. L., Reardon, K., Rebolo, R., Regalado Olivares, S., Reyes García-Talavera, M., Riethmüller, T. L., Rimmele, T., Rodríguez Delgado, H., Rodríguez González, N., Rodríguez-Losada, J. A., Rodríguez Ramos, L. F., Romano, P., Roth, M., Rouppe van der Voort, L., Rudawy, P., Ruiz de Galarreta, C., Rybák, J., Salvade, A., Sánchez-Capuchino, J., Sánchez Rodríguez, M. L., Sangiorgi, M., Sayède, F., Scharmer, G., Scheiffelen, T., Schmidt, W., Schmieder, B., Scirè, C., Scuderi, S., Siegel, B., Sigwarth, M., Simões, P. J. A., Snik, F., Sliepen, G., Sobotka, M., Socas-Navarro, H., Sola La Serna, P., Solanki, S. K., Soler Trujillo, M., Soltau, D., Sordini, A., Sosa Méndez, A., Stangalini, M., Steiner, O., Stenflo, J. O., Štěpán, J., Strassmeier, K. G., Sudar, D., Suematsu, Y., Sütterlin, P., Tallon, M., Temmer, M., Tenegi, F., Tritschler, A., Trujillo Bueno, J., Turchi, A., Utz, D., van Harten, G., van Noort, M., van Werkhoven, T., Vansintjan, R., Vaz Cedillo, J. J., Vega Reyes, N., Verma, M., Veronig, A. M., Viavattene, G., Vitas, N., Vögler, A., von der Lühe, O., Volkmer, R., Waldmann, T. A., Walton, D., Wisniewska, A., Zeman, J., Zeuner, F., Zhang, L. Q., Zuccarello, F., and Collados, M. (2022). The European Solar Telescope. *A&A*, 666:A21.

Quintero Noda, C., Shimizu, T., de la Cruz Rodríguez, J., Katsukawa, Y., Ichimoto, K., Anan, T., and Suematsu, Y. (2016). Spectropolarimetric capabilities of Ca II 8542 Å line. *MNRAS*, 459:3363–3376.

Quintero Noda, C., Shimizu, T., Katsukawa, Y., de la Cruz Rodríguez, J., Carlsson, M., Anan, T., Oba, T., Ichimoto, K., and Suematsu, Y. (2017b). Chromospheric polarimetry through multiline observations of the 850-nm spectral region. *MNRAS*, 464:4534–4543.

Rachmeler, L. A., Bueno, J. T., McKenzie, D. E., Ishikawa, R., Auchère, F., Kobayashi, K., Kano, R., Okamoto, T. J., Bethge, C. W., Song, D., Ballester, E. A., Belluzzi, L., Pino Alemán, T. d., Ramos, A. A., Yoshida, M., Shimizu, T., Winebarger, A., Kobelski, A. R., Vigil, G. D., Pontieu, B. D., Narukage, N., Kubo, M., Sakao, T., Hara, H., Suematsu, Y., Štěpán, J., Carlsson, M., and Leenaarts, J. (2022). Quiet Sun Center to Limb Variation of the Linear Polarization Observed by CLASP2 Across the Mg II h and k Lines. *ApJ*, 936(1):67.

Ramos-Medina, J., Sánchez Contreras, C., García-Lario, P., and da Silva Santos, J. M. (2018). Warm CO in evolved stars from the THROES catalogue. I. Herschel-PACS spectroscopy of O-rich envelopes. *A&A*, 618:A171.

Raouafi, N. E., Hoeksema, J. T., Newmark, J. S., Gibson, S., Berger, T. E., Upton, L. A., Vourlidas, A., Hassler, D. M., Kinnison, J., Ho, G. C., Mason, G. M., Vievering, J. T., Viall, N. M., Szabo, A., Casti, M., Case, A. W., Lepri, S. T., Velli, M., Georgoulis, M. K., Bourouaine, S., Jagarlamudi, V. K., Laming, J. M., Mason, J. P., Harra, L., Madjarska, M., Chitta, L. P., Castellanos Duran, J. S., Korpi-Lagg, A., Badman, S., Chifu, I., Lario, D., Wing, S., Bale, S., Paouris, E., Narayanamurthy, S., Sinjan, J., Bernasconi, P., Krivova, N., Gizon, L., Leamon, R. J., Gosain, S., Kazachenko, M., Petrie, G., Martinez Pillet, V., Jain, K., Luhmann, J., Bertello, L., Toriumi, S., Jiang, C., Vasko, I., Harvey, J. W., Schad, T. A., Jebaraj, I. C., Scherrer, P., Hofmeister, S., Tiwari, S., Wang, H., Roth, M., Panesar, N., Sekii, T., Magyar, N., Guglielmino, S. L., Parenti, S., Tremblay, B., Tziotziou, K., de Toma, G., Chen, B., Katsukawa, Y., De Pontieu, B., Cheng, X., Cheung, M., Kosovichev, A., Jiang, J., Schunker, H., Kawabata, Y., Oba, T., Cameron, R., Mathew, S. K., de la Cruz Rodriguez, J., Kusano, K., Temmer, M., Andretta, V., Sven, W., Samara, E., Heinemann, S. G., Warmuth, A., Jafarzadeh, S., Mackay, D. H., Fludra, A., Bellot Rubio, L., Orozco Suárez, D., Chen, T. Y., Kontogiannis, I., Yardley, S., Veronig, A., Joshi, J., Spadaro, D., Kubo, M., Bose, S., Bello González, N., Solanki, S., Denker, C., Verma, M., Vocks, C., Borrero, J. M., Mathews, N. H., Cury, S., Sasso, C., Stenborg, G., Tibebu, G., Battams, K., Wijsen, N., Bruno, A., Peter, H., Mason, E. I., Caplan, R. M., Martinez-Sykora, J., Seaton, D., Airapetian, V., Jian, L., Thompson, W. T., Ofman, L., Wallace, S., Kucera, T., Desai, R., Richardson, I., Burkepile, J., Cranmer, S., Strauss, R. D. T., Murabito, M., Alfred, D. W., Xie, H., Rempel, M., Hess Webber, S., Reeves, K. K., Hurlburt, N., Berrilli, F., DeLuca, E., Egeland, R., Ko, Y.-K., Kee, N. D., Mahajan, S. S., Craig, D., Wood, B. E., Chris, C., Nigro, G., Shaik, S. B., Gosic, M., Shimizu, T., Zuccarello, F., Nitta, N., Chatzistergos, T., Fan, Y., Zhang, J., Fehlmann, A., Palmerio, E., Ishikawa, R. T., Danilovic, S., Skan, M., Froment, C., Díaz Baso, C. J., Liang, Z.-C., Dudok de Wit, T., Barczynski, K., Johnston, C., Pariat, E., Hadid, L., Aulanier, G., Brun, A. S., Athanasios, K., Cauzzi, G., Dredger, P., French, R., Christian, D., Linton, M., Ireland, J., Tarr, L., Strugarek, A., Uritsky, V., DeRosa, M., Kretzschmar, M., García, R. A., Monteiro, M. J. P. F. G., Mathur, S., Breton, S. N., Pinto, R. F., Martinez Oliveros, J. C., Loper, R., Auchère, F., Wang, T., Reginald, N., Cunha, M. S., Teriaca, L., Chintzoglou, G., Lynch, B. J., Linker, J., Beck, P., Shannon, J., Clare, B., Krupiarz, C., Whiting, I. D., Byerly, A., Bushman, S., Carrelli, D., Kijewski, S., Englander, J., Mizes, A., Porter, J., O'Neill, M., Chattopadhyay, D., Albers, J., Rast, M., Ermolli, I., Tzeng, N., Hudson, J. F., Giunta, A., Buchlin, É., Bommier, V., Duncan, N., Janvier, M., Strecker, H., Siu, A., Perri, B., Maksimovic, M., Vilmer, N., Toledo-Redondo, S., Kuckein, C., Alberti, T., Antolin, P., Aznar Cuadrado, R., Berghmans, D., Brigitte, S.,

Bucik, R., Calchetti, D., Caspi, A., Cohen, C., Corbard, T., Cremades, H., Cummings, A., Dhakal, S., Dolla, L., Dominique, M., Emslie, G., Ferrente, F., Finley, A. J., Fletcher, L., Fraschetti, F., Gafeira, R., Gissot, S., Hegde, D., Hu, Q., Innocenti, M. E., Jin, M., Klein, K., Kumar, P., Lacatus, D., Liewer, P., Magdalenic, J., Mandal, S., Mandrini, C. H., Mierla, M., Miralles, M. P., Moore, R., Neville, J., Niembro, T., Nikou, E., Nindos, A., Papaioannou, A., Rajaguru, S. P., Reville, V., Rochus, P., Rodriguez, L., Romoli, M., Shestov, S., Shi, C., Sorriso-Valvo, L., St. Cyr, O. C., Sterling, A., Stevens, M. L., Susino, R., Swisdak, M., Thompson, B. J., Valliappan, S. P., Verbeeck, F., Bothmer, V., Xudong, S., Zhukov, A., Katsiyannis, T., Owen, C., Karna, N., Janssens, J., Khomenko, E., Gary, D., Bandyopadhyay, R., Chhiber, R., Tenerani, A., Rouillard, A., Patsourakos, S., Anastasiadis, A., Bocchialini, K., Moraitis, K., Rivera, Y., Drake, J., Baudin, F., Chandran, B., Dayeh, M., Reardon, K., Cairns, I., Bizien, N., Wexler, D., Bahauddin, S., Rodriguez-Pacheco, J., Yu, S., Lee, J., Gontikakis, C., Koukras, A., Le Contel, O., Pezzi, O., Kintziger, C., Boumier, P., Balasis, G., Dikpati, M., Pesnell, W. D., Chai, Y., Nandy, D., Charles, A., Corti, C., Zhao, L., Matthaeus, W. H., Gilly, C. R., Erlandson, R. E., Derouich, M., Zhao, L., Poedts, S., Shi, C., Vieira, L., Adhikari, L., Buitrago-Casas, J. C., Huang, J., Moestl, C., Liu, M., Oloketuyi, J., Zhuang, B., Alberti, T., Rodríguez-García, L., Perez, J. C., Xu, Z., Kooi, J., Woodham, L. D., Tripathi, D., Young, P., López-Portela, C., Cuesta, M. E., and Wilson, L. (2023). Firefly: The Case for a Holistic Understanding of the Global Structure and Dynamics of the Sun and the Heliosphere. *BAAS*, 55(3):333.

Rast, M. P., Bello González, N., Bellot Rubio, L., Cao, W., Cauzzi, G., DeLuca, E., De Pontieu, B., Fletcher, L., Gibson, S. E., Judge, P. G., Katsukawa, Y., Kazachenko, M. D., Khomenko, E., Landi, E., Martínez Pillet, V., Petrie, G. J. D., Qiu, J., Rachmeler, L. A., Rempel, M., Schmidt, W., Scullion, E., Sun, X., Welsch, B. T., Andretta, V., Antolin, P., Ayres, T. R., Balasubramaniam, K. S., Ballai, I., Berger, T. E., Bradshaw, S. J., Carlsson, M., Casini, R., Centeno, R., Cranmer, S. R., DeForest, C., Deng, Y., Erdélyi, R., Fedun, V., Fischer, C. E., González Manrique, S. J., Hahn, M., Harra, L., Henriques, V. M. J., Hurlburt, N. E., Jaeggli, S., Jafarzadeh, S., Jain, R., Jefferies, S. M., Keys, P. H., Kowalski, A. F., Kuckein, C., Kuhn, J. R., Liu, J., Liu, W., Longcope, D., McAteer, R. T. J., McIntosh, S. W., McKenzie, D. E., Miralles, M. P., Morton, R. J., Muglach, K., Nelson, C. J., Panesar, N. K., Parenti, S., Parnell, C. E., Poduval, B., Reardon, K. P., Reep, J. W., Schad, T. A., Schmit, D., Sharma, R., Socas-Navarro, H., Srivastava, A. K., Sterling, A. C., Suematsu, Y., Tarr, L. A., Tiwari, S., Tritschler, A., Verth, G., Vourlidas, A., Wang, H., Wang, Y.-M., NSO, project, D., instrument scientists, D., the DKIST Science Working Group, and DKIST Critical Science Plan Community, t. (2021). Critical Science Plan for the Daniel K. Inouye Solar Telescope (DKIST). *Sol. Phys.*, 296(4):70.

Rathore, B., Carlsson, M., Leenaarts, J., and De Pontieu, B. (2015). The formation of IRIS diagnostics VI. The Diagnostic Potential of the C II Lines at 133.5 nm in the Solar Atmosphere. *ApJ*, 811:81.

Rayrole, J. (1985). The European observatory at the Canary islands. In Muller, R., editor, *High Resolution in Solar Physics*, volume 223 of *Lecture Notes in Physics*, pages 32–50. Springer-Verlag. Proceedings of a Specialized Session of the Eighth IAU European Regional Astronomy Meeting. Toulouse, September 17-21, 1984.

Reardon, K., Casini, R., Cavallini, F., Tomczyk, S., Rouppe van der Voort, L., Van Noort, M., Woeger, F., Socas Navarro, H., and IBIS Team (2006). High resolution spectropolarimetry of penumbral formation with IBIS. In *AAS/Solar Physics Division Meeting*, volume 37 of *AAS/Solar Physics Division Meeting*, page 260.

Rees-Crockford, T. (2020). *Magnetohydrodynamic Instabilities in Solar Prominences*. PhD thesis, Northumbria University.

Rees-Crockford, T., Scullion, E., Khomenko, E., and de Vicente, Á. (2024). The Observational and Numerical Analysis of the Rayleigh–Taylor Instability beneath a Hedgerow Prominence. *ApJ*, 974(1):64.

Reid, A. (2017). *Ellerman Bombs: Explosive Photospheric Reconnection*. PhD thesis, Queen's University Belfast, UK.

Reid, A., Henriques, V., Mathioudakis, M., Doyle, J. G., and Ray, T. (2017). Chromospheric Inversions of a Micro-flaring Region. *ApJ*, 845:100.

Reid, A., Henriques, V. M. J., Mathioudakis, M., and Samanta, T. (2018). Penumbral Waves driving Solar chromospheric fan-shaped jets. *ApJ*, 855:L19.

Reid, A., Mathioudakis, M., Doyle, J. G., Scullion, E., Henriques, V., Nelson, C., and Ray, T. (2016). Magnetic Flux Cancellation in Ellerman Bombs. *ApJ*, 823:110.

Reid, A., Mathioudakis, M., Scullion, E., Doyle, J. G., Shelyag, S., and Gallagher, P. (2015). Ellerman Bombs with Jets: Cause and Effect. *ApJ*, 805:64.

Renard, M. and Martin, J. (2000). *Interface for the Positioning System of the New Swedish Solar Telescope using PCI Pamette*. Rapport de stage d'option scientifique, École polytechnique, Paris, France.

Riethmüller, T. L. (2013). *Investigations of small-scale magnetic features on the solar surface*. PhD thesis, Braunschweig University.

Riethmüller, T. L., Solanki, S. K., Zakharov, V., and Gandorfer, A. (2008). Brightness, distribution, and evolution of sunspot umbral dots. *A&A*, 492:233–243.

Robinson, R. A. (2023). *Magnetic characteristics of quiet Sun nanoflares: How to find order out of a tangled mess*. PhD thesis, University of Oslo.

Robustini, C. (2017). *Peacock jets above a sunspot light-bridge*. Licentiate thesis, Stockholm University.

Robustini, C. (2018). *The dynamic chromosphere*. PhD thesis, Stockholm University.

Robustini, C. (2019). Chromospheric observations and magnetic configuration of a supergranular structure. ESPOS seminar on 2019-02-14.

Robustini, C., Esteban Pozuelo, S., Leenaarts, J., and de la Cruz Rodríguez, J. (2019). Chromospheric observations and magnetic configuration of a supergranular structure. *A&A*, 621:A1.

Robustini, C., Leenaarts, J., and de la Cruz Rodríguez, J. (2018). The chromosphere above a δ-sunspot in the presence of fan-shaped jets. *A&A*, 609:A14.

Robustini, C., Leenaarts, J., de la Cruz Rodriguez, J., and Rouppe van der Voort, L. (2016). Fan-shaped jets above the light bridge of a sunspot driven by reconnection. *A&A*, 590:A57.

Rodríguez, A., Kusoffsky, U., Brandt, P. N., and Righini, A. (1989). *Evaluation of the new candidate site for LEST in La Palma*. Inst. for Teoretisk Astrofysikk, Oslo. ISSN 0800-7780.

Rodriguez-Gil, P., Martinez-Pais, I. G., and de la Cruz Rodriguez, J. (2009). The magnetic SW Sextantis star RX J1643.7+3402. *MNRAS*, 395(2):973–978.

Rodriguez Hidalgo, I. (1999). Recent instrumental developments in solar physics at the instituto de astrofisica de canarias. In Wilson, A., editor, *Magnetic Fields and Solar Processes*, volume 448 of *ESA SP*, pages 1305–1308. Proc. 9th European Meeting on Solar Physics.

Rodriguez Hidalgo, I., Collados, M., and Vazquez, M. (1990a). Fried's Parameter Derived from Observations of Granulation Outside the Disk Centre. *Astrophysics and Space Science*, 170(1-2):155–159. Proc. 11th IAU, European Regional Astronomy Meeting.

Rodriguez Hidalgo, I., Collados, M., and Vazquez, M. (1990b). Photometry and spectroscopy of the solar granulation along the polar axis and equator. *Astrophysics and Space Science*, 170(1-2):23–30. Proc. 11th IAU, European Regional Astronomy Meeting.

Rodriguez Hidalgo, I., Collados, M., and Vazquez, M. (1992). Estimating the Degradation of Brightness Power Spectra of Solar Granulation from Images Outside the Disk Centre. *A&A*, 254:371–380.

Rodriguez Hildago, I., Collados, M., and Vazquez, M. (1992). Centre-to-limb variation of solar granulation along the equator and the central meridian. *A&A*, 264(2):661–672.

Rosenthal, C. S., Bogdan, T. J., Carlsson, M., Dorch, S. B. F., Hansteen, V., McIntosh, S. W., McMurry, A., Nordlund, Å., and Stein, R. F. (2002). Waves in the Magnetized Solar Atmosphere. I. Basic Processes and Internetwork Oscillations. *ApJ*, 564(1):508–524.

Rosenthal, C. S., Carlsson, M., Hansteen, V., McMurry, A., Bogdan, T. J., McIntosh, S., Nordlund, A., Stein, R. F., and Dorch, S. B. F. (2001). Waves in the magnetised solar atmosphere. In Brekke, P., Fleck, B., and Gurman, J. B., editors, *Recent Insights into the Physics of the Sun and Heliosphere: Highlights from SoHO and Other Space Missions*, volume 203 of *ASP conf. ser.*, pages 170–172.

Roudier, T., Bonet, J. A., and Sobotka, M. (2002). Properties of horizontal flows inside and outside a solar pore. *A&A*, 395:249–255.

Roudier, T., Bonet, J. A., and Sobotka, M. (2002). Properties of horizontal flows inside and outside a solar pore. In Arnaud, J. and Meunier, N., editors, *Proc. THEMIS Workshop*, page 243, April 17–19, 2002 Observatoire MIDI-Pyrénées. Toulouse.

Roudier, T., Ligniéres, F., Rieutord, M., Brandt, P. N., and Malherbe, J. M. (2003). Families of fragmenting granules and their relation to meso- and supergranular flow fields. *A&A*, 409:299–308.

Rouppe van der Voort, L. (2001). Study of the structure and dynamics of the penumbra of sunspots. In Garcia Lopez, R. J., Rebolo, R., and Zapaterio Osorio, M. R., editors, *11th Cambridge Workshop on Cool Stars, Stellar Systems and the Sun*, volume 223 of *ASP Conference Proceedings*, pages CD–744. Astronomical Society of the Pacific.

Rouppe van der Voort, L. (2002a). Zonnevlekken: de eeuwige strijd tussen materie en magnetische velden. *Zenit*, pages 52–56.

Rouppe van der Voort, L. (2003). *Sunspot structure and dynamics*. PhD thesis, Stockholm University.

Rouppe van der Voort, L. (2020). A database of coordinated IRIS and SST observations. IRIS Technical Note 47, LMSAL.

Rouppe van der Voort, L. (2021). Sola på nært hold: Hemmelighetene til solas magnetfelter kan skjule seg på små skalaer. *Astronomi*, 2021(2). Norsk Astronomisk Selskap.

Rouppe van der Voort, L. (2024a). High-resolution observations of magnetic reconnection in the deep solar atmosphere. In *EAS Annual Meeting 2024*, page 579.

Rouppe van der Voort, L. (2024b). High-resolution observations of small-scale activity in the low solar atmosphere. In *45th COSPAR Scientific Assembly*, volume 45, page 1950. Abstract E2.2-0002-24.

Rouppe van der Voort, L., Bellot Rubio, L. R., and Ortiz, A. (2010). Upflows in the Central Dark Lane of Sunspot Light Bridges. *ApJ*, 718:L78–L82.

Rouppe van der Voort, L. and de la Cruz Rodriguez, J. (2013). Short dynamic fibrils in sunspot chromospheres. *ApJ*, 776:56.

Rouppe van der Voort, L., De Pontieu, B., Pereira, T. M. D., Carlsson, M., and Hansteen, V. (2015). Heating Signatures in the Disk Counterparts of Solar Spicules in Interface Region Imaging Spectrograph Observations. *ApJ*, 799(1):L3.

Rouppe van der Voort, L., De Pontieu, B., Scharmer, G. B., de la Cruz Rodriguez, J., Martinez-Sykora, J., Nobrega-Siverio, D., Guo, L. J., Jafarzadeh, S., Pereira, T. M. D., Hansteen, V. H., Carlsson, M., and Vissers, G. (2017). Intermittent reconnection and plasmoids in UV bursts in the low solar atmosphere. *ApJ*, 851:L6.

Rouppe van der Voort, L. and Drews, A. (2019). Penumbral micro-jets at high spatial and temporal resolution. *A&A*, 626:A62.

Rouppe van der Voort, L., Joshi, J., and Krikova, K. (2024). Observations of magnetic reconnection in the deep solar atmosphere in the Hϵ line. *A&A*, 683:A190.

Rouppe van der Voort, L. and Kiselman, D. (2000). SVST avslutar sin gärning. *Astronomisk Tidskrift*, 2000(4).

Rouppe van der Voort, L., Leenaarts, J., de Pontieu, B., Carlsson, M., and Vissers, G. (2009). On-disk Counterparts of Type II Spicules in the Ca II 854.2 nm and Hα Lines. *ApJ*, 705:272–284.

Rouppe van der Voort, L., van Noort, M., Carlsson, M., and Hansteen, V. (2006). High Spatial Resolution Observations of Solar Magnetic Structures. In Leibacher, J., Stein, R. F., and Uitenbroek, H., editors, *Solar MHD: Theory and Observations – a High Spatial Resolution Perspective*, volume 354 of *ASP Conf. Ser.*, page 37.

Rouppe van der Voort, L., van Noort, M., and de la Cruz Rodriguez, J. (2023). Ultra-high resolution observations of plasmoid-mediated magnetic reconnection in the deep solar atmosphere. *A&A*, 673:A11.

Rouppe van der Voort, L. H. M. (2002b). Penumbral structure and kinematics from high-spatial-resolution observations of Ca II K. *A&A*, 389:1020.

Rouppe van der Voort, L. H. M. (2002). The atmospheres of penumbral fine-structure. *Nuovo Cimento C Geophysics Space Physics C*, 025(5-6):769–774. Proceedings of Themis Meeting in Rome, March 2001.

Rouppe van der Voort, L. H. M. (2002). Time variability of the Evershed effect. In Strassmeier, K. G. and Washuettl, A., editors, *Poster proc. First Potsdam Thinkshop on Sunspots & Starspots*, pages 27–29.

Rouppe van der Voort, L. H. M. (2003). On the time variability of the Evershed effect. *A&A*, 397:757–764.

Rouppe van der Voort, L. H. M., De Pontieu, B., Carlsson, M., de la Cruz Rodríguez, J., Bose, S., Chintzoglou, G., Drews, A., Froment, C., Gošić, M., Graham, D. R., Hansteen, V. H., Henriques, V. M. J., Jafarzadeh, S., Joshi, J., Kleint, L., Kohutova, P., Leifsen, T., Martínez-Sykora, J., Nóbrega-Siverio, D., Ortiz, A., Pereira, T. M. D., Popovas, A., Quintero Noda, C., Sainz Dalda, A., Scharmer, G. B., Schmit, D., Scullion, E., Skogsrud, H., Szydlarski, M., Timmons, R., Vissers, G. J. M., Woods, M. M., and Zacharias, P. (2020). High-resolution observations of the solar photosphere, chromosphere, and transition region. A database of coordinated IRIS and SST observations. *A&A*, 641:A146.

Rouppe van der Voort, L. H. M., Hansteen, V. H., Carlsson, M., Fossum, A., Marthinussen, E., van Noort, M. J., and Berger, T. E. (2005). Solar magnetic elements at 0.″1 resolution. II. Dynamical evolution. *A&A*, 435(1):327–337.

Rouppe van der Voort, L. H. M., Joshi, J., Henriques, V. M. J., and Bose, S. (2021). Signatures of ubiquitous magnetic reconnection in the deep atmosphere of sunspot penumbrae. *A&A*, 648:A54.

Rouppe van der Voort, L. H. M. and Krijger, J. M. (2003). Observations of umbral flashes. In Brown, A., Ayres, T. R., and Harper, G. M., editors, *The Future of Cool-Star Astrophysics*, pages 607–612. University of Colorado. Proc. 12th Cambridge workshop on Cool Stars, Stellar systems and the Sun.

Rouppe van der Voort, L. H. M., Löfdahl, M. G., Kiselman, D., and Scharmer, G. B. (2004). Penumbral structure at 0.″1 resolution. I. General appearance and power spectra. *A&A*, 414:717–726.

Rouppe van der Voort, L. H. M., Pontieu, B. D., Hansteen, V. H., Carlsson, M., and van Noort, M. (2007). Magnetoacoustic shocks as driver of quiet sun mottles. *ApJ*, 660(2):L169–L172.

Rouppe van der Voort, L. H. M., Rutten, R. J., Sütterlin, P., Sloover, P. J., and Krijger, J. M. (2003). La Palma observations of umbral flashes. *A&A*, 403:277–285.

Rouppe van der Voort, L. H. M., Rutten, R. J., and Vissers, G. J. M. (2016). Reconnection brightenings in the quiet solar photosphere. *A&A*, 592:A100.

Roy, D. B. (2001). The Ca II H wing as a solar fluxtube diagnostic. Master's thesis, Universiteit Utrecht.

Rüdiger, G., Küker, M., and Schnerr, R. S. (2012). Cross helicity at the solar surface by simulations and observations. *A&A*, 546:A23.

Rutten, R. (2017). Observations and diagnostics of the solar chromosphere. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 42.

Rutten, R. (2020). Small-scale solar surface magnetism. In de Jager, C., Duhau, S., and Nieuwenhuizen, A. C. T., editors, *Solar Magnetic Variability and Climate*, page 29. Stip Media, Alkmaar.

Rutten, R. J. (1989). The Solar Photosphere: Video Movies and Computer Simulations. *Comments on Astrophysics*, 14:297.

Rutten, R. J. (1997). Chromospheric dynamics and the FIP flip. In Schmieder, B., del Toro Iniesta, J. C., and Vázquez, M., editors, *Advances in Physics of Sunspots*, volume 118 of *ASP Conf. Ser.*, pages 298–302. 1st Advances in Solar Physics Euroconference.

Rutten, R. J. (1999). (Inter-) network structure and dynamics. In Schmieder, B., Hofmann, A., and Staude, J., editors, *Third advances in Solar Physics Euroconference: Magnetic Fields and Oscilations*, volume 184 of *ASP Conf. Ser.*, page 181.

Rutten, R. J., de Pontieu, B., and Lites, B. W. (1999a). Internetwork grains with TRACE. In Rimmele, T., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations and Techniques*, volume 183 of *ASP Conf. Ser.*, pages 383–388.

Rutten, R. J., Kiselman, D., Rouppe van der Voort, L., and Plez, B. (2001). Proxy magnetometry of the photosphere: why are G-band bright points so bright? In Sigwarth, M., editor, *20th NSO/SP Summer Workshop: Advanced Solar Polarimetry: Theory, Observations, and Instrumentation*, volume 236 of *ASP Conf. Ser.*, page 445.

Rutten, R. J., Leenaarts, J., Rouppe van der Voort, L. H. M., de Wijn, A. G., Carlsson, M., and Hansteen, V. (2011). Quiet-Sun imaging asymmetries in Na I D_1 compared with other strong Fraunhofer lines. *A&A*, 531:A17.

Rutten, R. J., Lites, B. W., Berger, T. E., and Shine, R. A. (1999b). Dynamics of the quiet solar chromosphere. In Butler, C. J. and Doyle, J. G., editors, *Solar and Stellar Activity: Similarities and Differences*, volume 158. ASP Conf. Ser.

Rutten, R. J. and Rouppe van der Voort, L. H. M. (2017). H-alpha features with hot onsets. II. A contrail fibril. *A&A*, 597:A138.

Rutten, R. J., Rouppe van der Voort, L. H. M., and De Pontieu, B. (2019). Solar Hα features with hot onsets. IV. Network fibrils. *A&A*, 632:A96.

Rutten, R. J., Rouppe van der Voort, L. H. M., and Vissers, G. J. M. (2015). Ellerman bombs at high resolution. IV. Visibility in Na I and Mg I. *ApJ*, 808:133.

Rutten, R. J., Vissers, G. J. M., Rouppe van der Voort, L. H. M., Sütterlin, P., and Vitas, N. (2013). Ellerman bombs: fallacies, fads, usage. In Cally, P., Erdélyi, R., and Norton, A., editors, *Eclipse on the Coral Sea: Cycle 24 Ascending*, volume 440 of *Journal of Physics: Conference Series*, page 012007.

Ruzmaikin, A., Sokoloff, D., and Tarbell, T. D. (1991). Fractal flux-tubes of solar magnetic fields. In Tuominen, I., Moss, D., and Rüdiger, G., editors, *The Sun and Cool Stars: Activity, Magnetism, Dynamos*, volume 380, page 140. Springer-Verlag. Proc. IAU Colloq. 130.

Ryan, D. F., Mumford, S., Barnes, W. T., Baruah, A. K., Bhope, A., Buchlin, É., Freij, N., Ginsburg, A., Hayes, L. A., Homeier, D., Hughes, J. M., Lowder, C., O'Steen, R., Pellorce, B., Robitaille, T., Sharma, Y., Stansby, D., Shih, A. Y., Tollerud, E., Weberg, M. J., and West, M. J. (2023). 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. *ApJ*, 956(1):44.

Ryutova, M. (2002). Large-scale Coronal Loop Formation: New Aspects. In *Spring Meeting*, pages SH32D–04. American Geophysical Union.

Ryutova, M., Berger, T., Frank, Z., and Title, A. (2008a). On the penumbral jetlike features and chromospheric bow shocks. *ApJ*, 686:1404–1419.

Ryutova, M., Berger, T., and Title, A. (2008b). On the fine structure and formation of sunspot penumbrae. *ApJ*, 676(2):1356–1366.

Ryutova, M. and Hagenaar, H. (2007). Magnetic Solitons: Unified Mechanism for Moving Magnetic Features. *Sol. Phys.*, pages 70–83.

Ryutova, M. and Shine, R. (2006). Coupling effects throughout the solar atmosphere: Emerging magnetic flux and structure formation. *Journal of Geophysical Research*, 111(A3).

Ryutova, M. P. (2003). Coronal loops as Van der Pol oscillators: Theory and observations. *BAAS*, 35(3):810.

Ryutova, M. P., Hagenaar, H., and Title, A. (2007). Anticorrelation between moving magnetic features and coronal loop formation. *ApJ*, 656:L45–L48.

Ryutova, M. P., Shine, R., and Tarbell, T. D. (2001). Formation of compact coronal structures associated with the emerging magnetic flux. *Eos Trans. AGU*, pages SH32C–01. Spring Meet. Suppl.

Sakai, J. I., Ryutova, M., Schrijver, K., Shine, R., Tarbell, T., Berger, T., Title, A., and Hagenaar, H. (1997a). On the dynamics of magnetic flux concentrations in quiet photospheric network. *BAAS*, 29:904.

Sakai, J. I., Ryutova, M., Schrijver, K., Shine, R., Tarbell, T., Berger, T., Title, A., and Hagenaar, H. (1997b). On the Dynamics of Magnetic Flux Concentrations in Quiet Photospheric Network. In *AAS/Solar Physics Division Meeting #28*, volume 28 of *AAS/Solar Physics Division Meeting*, page 02.60.

Samanta, T. (2017). *On the coupling between the lower and upper atmosphere of the Sun*. PhD thesis, Pondicherry University, Puducherry, India.

Samanta, T., Henriques, V. M. J., Banerjee, D., Krishna Prasad, S., Mathioudakis, M., Jess, D., and Pant, V. (2016). The effects of transients on photospheric and chromospheric power distributions. *ApJ*, 828:23.

Sánchez Almeida, J. (2003). Inter-network magnetic fields observed during the minimum of the solar cycle. *A&A*, 411:615–621.

Sánchez Almeida, J. (2004). El magnetismo del sol no magnético. *Noticias del Instituto Astrofísico de Canarias*, 2004(1):26–27.

Sanchez Almeida, J. (2008). A topology for the penumbral magnetic fields. Original version submitted to ApJ on December 21, 2004, but never published.

Sánchez Almeida, J. (2010). A Topology for the Penumbral Magnetic Fields. In Hasan, S. S. and Rutten, R. J., editors, *Magnetic Coupling between the Interior and the Atmosphere of the Sun*, volume 19 of *Astrophysics and Space Science Proceedings*, pages 210–228. Springer-Verlag, Heidelberg, Berlin.

Sánchez Almeida, J., Asensio Ramos, A., Trujillo Bueno, J., and Cernicharo, J. (2001). G-band spectral synthesis in solar magnetic concentrations. *ApJ*, 555(2):978–989.

Sánchez Almeida, J. and Bonet, J. A. (1998). The spectrum of fluctuations across penumbral filaments. *ApJ*, 505:1010–1017.

Sánchez Almeida, J. and Bonet, J. A. (1999). The spectrum of intensity fluctuations across penumbral filaments. In Rimmele, T., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations and Techniques*, volume 183 of *ASP Conf. Ser.*, page 87.

Sánchez Almeida, J., Bonet, J. A., Viticchié, B., and Del Moro, D. (2010). Magnetic bright points in the quiet Sun. *ApJ*, 715:L26–L29.

Sanchez Almeida, J., Collados, M., Martinez Pillet, V., Gonzalez Escalera, V., Scharmer, G. B., Shand, M., Moll, L., Joven, E., Cruz, A., Diaz, J. J., Rodriguez, L. F., Fuentes, J., Jochum, L., Paez, E., Ronquillo, B., Carranza, J. M., and Escudero-Sanz, I. (1997). The IAC solar polarimeters: Goals and review of two ongoing projects. In Schmieder, B., del Toro Iniesta, J. C., and Vazquez, M., editors, *Advances in Physics of Sunspots*, volume 118 of *ASP Conf. Ser.*, page 366. 1st Advances in Solar Physics Euroconference.

Sánchez Almeida, J., Márquez, I., Bonet, J. A., Domínguez Cerdeña, I., and Muller, R. (2004). Bright Points in the Internetwork Quiet Sun. *ApJ*, 609:L91.

Sánchez Almeida, J., Márquez, I., Bonet, J. A., and Domínguez Cerdeña, I. (2007). The Evershed Effect Observed with 0.2" Angular Resolution. *ApJ*, 658(2):1357–1371.

Sánchez Cuberes, M. (2002). *Variaciones centro a borde de estructuras fotosféricas solaresVariaciones centro a borde de estructuras fotosféricas solares – Center-to-limb variation of solar photospheric structures;*. PhD thesis, University of La Laguna.

Sánchez Cuberes, M., Bonet, J. A., Vázquez, M., and Wittmann, A. (1999). Implementation of a filter for the restoration of solar granulation images. In Rimmele, T., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations and Techniques*, volume 183 of *ASP Conf. Ser.*, page 515.

Sánchez Cuberes, M., Bonet, J. A., Vázquez, M., and Wittmann, A. D. (1998). Center-to-limb variation of the solar granulation. *Astrophysics and Space Science*, 263:343–346.

Sánchez Cuberes, M., Bonet, J. A., Vázquez, M., and Wittmann, A. D. (2000). Center-to-limb variation of the solar granulation from partial eclipse observations. *ApJ*, 538(2):940–959.

Sánchez Cuberes, M., Vázquez, M., Bonet, J. A., and Sobotka, M. (2002). Infrared Photometry of Solar Photospheric Structures. II. Center-to-Limb Variation of Active Regions. *ApJ*, 570:886–899.

Sánchez Cuberes, M., Vázquez, M., Bonet, J. A., and Sobotka, M. (2003). Centre-to-limb variation of solar granulation in the infrared. *A&A*, 397:1075–1081.

Sand, M. O. (2021). Hyperspectral detection of spicules in Ca II K. Master's thesis, University of Oslo.

Sand, M. O., Rouppe van der Voort, L. H. M., Joshi, J., Bose, S., Nóbrega-Siverio, D., and Griñón-Marín, A. B. (2025). Quiet Sun Ellerman bombs as a possible proxy for reconnection-driven spicules. *A&A*, 697:A180.

Sandqvist, A. (2004). Jakten på solen. In *Vanliga almanackan för året efter frälsaren Kristi födelse 2005*, page 57. Almanacksförlaget.

Saranathan, S., van Noort, M., and Solanki, S. K. (2021). Correction of atmospheric stray light in restored slit spectra. *A&A*, 653:A17.

Sarson, G. R., Shukurov, A., Nordlund, Å., Gudiksen, B., and Brandeburg, A. (2004). Self-Regulating Supernova Heating in Interstellar Medium Simulations. *Ap&SS*, 292:267–272.

Scharmer, G. (2005). Solens böljande landskap. *Populär astronomi*, 2005(1):31–33. `https://www.popularastronomi.se/wp-content/uploads/2014/03/2005_1_solens.pdf`.

Scharmer, G. (2008). Recent evidence for convection in penumbrae. *Phys. Scr*, T133:014015.

Scharmer, G. (2017). SST/CHROMIS: a new window to the solar chromosphere. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 85.

Scharmer, G., de la Cruz Rodríguez, J., and Lindberg, B. (2024). CRISP and CHROMIS as path finders for the EST Fabry-Perot systems. In *EAS Annual Meeting 2024*, page 1203.

Scharmer, G., Henriques, V., Hillberg, T., Kiselman, D., Löfdahl, M., Narayan, G., Sütterlin, P., van Noort, M., and de La Cruz Rodriguez, J. (2008). Spectropolarimetry of Sunspots at 0.16 arcsec resolution. *12th European Solar Physics Meeting, Freiburg, Germany*, 12:2.

Scharmer, G., Löfdahl, M., and Rouppe van der Voort, L. (2000a). *Sol. Phys.*, 196(1). Frontispiece.

Scharmer, G., Rouppe van der Voort, L., and Löfdahl, M. (2001). Sunspot AR8970 (April 27, 2000 AO image). In *Sternzeit 2002 "Bild Der Wissenschaft" Calendar*, pages 9, (small) September image. Palazzi Verlag, Bremen, Germany. (3000–4000 calendars).

Scharmer, G. B. (1987). The Swedish 50 cm Vacuum Solar Telescope: Concepts and Auxiliary Instrumentation. In Schröter, E. H., Vázquez, M., and Wyller, A. A., editors, *The Role of Fine-Scale Magnetic Fields on the Structure of the Solar Atmosphere*, page 349.

Scharmer, G. B. (1989). High resolution granulation observations from La Palma: Techniques and first results. In Rutten, R. J. and Severino, G., editors, *Solar and Stellar Granulation*, volume 263 of *NATO ASI Series C*, pages 161–171. Kluwer Academic Publisher.

Scharmer, G. B. (1997). Den kokande solytan. In Sandqvist, A., editor, *Den svenska almanackan 1998*, pages 130–138. Almanacksförlaget.

Scharmer, G. B. (1999). Object-Independent Fast Phase-Diversity. In Rimmele, T. R., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations, and Techniques*, volume 183 of *ASP Conf. Ser.*, page 330.

Scharmer, G. B. (2006). Comments on the optimization of high resolution Fabry–Pérot filtergraphs. *A&A*, 447(3):1111–1120.

Scharmer, G. B. (2009a). Recent Evidence for Convection in Sunspot Penumbrae. *Space Sci. Rev.*, 144(1-4):229–247.

Scharmer, G. B. (2009b). Recent Evidence for Convection in Sunspot Penumbrae. In Thompson, M. J., Balogh, A., Culhane, J. L., Nordlund, Å., Solanki, S. K., and Zahn, J.-P., editors, *The Origin and Dynamics of Solar Magnetism*, volume 32 of *Space Sciences Series*, page 229. ISSI, Springer.

Scharmer, G. B. (2009). Sunspot flows and filaments. *Science*, 325(5937):155–156. Perspectives.

Scharmer, G. B. (2014). Response to "Stray-light correction in 2D spectroscopy" by R. Schlichenmaier and M. Franz. *A&A*, 561:A31.

Scharmer, G. B., Bjelksjö, K., Korhonen, T. K., Lindberg, B., and Pettersson, B. (2003a). The 1-meter Swedish solar telescope. In Keil, S. and Avakyan, S., editors, *Innovative Telescopes and Instrumentation for Solar Astrophysics*, volume 4853 of *Proc. SPIE*, pages 341–350.

Scharmer, G. B. and Blomberg, H. (1999). Optimized Shack-Hartmann Wavefront Sensing for Adaptive Optics and Post Processing. In Rimmele, T. R., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations, and Techniques*, volume 183 of *ASP Conf. Ser.*, page 239.

Scharmer, G. B., Brandt, P., Title, A. M., Shine, R. A., and Ferguson, S. (1987). Vortex flow in granulation. *BAAS*, 19:1118.

Scharmer, G. B., Brown, D. S., Pettersson, L., and Rehn, J. (1985). Concepts for the Swedish 50-cm vacuum solar telescope. *Appl. Opt.*, 24(16):2558–2564.

Scharmer, G. B. and Carlsson, M. (1985). A new approach to multilevel non-LTE radiative transfer problems. *Journal of Computational Physics*, 59:56–80.

Scharmer, G. B. and Carlsson, M. (1985). A new method for solving multi-level non-LTE problems. In Beckman, J. E. and Crivellari, L., editors, *Progress in Stellar Spectral Line Formation Theory*, volume 152 of *NATO Advanced Study Institute (ASI) Series C*, pages 189–198. D. Reidel Publishing Company.

Scharmer, G. B., de la Cruz Rodriguez, J., Sütterlin, P., and Henriques, V. M. J. (2013). Opposite polarity field with convective downflow and its relation to magnetic spines in a sunspot penumbra. *A&A*, 553:A63.

Scharmer, G. B., Dettori, P., Löfdahl, M. G., and Shand, M. (2003b). Adaptive optics system for the new Swedish solar telescope. In Keil, S. and Avakyan, S., editors, *Innovative Telescopes and Instrumentation for Solar Astrophysics*, volume 4853 of *Proc. SPIE*, pages 370–380.

Scharmer, G. B., Gudiksen, B. V., Kiselman, D., Löfdahl, M. G., and Rouppe van der Voort, L. H. M. (2002). Dark cores in sunspot penumbral filaments. *Nature*, 420:151–153.

Scharmer, G. B. and Henriques, V. M. J. (2012). SST/CRISP Observations of Convective Flows in a Sunspot Penumbra. *A&A*, 540:A19.

Scharmer, G. B., Henriques, V. M. J., Kiselman, D., and de la Cruz Rodríguez, J. (2011). Detection of convective downflows in a sunspot penumbra. *Science*, 333(6040):316–319. Published Online 2 June 2011.

Scharmer, G. B., Kiselman, D., Löfdahl, M. G., and van der Voort, L. H. M. R. (2003c). First results from the Swedish 1-m Solar Telescope. In Trujillo Bueno, J. and Sánchez Almeida, J., editors, *Proc. Third International Workshop on Solar Polarization*, volume 307 of *ASP Conference Series*.

Scharmer, G. B., Langhans, K., Kiselman, D., and Löfdahl, M. G. (2007). Recent High Resolution Observations and Interpretations of Sunspot Fine Structure. In Shibata, K., Nagata, S., and Sakurai, T., editors, *New Solar Physics with Solar-B Mission*, volume 369 of *ASP Conference Series*, page 71.

Scharmer, G. B. and Lindberg, B. (2025). Proposal for the optical design of three robust and highly performing FPI systems for the European Solar Telescope. Technical report, Institute for Solar Physics, Stockholm University.

Scharmer, G. B., Lindberg, B., Rouppe van der Voort, L., and de la Cruz Rodríguez, J. (2023). Crisp and chromis - pathfinders for est-tis? In *Sun in Science and Society, Venice 11–15 Sept 2023*. SOLARNET. `https://solarnet-s3.com/`.

Scharmer, G. B. and Löfdahl, M. G. (1991). Swedish solar telescope: Short summary of instrumentation and observing techniques. *Advances in Space Research*, 11(5):129–132.

Scharmer, G. B., Löfdahl, M. G., Sliepen, G., and de la Cruz Rodríguez, J. (2019). Is the sky the limit? Performance of the revamped Swedish 1-m Solar Telescope and its blue- and red-beam re-imaging systems. *A&A*, 626:A55.

Scharmer, G. B., Löfdahl, M. G., van Werkhoven, T. I. M., and de la Cruz Rodríguez, J. (2010). High-order aberration compensation with multi-frame blind deconvolution and phase diversity image restoration techniques. *A&A*, 521:A68.

Scharmer, G. B., Narayan, G., Hillberg, T., de la Cruz Rodriguez, J., Sütterlin, P., Löfdahl, M. G., van Noort, M., Kiselman, D., and Lagg, A. (2008a). CRISP spectropolarimetric imaging of penumbral fine structure. *ApJ*, 689(1):L69–L72.

Scharmer, G. B., Nordlund, Å., and Heinemann, T. (2008b). Convection and the origin of Evershed flow in sunspot penumbrae. *ApJ*, 677(2):L149–L152.

Scharmer, G. B., Owner-Petersen, M., Korhonen, T., and Title, A. (1999). The new Swedish solar telescope. In Rimmele, T., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations and Techniques*, volume 183 of *ASP Conf. Ser.*, page 157.

Scharmer, G. B., Shand, M., Löfdahl, M. G., Dettori, P. M., and Wei, W. (2000b). A workstation based solar/stellar adaptive optics system. In Wizinowich, P. L., editor, *Adaptive Optical Systems Technologies*, volume 4007 of *Proc. SPIE*, pages 239–250.

Scharmer, G. B., Sliepen, G., Sinquin, J.-C., Löfdahl, M. G., Lindberg, B., and Sütterlin, P. (2024). The 85-electrode AO system of the Swedish 1-m Solar Telescope. *A&A*, 685:A32.

Scharmer, G. B. and Spruit, H. C. (2006). Magnetostatic penumbra models with field-free gaps. *A&A*, 460(2):605–615.

Scharmer, G. B. and van Werkhoven, T. I. M. (2010). S-DIMM+ height characterization of day-time seeing using solar granulation. *A&A*, 513:A25.

Schilling, G. (2003). Zooming in on the Sun. *S&T*, 105(2):16–17.

Schlichenmaier, R., Bellot Rubio, L. R., Collados, M., Erdelyi, R., Feller, A., Fletcher, L., Jurcak, J., Khomenko, E., Leenaarts, J., Matthews, S., Belluzzi, L., Carlsson, M., Dalmasse, K., Danilovic, S., Gömöry, P., Kuckein, C., Manso Sainz, R., Martinez Gonzalez, M., Mathioudakis, M., Ortiz, A., Riethmüller, T. L., Rouppe van der Voort, L., Simoes, P. J. A., Trujillo Bueno, J., Utz, D., and Zuccarello, F. (2019). Science Requirement Document (SRD) for the European Solar Telescope (EST) (2nd edition, December 2019). Technical report, European Association for Solar Telescopes (EAST).

Schmieder, B., Deluca, E., Mein, N., Mein, P., Malherbe, J. M., Wilken, V., Staiger, J., Engvold, O., and Hanssen, I. (1999). A Study of Hydrogen Density in Emerging Flux Loops from a Coordinated TRACE and Canary Islands Observation Campaign. In Wilson, A., editor, *Magnetic Fields and Solar Processes*, volume 448 of *ESA SP*, page 653. Proc. 9th European Meeting on Solar Physics.

Schmieder, B., Engvold, O., Wiik, J. E., and DeLuca, E. (1999). Fine structures and dynamics of a filament in euv lines SOHO/CDS and SUMER, TRACE. In Vial, J.-C. and Kaldeich-Schü, B., editors, *8th SOHO Workshop on Plasma Dynamics and Diagnostics in Transition Region & Corona*, volume 446 of *ESA SP*, page 599.

Schmieder, B., Lin, Y., Heinzel, P., and Schwartz, P. (2004). Multiwavelength study of a high-latitude EUV filament. *Sol. Phys.*, 221(2):297–323.

Schmit, D., Bryans, P., De Pontieu, B., McIntosh, S., Leenaarts, J., and Carlsson, M. (2015). Observed Variability of the Solar Mg II h Spectral Line. *ApJ*, 811:127.

Schmit, D., Sukhorukov, A. V., De Pontieu, B., Leenaarts, J., Bethge, C., Winebarger, A., Auchère, F., Bando, T., Ishikawa, R., Kano, R., Kobayashi, K., Narukage, N., and Trujillo Bueno, J. (2017). Comparison of Solar Fine Structure Observed Simultaneously in Ly α and Mg II h. *ApJ*, 847(2):141.

Schnerr, R., de la Cruz Rodríguez, J., and van Noort, M. (2011). Stokes imaging polarimetry using image restoration: a calibration strategy for Fabry-Pérot based instruments. *A&A*, 534:A45.

Schnerr, R. S. and Spruit, H. C. (2011a). The brightness of magnetic field concentrations in the quiet Sun. *A&A*, 532:A136.

Schnerr, R. S. and Spruit, H. C. (2011b). The Total Solar Irradiance and Small Scale Magnetic Fields. In Kuhn, J. R., Harrington, D. M., Lin, H., Berdyugina, S. V., Trujillo-Bueno, J., Keil, S. L., and Rimmele, T., editors, *Solar Polarization 6*, volume 437 of *ASP Conf. Ser.*, page 167.

Schrijver, C., Title, A., Acton, L., Bruner, M., Ficher, R., Golub, L., Harrison, R., Lemen, J., Rosner, R., Scharmer, G., Scherrer, P., Strong, K., Tarbell, T., and Wolfson, J. (1996). TRACE: the transition region and coronal explorer. *BAAS*, 188:6704.

Schrijver, C. J., Hagenaar, H. J., and Title, A. M. (1997). On the patterns of the solar granulation and supergranulation. *ApJ*, 475(1):328–337.

Schrijver, C. J. and Zwaan, C. (2000). *Solar and Stellar Magnetic Activity*, volume 34 of *Cambridge Astrophysics Series*. Cambridge University Press.

Schrijver, C. J., Zwaan, C., Balke, A. C., Tarbell, T. D., and Lawrence, J. K. (1992). Patterns in the phothospheric magnetic field and percolation theory. *A&A*, 253(1):L1–L4.

Schröter, E.-H., Vázquez, M., and Wyller, A. A., editors (1987). *The Role of Finescale Magnetic Fields on the Structure of the Solar Atmosphere*. Cambridge University Press. Proc. Inaugural workshop and round table discussion for the D-E-S Telescope installations on the Canary Islands.

Schulze, S., Johansson, J., Skan, M., Cehula, J., Schoelch, M., Lagae, C., Hayes, M., and Sollerman, J. (2021a). ZTF Transient Classification Report for 2021-05-13. *Transient Name Server Classification Report*, 2021-1619:1–1619.

Schulze, S., Skan, M., Cehula, J., Schoelch, M., Lagae, C., Hayes, M., and Sollerman, J. (2021b). ZTF Transient Classification Report for 2021-05-11. *Transient Name Server Classification Report*, 2021-1593:1–1593.

Schulze, S., Skan, M., Cehula, J., Schoelch, M., Lagae, C., Hayes, M., and Sollerman, J. (2021c). ZTF Transient Classification Report for 2021-05-13. *Transient Name Server Classification Report*, 2021-1618:1–1618.

Schulze, S., Skan, M., Cehula, J., Schoelch, M., Lagae, C., Hayes, M., and Sollerman, J. (2021d). ZTF Transient Classification Report for 2021-05-17. *Transient Name Server Classification Report*, 2021-1679:1–1679.

Schulze, S., Skan, M., Cehula, J., Schoelch, M., Lagae, C., Hayes, M., and Sollerman, J. (2021e). ZTF Transient Classification Report for 2021-05-18. *Transient Name Server Classification Report*, 2021-1699:1–1699.

Schüssler, M. (2000). Solar Magnetic Field. In Murdin, P., editor, *Encyclopedia of Astronomy and Astrophysics*, page 1982. Institute of Physics Publishing and Nature Publishing Group.

Scullion, E., Engvold, O., Lin, Y., and Rouppe van der Voort, L. (2015). Observing Cascades of Solar Bullets at High Resolution. II. *ApJ*, 814:123.

Scullion, E., Rouppe Van Der Voort, L., Antolin, P., Wedemeyer, S., Vissers, G., Kontar, E. P., and Gallagher, P. (2016). Observing the formation of flare-driven coronal rain. *ApJ*, 833(2):184.

Scullion, E., Rouppe van der Voort, L., Wedemeyer, S., and Antolin, P. (2014). Unresolved fine-scale structure in solar coronal loop-tops. *ApJ*, 797:36.

Sekse, D. H. (2013). *An in-depth study of the on-disk counterpart to type II spicules*. PhD thesis, University of Oslo.

Sekse, D. H., Rouppe van der Voort, L., and De Pontieu, B. (2012). Statistical properties of the Disk Counterparts of Type II Spicules from simultaneous observations of RBEs in Ca II 8542 and Hα. *ApJ*, 752:108.

Sekse, D. H., Rouppe van der Voort, L., and De Pontieu, B. (2013a). On the Temporal Evolution of the Disk Counterpart of Type II Spicules in the Quiet Sun. *ApJ*, 764(2):164.

Sekse, D. H., Rouppe van der Voort, L., De Pontieu, B., and Scullion, E. (2013b). Interplay of three kinds of motion in the disk counterpart of type II spicules: up-flow, transversal and torsional motions. *ApJ*, 769:44.

Selbing, J. (2005). SST polarization model and polarimeter calibration. Master's thesis, Stockholm University.

Seldin, J. H. and Paxman, R. G. (1994). Phase-diverse speckle reconstruction of solar data. In Schultz, T. J. and Snyder, D. L., editors, *Image reconstruction and restoration*, volume 2302 of *Proc. SPIE*, pages 268–280.

Seldin, J. H., Paxman, R. G., and Elste, G. H. (1995). Solar granulation restoration using phase-diverse speckle imaging: verification via simulation and measurements. *BAAS*, 27:956.

Shand, M. (1995). Flexible image acquisition using reconfigurable hardware. In Pocek, K. L. and Athanas, P. M., editors, *Proc. IEEE Symposium on FPGAs for Custom Computing Machines*, pages 125–134.

Shand, M. and Moll, L. (1998). Hardware/software integration in solar astronomy. In Pocek, K. L. and Arnold, J. M., editors, *FPGAs for Custom Computing Machines (FCCM'98)*, IEEE Computer Society Press.

Shand, M. and Scharmer, G. (1998). The Swedish vacuum solar telescope data acquisition and control systems. In Muñoz-Tuñón, C., editor, *Site properties of the Canarian Observatories*, volume 42 of *New A Rev.*, pages 481–484. Elsevier.

Shand, M., Scharmer, G. B., and Wei, W. (1999). Correlation tracking and adaptive optics control using off-the-shelf workstation technology. In Rimmele, T., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations and Techniques*, volume 183 of *ASP Conf. Ser.*, page 231.

Shand, M., Wei, W., and Scharmer, G. B. (1995). 3.8 ms latency correlation tracker for active mirror control based on a reconfigurable interface to a standard workstation. In Schewel, J., editor, *Field Programmable Gate Arrays (FPGAs) for Fast Board Development and Reconfigurable Computing*, volume 2607 of *Proc. SPIE*, pages 145–154.

Sharma, R., Verth, G., and Erdélyi, R. (2017). Dynamic Behavior of Spicules Inferred from Perpendicular Velocity Components. *ApJ*, 840:96.

Sharma, R., Verth, G., and Erdelyi, R. (2017). Dynamical response of 3d spicular waveguides to the magnetohydrodynamical wavemode(s). In *Our Mysterious Sun: magnetic coupling between solar interior and atmosphere*, page 14. Shota Rustaveli National Science Foundation of Georgia. `https://solar-conference.iliauni.edu.ge/`.

Sharma, R., Verth, G., and Erdélyi, R. (2018). Evolution of Complex 3D Motions in Spicules. *ApJ*, 853:61.

Shchukina, N., Sukhorukov, A., and Trujillo Bueno, J. (2016). Impact of surface dynamo magnetic fields on the solar abundance of the CNO elements. *A&A*, 586:A145.

Sheminova, V. A., Rutten, R., and Rouppe van der Voort, L. H. M. (2005). The wings of Ca II H and K as solar fluxtube diagnostics. *A&A*, 437(3):1069–1080.

Sheminova, V. A., Rutten, R. J., and Rouppe van der Voort, L. H. M. (2005). The temperature gradient in and around solar magnetic fluxtubes. *Kinematika i Fizika Nebesnykh Tel Supplement*, 5:110–116.

Shetye, J. (2017). *High-resolution observations of the Solar atmosphere*. PhD thesis, Queen's University Belfast/Armagh Observatory, UK.

Shetye, J., Doyle, J. G., Scullion, E., Nelson, C. J., and Kuridze, D. (2016a). High Cadence Observations and Analysis of Spicular-type Events Using CRISP Onboard SST. In Dorotovič, I., Fischer, C., and Temmer, M., editors, *Ground-based Solar Observations in the Space Instrumentation Era*, volume 504 of *ASP Conf. Ser.*, page 115.

Shetye, J., Doyle, J. G., Scullion, E., Nelson, C. J., Kuridze, D., Henriques, V., Woeger, F., and Ray, T. (2016b). High-cadence observations of spicular-type events on the Sun. *A&A*, 589:A3.

Shetye, J., Shelyag, S., Reid, A. L., Scullion, E., Doyle, J. G., and Arber, T. D. (2018). Signatures of quiet Sun reconnection events in Ca II, Hα, and Fe I. *MNRAS*, 479:3274–3287.

Shetye, J., Verwichte, E., Stangalini, M., and Doyle, J. G. (2021). The Nature of High-frequency Oscillations Associated with Short-lived Spicule-type Events. *ApJ*, 921(1):30.

Shetye, J., Verwichte, E., Stangalini, M., Judge, P. G., Doyle, J. G., Arber, T., Scullion, E., and Wedemeyer, S. (2019). Multiwavelength High-resolution Observations of Chromospheric Swirls in the Quiet Sun. *ApJ*, 881(1):83.

Shine, R., Simon, G., and Hurlburt, N. (1999). Supergranule and mesogranule evolution. In *Helioseismic Diagnostics of Solar Convection and Activity*, volume 9 of *SOHO*, page 15, California. Stanford.

Shine, R., Smith, K., Title, A., and Scharmer, G. (1990a). Penumbral flows and magnetic field. *BAAS*, 22:878.

Shine, R., Strous, L., Simon, G., Berger, T., Hurlburt, N., Tarbell, T., Title, A., and Scharmer, G. (1997). Comparison of Granulation Correlation Tracking (CT) and Feature Tracking (FT) Results from SOHO/MDI and the Swedish Vacuum Solar Telescope on La Palma. In *AAS/Solar Physics Division Meeting #28*, volume 28 of *AAS/Solar Physics Division Meeting*, page 02.62.

Shine, R., Tarbell, T., Title, A., Topka, K., Frank, Z., and Scharmer, G. (1989). Observations of running penumbral waves. *BAAS*, 21:837.

Shine, R., Tarbell, T., Title, A., Topka, K., Frank, Z., and Smith, K. (1991a). Sunspot umbral and penumbral oscillations in Hα. *BAAS*, 23:1033.

Shine, R. and Title, A. (2000). Sunspots: Moving Magnetic Features and Moat Flow. In Murdin, P., editor, *Encyclopedia of Astronomy and Astrophysics*, page 2038. Institute of Physics Publishing and Nature Publishing Group.

Shine, R., Title, A., Frank, Z., and Scharmer, G. (1996). Photospheric surface flows and small magnetic structures in sunspot moats. *BAAS*, 188:3501.

Shine, R. A. (2000). Sunspot oscillations from the photosphere to the corona. *BAAS*, 31(2):03.03.

Shine, R. A., Scharmer, G., Tarbell, T. D., Title, A. M., and Topka, K. P. (1991b). SOUP observations of solar activity. In Winglee, R. S. and Kiplinger, A. L., editors, *Max '91/SMM Solar Flares: Observations and Theory*, page 295.

Shine, R. A., Title, A. M., Tarbell, T. D., Smith, K., Frank, Z. A., and Scharmer, G. (1994). High-resolution observations of the Evershed effect in sunspots. *ApJ*, 430:413–424.

Shine, R. A., Topka, K. P., Tarbell, T., and Title, A. M. (1990b). Studies of solar granulation using 3-D fourier filtering. In Stenflo, J. O., editor, *Solar Photosphere: Structure Convection and Magnetic Fields*, volume 138 of *Proc. IAU Symp.*, page 84.

Shukurov, A., Sarson, G. R., Nordlund, Å., Gudiksen, B., and Brandeburg, A. (2004). The effects of spiral arms on the multi-phase ISM. *Ap&SS*, 289:319–322.

Sigalotti, L. D. G. and Cruz, F. (2023). Unveiling the mystery of solar-coronal heating. *Physics Today*, 76(4):34–40.

Simon, G. W., Brandt, P. N., November, L. J., Scharmer, G. B., and Shine, R. A. (1994a). Large-scale photospheric motions: First results from an extraordinary eleven-hour granulation observation. In Rutten, R. J. and Schrijver, C. J., editors, *Solar Surface Magnetism*, volume 433 of *NATO ASI Ser. C*, pages 261–270. Kluwer Academic Publishers.

Simon, G. W., Dorotovič, I., Sobotka, M., and Brandt, P. N. (2002). Evolution of filamentary structures in and around a large solar pore. *BAAS*, 34:698.

Simon, G. W., November, L. J., Ferguson, S. H., Shine, R. A., Tarbell, T. D., Title, A., Topka, K. P., and Zirin, H. (1989). Details of large scale solar motions revealed by granulation test particles. In Rutten, R. J. and Severino, G., editors, *Solar and Stellar Granulation*, volume 263 of *NATO ASI Series C*, page 371. Kluwer Academic Publisher.

Simon, G. W., Title, A. M., and Weiss, N. O. (1994b). Kinematic modeling of magnetic field diffusion at the solar surface. In Balasubramaniam, K. S. and Simon, G. W., editors, *14th NSO/SP Summer Workshop: Solar Active Region Evolution – Comparing Models with Observations*, volume 68 of *ASP Conf. Ser.*, pages 87–95.

Simon, G. W., Title, A. M., and Weiss, N. O. (1995). Kinematic models of supergranular diffusion on the sun. *ApJ*, 442:886–897.

Simon, G. W. and Weiss, N. O. (1989). Simulation of Large-Scale Flows at the Solar Surface. *ApJ*, 345:1060.

Simon, G. W. and Weiss, N. O. (1997). Kinematic modeling of vortices in the solar photosphere. *ApJ*, 489(2):960–967.

Simon, G. W., Weiss, N. O., and Scharmer, G. B. (1989). Modeling the Flow in Solar Vortices. *BAAS*, 21:829.

Sinquin, J.-C., Bastard, A., Beaufort, E., Berkefeld, T., Cadiergues, L., Costes, V., Cousty, R., Dekhtiar, C., Di Gesu, F., Gilbert, X., Grèzes-Besset, C., Groeninck, D., Hartung, M., Krol, H., Moreau, A., Morin, P., Pagès, H., Palomo, R., Scharmer, G., Soltau, D., and Véran, J.-P. (2014). Recent results and future DMs for astronomy and for space applications at CILAS. In *Adaptive Optics Systems IV*, volume 9148 of *Proc. SPIE*, page 91480G.

Siu Tapia, A. L. (2020). Magnetic properties of short-lived penumbral microjets. ESPOS seminar on 2020-03-05.

Siu-Tapia, A. L. (2021). The solar atmosphere as observed through the Mg I b2 line at high spatial resolution. ESPOS seminar on 2021-06-03.

Siu-Tapia, A. L., Bellot Rubio, L. R., Orozco Suárez, D., and Gafeira, R. (2020). Temporal evolution of short-lived penumbral microjets. *A&A*, 642:A128.

Siu-Tapia, A. L., Bellot Rubio, L. R., Orozco Suárez, D., and Gafeira, R. (2025). Diagnosing the solar atmosphere through the Mg I b_2 5173 Å line: II. Morphological classification of the intensity and circular polarization profiles. *A&A*, 696:A106.

Skan, M. (2023). *Dynamic structures of the solar chromosphere*. Licentiate thesis, Stockholm University.

Skan, M., Cehula, J., Schoelch, M., Lagae, C., Hayes, M., Sollerman, J., and Schulze, S. (2021a). ZTF Transient Classification Report for 2021-05-17. *Transient Name Server Classification Report*, 2021-1678:1–1678.

Skan, M., Cehula, J., Schoelch, M., Lagae, C., Hayes, M., Sollerman, J., Schulze, S., and Johansson, J. (2021b). Spectroscopic classification of 10 ZTF transients. *Transient Name Server AstroNote*, 159:1–159.

Skan, M., Danilovic, S., Leenaarts, J., Calvo, F., and Rempel, M. (2023). Small-scale loops heated to transition region temperatures and their chromospheric signatures in the simulated solar atmosphere. *A&A*, 672:A47.

Skånby-Mansour, G. (2003). The fine structure of penumbral grains. 2nd part of master's thesis (10 credits out of 20), Stockholm University.

Skogsrud, H. (2011). High resolution observations of spicules type II. Master's thesis, University of Oslo.

Skogsrud, H., Rouppe van der Voort, L., and De Pontieu, B. (2014). On the multi-threaded nature of solar spicules. *ApJ*, 795:L23.

Skogsrud, H., Rouppe van der Voort, L., and De Pontieu, B. (2016). On the Active Region Bright Grains Observed in the Transition Region Imaging Channels of IRIS. *ApJ*, 817:124.

Sliepen, G., Jägers, A. P. L., Bettonvil, F. C. M., and Hammerschlag, R. H. (2010). Seeing measurements with autonomous, short-baseline shadow band rangers. In Stepp, L. M., Gilmozzi, R., and Hall, H. J., editors, *Ground-based and Airborne Telescopes III*, volume 7733 of *Proc SPIE*, page 77334L.

Sliepen, G. and Sütterlin, P. (2013). A Primary Image Guider for the SST. In *Synergies Between Ground and Space Based Solar Research, 1st SOLARNET – 3rd EAST/ATST meeting*.

Sloover, P. J. (2001). Relationships between umbral dots and flashes. Master's thesis, Sterrekundig Instituut Utrecht.

Sobotka, M. (1993). Umbral dots and light bridges. *Noticias del Instituto de Astrofísica de Canarias*, 1993(3):12.

Sobotka, M. (1997). Sunspots Seen at High Spatial Resolution. In Schmieder, B., del Toro Iniesta, J. C., and Vazquez, M., editors, *Advances in Physics of Sunspots*, volume 118 of *ASP Conf. Ser.*, page 155. 1st Advances in Solar Physics Euroconference.

Sobotka, M., Bonet, J. A., Marquez, I., Muller, R., and Roudier, T. (2004). Motions of photospheric features in a sunspot moat. *Hvar Observatory Bulletin*, 28(1):27–36.

Sobotka, M., Bonet, J. A., and Vázquez, M. (1993a). High resolution observations of umbral fine structure. In Zirin, H., Ai, G., and Wang, H., editors, *The Magnetic and Velocity Fields of Solar Active Regions*, volume 46 of *ASP Conf. Ser.*, pages 20–23. IAU Colloq. 141.

Sobotka, M., Bonet, J. A., and Vazquez, M. (1993b). A high-resolution study of inhomogeneities in sunspot umbrae. *ApJ*, 415:832–846.

Sobotka, M., Bonet, J. A., and Vazquez, M. (1994). A high-resolution study of the structure of sunspot light bridges and abnormal granulation. *ApJ*, 426:404–413.

Sobotka, M., Bonet, J. A., and Vázquez, M. (1994). Strong light bridges and abnormal granulation. In Schüssler, M. and Schmidt, W., editors, *Solar Magnetic Fields*, page 197.

Sobotka, M., Bonet, J. A., Vázquez, M., and Hanslmeier, A. (1995). On the dynamics of bright features in sunspot umbrae. *ApJ*, 447:L133–L134.

Sobotka, M., Brandt, P. N., and Simon, G. W. (1996). Temporal evolution of fine-structures in sunspots. In Saniga, M., editor, *JOSO Annu. Rep., 1995*, page 145.

Sobotka, M., Brandt, P. N., and Simon, G. W. (1997a). Fine structure in sunspots. I. Sizes and lifetimes of umbral dots. *A&A*, 328:682–688.

Sobotka, M., Brandt, P. N., and Simon, G. W. (1997b). Fine structure in sunspots. II. Intensity variations and proper motions of umbral dots. *A&A*, 328:689–694.

Sobotka, M., Brandt, P. N., and Simon, G. W. (1997c). Fine structure in sunspots: sizes, lifetimes, motions, and temporal variations. In *JOSO Annu. Rep., 1996*, pages 84–85.

Sobotka, M., Brandt, P. N., and Simon, G. W. (1999a). Fine structure in sunspots. III. Penumbral grains. *A&A*, 348:621–626.

Sobotka, M., Brandt, P. N., and Simon, G. W. (1999b). Lifetimes and motions of penumbral grains – preliminary results. In Antalová, A., Balthasar, H., and Kučera, A., editors, *JOSO Annual Report 1998*, pages 69–70.

Sobotka, M., Brandt, P. N., and Simon, G. W. (1999c). Lifetimes and motions of penumbral grains – preliminary results. In Rimmele, T., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations and Techniques*, volume 183 of *ASP Conf. Ser.*, page 116.

Sobotka, M. and Hanslmeier, A. (2005). Photometry of umbral dots. *A&A*, 442(1):323–329.

Sobotka, M., Jurčák, J., Castellanos Durán, J. S., and García-Rivas, M. (2024). The relation between magnetic field inclination and the apparent motion of penumbral grains. *A&A*, 682:A65.

Sobotka, M., Muller, R., Bonet, J. A., and Márquez, I. (2002). Evolution of small-scale features at the penumbra-photosphere border. In Sawaya-Lacoste, H., editor, *Magnetic Coupling in the Solar Atmosphere*, volume 505 of *ESA Special Publication*, pages 579–592.

Sobotka, M. and Puschmann, K. G. (2007). Fine structure in a dark umbra. In Kneer, F., Puschmann, K. G., and Wittmann, A. D., editors, *Modern Solar Facilities – Advanced Solar Science*, pages 205–208. Universitätsverlag Göttingen.

Sobotka, M. and Puschmann, K. G. (2009). Morphology and evolution of umbral dots and their substructures. *A&A*, 504:575–581.

Sobotka, M. and Puschmann, K. G. (2022). Horizontal motions in sunspot penumbrae. *A&A*, 662:A13.

Sobotka, M., Puschmann, K. G., and Hamedivafa, H. (2008). Kinematics of umbral fine structure. *Central European Astrophysical Bulletin*, 32:125–132.

Sobotka, M., Vásquez, M., Bonet, J. A., and Hanslemeier, A. (1999d). Interaction of convective structures with the magnetic field of solar pores. In Schmieder, B., Hofmann, A., and Staude, J., editors, *Third advances in Solar Physics Euroconference: Magnetic Fields and Oscilations*, volume 184 of *ASP Conf. Ser.*, pages 60–64.

Sobotka, M., Vázquez, M., Bonet, J. A., Hanslmeier, A., and Hirzberger, J. (1999e). Temporal evolution of fine structures in and around solar pores. *ApJ*, 511(1):436–450.

Sobotka, M., Vázquez, M., Sánchez Cuberes, M., Bonet, J. A., and Hanslmeier, A. (2000a). Infrared Photometry of Solar Active Regions. *Journal of Astrophysics and Astronomy*, 21:289–292. Special issue on 'Cyclical Evolution of the Solar Magnetic Fields: Advances in Theory and Observations', Proc. IAU Colloquium No. 179.

Sobotka, M., Vázquez, M., Sánchez Cuberes, M., Bonet, J. A., and Hanslmeier, A. (2000b). Infrared photometry of solar photospheric structures. I. Active regions at the center of the disk. *ApJ*, 544(2):1155–1168.

Socas-Navarro, H., de la Cruz Rodríguez, J., Asensio Ramos, A., Trujillo Bueno, J., and Ruiz Cobo, B. (2015). An Open Source, Massively Parallel Code for Non-LTE Synthesis and Inversion of Spectral Lines and Zeeman-induced Stokes Profiles. *A&A*, 577:A7.

Socas-Navarro, H., Martínez Pillet, V., Sobotka, M., and Vázquez, M. (2004). The Thermal and Magnetic Structure of Umbral Dots from the Inversion of High-Resolution Full Stokes Observations. *ApJ*, 614(1):448–456.

Solanki, S. (2000). Solar Photospheric Magnetic Flux Tubes: Observations. In Murdin, P., editor, *Encyclopedia of Astronomy and Astrophysics*, page 2013. Institute of Physics Publishing and Nature Publishing Group.

Solanki, S. K., Inhester, B., and Schüssler, M. (2006). The solar magnetic field. *Reports on Progress in Physics*, 69(3):563–668.

Soler Poquet, I. J., Rouppe van der Voort, L., and Díaz Baso, C. J. (2024). Ellerman Bomb detection in SST and SDO observations with Deep Learning. In *EAS Annual Meeting 2024*, page 1444.

Solov'ev, A. A., Parfinenko, L. D., Efremov, V. I., Kirichek, E. A., and Korolkova, O. A. (2019). Structure of photosphere under high resolution: granules, faculae, micropores, intergranular lanes. *Astrophysics and Space Science*, 364(12):222.

Soltau, D., Berkefeld, T., Sánchez Capuchino, J., Collados Vera, M., Del Moro, D., Löfdahl, M., and Scharmer, G. (2010). Adaptive optics and MCAO for the 4-m European Solar Telescope EST. In Ellerbroek, B. L., Hart, M., Hubin, N., and Wizinowich, P. L., editors, *Adaptive Optics Systems II*, volume 7736 of *Proc. SPIE*.

Song, D., Ishikawa, R., Kano, R., McKenzie, D. E., Trujillo Bueno, J., Auchère, F., Rachmeler, L. A., Okamoto, T. J., Yoshida, M., Kobayashi, K., Bethge, C., Hara, H., Shinoda, K., Shimizu, T., Suematsu, Y., De Pontieu, B., Winebarger, A., Narukage, N., Kubo, M., Sakao, T., Asensio Ramos, A., Belluzzi, L., Štěpán, J., Carlsson, M., del Pino Alemán, T., Alsina Ballester, E., Vigil, G. D., and Leenaarts, J. (2022). Polarization Accuracy Verification of the Chromospheric LAyer SpectroPolarimeter. *Sol. Phys.*, 297(10):135.

Sowmya, K., Shapiro, A. I., Rouppe van der Voort, L. H. M., Krivova, N. A., and Solanki, S. K. (2023). Modeling Stellar Ca II H and K Emission Variations: Spot Contribution to the S-index. *ApJ*, 956(1):L10.

Sowmya, K., Shapiro, A. I., Rouppe van der Voort, L. H. M., Krivova, N. A., and Solanki, S. K. (2024). Starspot contribution to stellar Ca II H & K emission: lessons from sunspots. In *42nd meeting of the Astronomical Society of India (ASI)*, page O53.

Spite, M., Landstreet, J., Asplund, M., Ayres, T., Balachandran, S., Dravins, D., Hauschildt, P., Kiselman, D., Nagendra, K. N., Sneden, C., Tautvaišienė, G., and Werner, K. (2007a). Commission 36: Theory of Stellar Atmospheres. *Transactions of the International Astronomical Union, Series A*, 26:215–219.

Spite, M., Landstreet, J. D., Asplund, M., Ayres, T. R., Balachandran, S. C., Dravins, D., Hauschildt, P. H., Kiselman, D., Nagendra, K. N., Sneden, C., Tautvaišienė, G., and Werner, K. (2007b). Commission 36: Theory of Stellar Atmospheres. *Transactions of the International Astronomical Union, Series B*, 26:160–161.

Spruit, H. C., Nordlund, Å., and Title, A. M. (1990). Solar convection. *ARA&A*, 28:263–301.

Spruit, H. C. and Scharmer, G. B. (2006). Fine structure, magnetic field and heating of sunspot penumbrae. *A&A*, 447(1):343–354.

Spruit, H. C., Scharmer, G. B., and Löfdahl, M. (2010). Striation and convection in penumbral filaments. *A&A*, 521:A72.

Srivastava, A. K., Ballester, J. L., Cally, P. S., Carlsson, M., Goossens, M., Jess, D. B., Khomenko, E., Mathioudakis, M., Murawski, K., and Zaqarashvili, T. V. (2021). Chromospheric Heating by Magnetohydrodynamic Waves and Instabilities. *Journal of Geophysical Research (Space Physics)*, 126(6):e029097.

Srivastava, A. K., Shetye, J., Murawski, K., Doyle, J. G., Stangalini, M., Scullion, E., Ray, T., Wójcik, D. P., and Dwivedi, B. N. (2017). High-frequency torsional Alfvén waves as an energy source for coronal heating. *Scientific Reports*, 7:43147.

Stangalini, M. (2017). Polarized kink waves in magnetic elements: Evidence for chromospheric helical waves. In *Our Mysterious Sun: magnetic coupling between solar interior and atmosphere*, page 14. Shota Rustaveli National Science Foundation of Georgia. `https://solar-conference.iliauni.edu.ge/`.

Stangalini, M., Giannattasio, F., Erdélyi, R., Jafarzadeh, S., Consolini, G., Criscuoli, S., Ermolli, I., Guglielmino, S. L., and Zuccarello, F. (2017). Polarised kink waves in magnetic elements: evidence for chromospheric helical waves. *ApJ*, 840:19.

Stangalini, M., Giannattasio, F., and Jafarzadeh, S. (2015). Nonlinear propagation of kink waves to the solar chromosphere. *A&A*, 577:A17.

Steffen, M. (2004). Dreidimensionale Modelle kühler Sternatmosphären. *Sterne und Weltraum*, pages 22–23.

Stein, R. F. and Nordlund, Å. (2000). Realistic solar convection simulations. *Sol. Phys.*, 192(1/2):91–108.

Steinegger, M., Bonet, J. A., and Vázquez, M. (1997). Simulation of seeing influences on the photometric determination of sunspot areas. *Solar Physics*, 171(2):303–330.

Steiner, O. (2007). Recent progresses in the simulation of small-scale magnetic fields. In Kneer, F., Puschmann, K. G., and Wittmann, A. D., editors, *Modern Solar Facilities – Advanced Solar Science*, pages 321–337. Universitätsverlag Göttingen. Invited.

Steiner, O. and Rezaei, R. (2012). Recent Advances in the Exploration of the Small-Scale Structure of the Quiet Solar Atmosphere: Vortex Flows, the Horizontal Magnetic Field, and the Stokes-V Line-Ratio Method. In Golub, L., de Moortel, I., and Shimizu, T., editors, *5th Hinode Science Meeting: Exploring the Active Sun*, volume 456 of *ASP Conf. Ser.*, page 3.

Stenflo, J. O. and Holzreuter, R. (2002). Empirical view of magnetoconvection. In Sawaya-Lacoste, H., editor, *Proc. Magnetic Coupling of the Solar Atmosphere Euroconference and IAU Colloquium 188*, volume 505 of *ESA Special Publication*, pages 101–104.

Stenflo, J. O. and Holzreuter, R. (2003). Distribution of magnetic fields at scales beyond the spatial resolution limit. In Pevtsov, A. A. and Uitenbroek, H., editors, *Current theoretical models and future high resolution solar observations: preparing for ATST (Proc 21st International NSO/SP Workshop)*, volume 286 of *ASP Conference series*, page 169.

Stenholm, B. (2005). En plats i solen för Göran. *Populär astronomi*, 2005(1):27–29.

Štěpán, J., Trujillo Bueno, J., Leenaarts, J., and Carlsson, M. (2015). Three-dimensional radiative transfer simulations of the scattering polarization of the hydrogen Ly α line in a MHD model of the chromosphere-corona transition region. *ApJ*, 803:65.

Stodilka, M. I., Sukhorukov, A. V., and Prysiazhnyi, A. I. (2019). Diagnostics of the quiet sun atmosphere's photospheric jets. *Kinematics and Physics of Celestial Bodies*, 35(5):231–251.

Stossmeister, G. J., de Wijn, A. G., and Zmarzly, P. (2024). CHROMIS Modulator Engineering Analysis, Design, Assembly, and Testing. NCAR Technical Notes NCAR/TN-579+EDD, National Center for Atmospheric Research (NCAR).

Strous, L. and Zwaan, C. (1999). Properties of small-scale flux emergence in a young active region. In *Helioseismic Diagnostics of Solar Convection and Activity*, volume 9 of *SOHO*, page 82.

Strous, L. H. (1994). *Dynamics in Solar Active Regions: Patterns in Magnetic-Flux Emergence*. PhD thesis, Utrecht University.

Strous, L. H. (1999). Average properties of flux emergence in young active region 5617. In Rimmele, T., Balasubramaniam, K. S., and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations and Techniques*, volume 183 of *ASP Conf. Ser.*, page 551.

Strous, L. H., Scharmer, G. B., Tarbell, T., Title, A. M., and Zwaan, C. (1996). Phenomena in an emerging active region. I. Horizontal dynamics. *A&A*, 306:947–959.

Strous, L. H. and Zwaan, C. (2000). Phenomena in an emerging active region. II. Properties of the dynamic small-scale structure. *ApJ*, 527(1):435–444.

Suetterlin, P., Rutten, R. J., and Skomorovsky, V. I. (2001). Ba II 4554 å speckle imaging as solar Doppler diagnostic. *A&A*, 378:251–256.

Sukhorukov, A. V. and Leenaarts, J. (2017). Partial redistribution in 3D non-LTE radiative transfer in solar-atmosphere models. *A&A*, 597:A46.

Suplee, C. (2004). The sun. *National Geographic*, pages 2–33.

Sütterlin, P., Wiehr, E., and Stellmacher, G. (1999). Continuum photometry of solar white-light faculae. *Sol. Phys.*, 189(1):57–68.

Talbott, G., Blanken, M., Chopping, A., Jolley, P., and Rey, J. (2002). ING stick to the task - Work for the NSST. *ING Newsl.*, 2002(6):31–32.

Tanga, P., Widemann, T., Sicardy, B., Pasachoff, J. M., Arnaud, J., Comolli, L., Rondi, A., Rondi, S., and Sütterlin, P. (2012). Sunlight refraction in the mesosphere of Venus during the transit on June 8th, 2004. *Icarus*, 218:207–219.

Tao, L. L., Weiss, N. O., Brownjohn, D. P., and Proctor, M. R. E. (1998). Flux separation in stellar magnetoconvection. *ApJ*, 496:L39–L42.

Tarbell, T. (1994). Photospheric origins of chromospheric and coronal activity. Progress report 1 nov. 1993 - 1 feb. 1994, Lockheed Missiles and Space Co.

Tarbell, T., Acton, D. S., Topka, K., Title, A., Schmidt, W., and Scharmer, G. (1990a). Intermittency of fine scale solar magnetic fields in the photosphere. *BAAS*, 22:878.

Tarbell, T., Ferguson, S., Title, A., Scharmer, G., and Brandt, P. (1988). Fractal geometry of convective flows and magnetic fields in the solar atmosphere. *BAAS*, 20:1010.

Tarbell, T., Gaeng, T., and Saba, J. (2003). Time profiles of magnetic reconnection measured from flare ribbons. *BAAS*, 35(3):835.

Tarbell, T. and Topka, K. P. (1992). Investigation of solar active regions at high resolution by balloon flights of the solar optical universal polarimeter, definition phase. Final report, Lockheed Missiles and Space Co., Lockheed Missiles and Space Co., Palo Alto, CA. Research and Development Div.

Tarbell, T. D., Acton, L. W., Frank, Z. A., Shine, R. A., Title, A. M., and Topka, K. P. (1992). Simultaneous observations of flares in the solar photosphere, chromosphere, and corona from La Palma and Yohkoh. Poster at AGU meeting 1992.

Tarbell, T. D., Ferguson, S. H., Frank, Z. A., Shine, R. A., Title, A. M., Topka, K. P., and Scharmer, G. B. (1990b). High resolution observations of emerging magnetic fields and flux tubes in active region photosphere. In Stenflo, J. O., editor, *Solar Photosphere: Structure Convection and Magnetic Fields*, volume 138 of *Proc. IAU Symp.*, pages 147–152.

Tarbell, T. D., Kankelborg, C. C., Jaeggli, S., Weber, M., and Löfdahl, M. (2013). IRIS Spatial Resolution and Deconvolution (Invited). *AGU Fall Meeting Abstracts*.

Tarbell, T. D., Slater, G. L., Frank, Z. A., Shine, R. A., and Topka, K. P. (1991a). Generation of electric currents and waves on magnetic fluxtubes by horizontal velocities in the photosphere. In Ulmschneider, P., Priest, E. R., and Rosner, R., editors, *Mechanism of Chromospheric and Coronal Heating*, page 260. Springer-Verlag.

Tarbell, T. D., Slater, G. L., Frank, Z. A., Topka, K. P., Scharmer, G. B., and Schmidt, W. (1991b). Power spectra of flows and magnetic fields in the solar atmosphere. *BAAS*, 23:1048.

Testa, P., Bakke, H., Rouppe van der Voort, L., and De Pontieu, B. (2023). High Resolution Observations of the Low Atmospheric Response to Small Coronal Heating Events in an Active Region Core. *ApJ*, 956(2):85.

Testa, P., Rouppe van der Voort, L., De Pontieu, B., and Bakke, H. (2020). High Resolution Observations of the Low Atmospheric Response to Small Heating Events in Active Regions. In *AGU Fall Meeting Abstracts*, volume 2020, pages SH004–03.

Thaler, I. and Spruit, H. C. (2014). Brightness of the sun's small scale magnetic field: proximity effects. *A&A*, 566:A11.

Tham, M. (2011). Wide field wavefront sensing. Master's thesis, Stockholm University.

Thomas, J. (2000). Sunspot Penumbra: Structure and Activity. In Murdin, P., editor, *Encyclopedia of Astronomy and Astrophysics*, page 2081. Institute of Physics Publishing and Nature Publishing Group.

Thomas, J. H. and Weiss, N. O. (1992). The theory of sunspots. In Thomas, J. H. and Weiss, N. O., editors, *Sunspots: Theory and Observations*, pages 3–59, Dordrecht. Kluwer.

Thomas, J. H. and Weiss, N. O. (2004). Fine Structure in Sunspots. *A&A Rev.*, 42(1):517–548.

Title, A., Ferguson, S., Tarbell, T., Scharmer, G., and Brandt, P. (1988a). Measurements of turbulent diffusion by solar granulation in quiet and magnetic areas. *BAAS*, 20:1010.

Title, A., Tarbell, T., Topka, K., Cauffman, D., Balke, C., and Scharmer, G. (1990a). Magnetic flux tubes and their relation to continuum and photospheric features. In Russel, C. T., Priest, E. R., and Lee, L. C., editors, *Physics of Magnetic Flux Ropes*, volume 58 of *Geophysical Monographs*, page 171.

Title, A. M. (2007). The magnetic field and its effects on the solar atmosphere in high resolution. *Highlights of Astronomy*, 14:30–40.

Title, A. M. and Berger, T. E. (1996). Double-Gaussian models of bright points or why bright points are usually dark. *ApJ*, 463:797–807.

Title, A. M., Frank, Z., Shine, R. A., and Tarbell, T. D. (1991). Field geometry of suspots inferred from inclination effects. *BAAS*, 23:1052.

Title, A. M., Frank, Z. A., Shine, R. A., Tarbell, T. D., and Scharmer, G. (1989). Magnetic Field Inclination in Penumbra of a Round Sunspot Observed at Very High Spatial Resolution. *BAAS*, 21:837.

Title, A. M., Frank, Z. A., Shine, R. A., Tarbell, T. D., Topka, K. P., Scharmer, G., and Schmidt, W. (1992). High resolution observations of the magnetic and velocity field of simple sunspots. In Thomas, J. H. and Weiss, N. O., editors, *Sunspots: Theory and Observations*, volume 375 of *NATO Advanced Study Institute (ASI) Series C*, page 195.

Title, A. M., Frank, Z. A., Shine, R. A., Tarbell, T. D., Topka, K. P., Scharmer, G., and Schmidt, W. (1993). On the magnetic and velocity field geometry of a simple sunspot. *ApJ*, 403:780.

Title, A. M., Shine, R. A., Ferguson, S. H., Tarbell, T. D., Brandt, P., and Scharmer, G. (1988b). Solar granulation movies of exceptional spatial resolution: Observations and simulations of horizontal convective flow. *BAAS*, 20:679.

Title, A. M., Shine, R. A., Tarbell, T. D., Topka, K. P., and Scharmer, G. B. (1990b). High resolution observations of the photosphere. In Stenflo, J. O., editor, *Solar Photosphere: Structure, Convection, and Magnetic Fields*, volume 138 of *Proc. IAU Symp.*, pages 49–66.

Title, A. M., Tarbell, T. D., Topka, K. P., and Frank, Z. (1992a). High resolution observations: The state of art and beyond. In Dame, L. and Guyenne, T. D., editors, *Solar Physics and Astrophysics at Interferometric Resolution*, volume 344 of *Proc. ESA Workshop*, pages 9–14.

Title, A. M., Tarbell, T. D., and Wolfson, C. J. (1989). Ground-based tunable filter observations. In Rutten, R. J. and Severino, G., editors, *Solar and Stellar Granulation*, volume 263 of *NATO ASI Series C*, page 29. Kluwer Academic Publishers.

Title, A. M., Topka, K. P., Tarbell, T. D., Schmidt, W., Balke, C., and Scharmer, G. B. (1992b). On the differences between plage and quiet sun in the solar photosphere. *ApJ*, 393:782–794. With accompanying video tape (ApJ, 393, Part 1, No. 2, Videotape, Segment 5).

Tobias, S. M. and Weiss, N. O. (1999). Solar magnetic field poses problems. *Physics World*, page 56.

Topka, K., Ferguson, S., Frank, Z., Shine, R., Tarbell, T., Title, A., Wolfson, J., Scharmer, G., and Brandt, P. (1988). Observations of granulation in quiet and magnetic sun from the Swedish solar observatory on La Palma. *BAAS*, 20:1010.

Topka, K., Ferguson, S., Shine, R., Tarbell, T., Title, A., Balke, C., Scharmer, G., and Schmidt, W. (1990a). Detailed comparison of quiet and magnetic sun. *BAAS*, 22:879.

Topka, K., Frank, Z., Shine, R., Smith, K., Tarbell, T., Title, A., and Scharmer, G. (1989). Initial Results of the Lockheed 1989 La Palma Observing Campaign. *BAAS*, 21:1111.

Topka, K., Frank, Z., Shine, R., Tarbell, T., Title, T., Scharmer, G., and Balke, C. (1989). Short term evolution of fine scale magnetic structures. *BAAS*, 21:842.

Topka, K. P., Frank, Z. A., Tarbell, T. D., and Title, A. M. (1990b). Stokes polarimetry with a tunable filter at the Swedish solar observatory at La Palma. In *Solar Polarimetry*, Proc. Sacramento Peak Summer Workshop.

Topka, K. P., Frank, Z. A., Tarbell, T. D., Title, A. M., and Scharmer, G. (1991). Stokes polarimetry of a sunspot from the Swedish solar observatory at La Palma. *BAAS*, 23:1052.

Topka, K. P., Tarbell, T. D., and Title, A. M. (1992). Properties of the Smallest Solar Magnetic Elements. I. Facular Contrast near Sun Center. *ApJ*, 396:351–363.

Topka, K. P., Tarbell, T. D., and Title, A. M. (1997a). Properties of the smallest solar magnetic elements II. observations versus hot wall models of faculae. *ApJ*, 484(1):479.

Topka, K. P., Tarbell, T. D., and Title, A. M. (1997b). Solar irradiance variance due to the quiet sun network. *BAAS*, 29:904.

Topka, K. P. and Title, A. M. (1990). High resolution solar observations of solar granulation. In Livingston, W. and Cox, A., editors, *The Solar Interior and Atmosphere*, page 727. University of Arizona Press.

Topka, K. P. and Title, A. M. (1991). High-resolution observations of the solar granulation. In *Solar interior and atmosphere*, pages 727–747. University of Arizona Press, Tucson, AZ.

Topka, K. P. and Title, A. M. (1992). Comparison of active region facular contrast measurements to simple models. *BAAS*, 181:81.04.

Townson, M. J., Kellerer, A., Osborn, J., Butterley, T., Morris, T., and Wilson, R. W. (2014). Daytime site characterisation of La Palma, and its relation to night-time conditions. In *Ground-based and Airborne Instrumentation for Astronomy V*, volume 9147 of *Proc. SPIE*, page 3E.

Townson, M. J., Kellerer, A., Osborn, J., Butterley, T., Morris, T., and Wilson, R. W. (2015). Characterising daytime atmospheric conditions on la palma. In *Adapting to the Atmosphere Conference 2014*, volume 595 of *Journal of Physics Conf. Ser.*, page 012035. IOP Publishing.

Townson, M. J., Kellerer, A., and Saunter, C. D. (2015). Improved shift estimates on extended Shack-Hartmann wavefront sensor images. *MNRAS*, 452:4022–4028.

Townson, M. J., Love, G. D., Kellerer, A., and Saunter, C. D. (2016). Correlation wavefront sensing for extended objects. In Marchetti, E., Close, L. M., and Véran, J.-P., editors, *Adaptive Optics Systems V*, volume 9909 of *Proc. SPIE*, page 99096Q.

Townson, M. J., Love, G. D., and Saunter, C. D. (2018). Generating artificial reference images for open loop correlation wavefront sensors. *MNRAS*, 479:1595–1602.

Tsiropoula, G., Tziotziou, K., Kontogiannis, I., Madjarska, M. S., Doyle, J. G., and Suematsu, Y. (2012). Solar Fine-Scale Structures. I. Spicules and Other Small-Scale, Jet-Like Events at the Chromospheric Level: Observations and Physical Parameters. *Space Sci. Rev.*, 169:181–244.

Tziotziou, K. (2016). Quiet sun and its dynamics as viewed from the ground and from space. In Dorotovič, I., Fischer, C., and Temmer, M., editors, *Ground-based Solar Observations in the Space Instrumentation Era*, volume 504 of *ASP Conf. Ser.*, page 3.

Tziotziou, K., Scullion, E., Shelyag, S., Steiner, O., Khomenko, E., Tsiropoula, G., Canivete Cuissa, J. R., Wedemeyer, S., Kontogiannis, I., Yadav, N., Kitiashvili, I. N., Skirvin, S. J., Dakanalis, I., Kosovichev, A. G., and Fedun, V. (2023). Vortex Motions in the Solar Atmosphere. *Space Sci. Rev.*, 219(1):1.

Tziotziou, K., Tsiropoula, G., and Kontogiannis, I. (2019). A persistent quiet-Sun small-scale tornado. II. Oscillations. *A&A*, 623:A160.

Tziotziou, K., Tsiropoula, G., and Kontogiannis, I. (2020). A persistent quiet-Sun small-scale tornado. III. Waves. *A&A*, 643:A166.

Tziotziou, K., Tsiropoula, G., Kontogiannis, I., Scullion, E., and Doyle, J. G. (2018). A persistent quiet-Sun small-scale tornado. I. Characteristics and dynamics. *A&A*, 618:A51.

van Ballegooijen, A. A. (2003). Magnetic configuration in low solar atmosphere prior to eruptions. *AGU Fall Meeting Abstracts*, 84(46). Fall Meet. Suppl., Abstract SH21C-01.

van Ballegooijen, A. A. (2004). Observations and Modeling of a Filament on the Sun. *ApJ*, 612(1):519–529.

van Ballegooijen, A. A. and Deluca, E. E. (1999). TRACE and SVST observations of an active-region filament. *BAAS*, 31(3):78.06.

van Ballegooijen, A. A. and Hasan, S. S. (2003). Physics of photospheric magnetic field. In Pevstov, A. and Uitenbroek, H., editors, *Current Theoretical Models and High Resolution Solar Observations: Preparing for ATST*, volume 286 of *ASP Conf. Ser.*, page 155. Proc. 21th NSO Sacramento Peak Summer Workshop.

van Ballegooijen, A. A. and Nisenson, P. (1999). Dynamics of magnetic elements in the photosphere and the formation of spicules. In Balasubramaniam, T. R. K. S. and Radick, R. R., editors, *High Resolution Solar Physics: Theory, Observations and Techniques*, volume 183 of *ASP Conf. Ser.*, page 30.

van Ballegooijen, A. A., Nisenson, P., Noyes, R. W., Löfdahl, M. G., Stein, R. F., Nordlund, Å., and Krishnakumar, V. (1998). Dynamics of magnetic flux elements in the solar photosphere. *ApJ*, 509(1):435–447.

Van Kampen, W. C. and Paxman, R. G. (1998). Multi-frame blind deconvolution of infinite-extent objects. In Bissonnette, L. R., editor, *Propagation and Imaging through the Atmosphere II*, volume 3433 of *Proc. SPIE*, pages 296–307.

van Noort, M. (2017a). Image restoration of polarimetric slit spectra. In *SOLARNET IV: The Physics of the Sun from the Interior to the Outer Atmosphere*, page 90.

van Noort, M. (2017b). Image restoration of solar spectra. *A&A*, 608:A76.

van Noort, M., Bischoff, J., Kramer, A., Solanki, S. K., and Kiselman, D. (2022). A prototype of a microlensed hyperspectral imager for solar observations. *A&A*, 668:A149.

van Noort, M. and Chanumolu, A. (2022). Characterization of the Microlensed Hyperspectral Imager prototype. *A&A*, 668:A150.

van Noort, M. and Doerr, H.-P. (2022). Data reduction and restoration of spectropolarimetric microlensed hyperspectral imager data. *A&A*, 668:A151.

van Noort, M., Rouppe van der Voort, L., and Löfdahl, M. (2006). Solar image restoration by use of multi-object multi-frame blind deconvolution. In Leibacher, J., Stein, R. F., and Uitenbroek, H., editors, *Solar MHD: Theory and Observations – a High Spatial Resolution Perspective*, volume 354 of *ASP Conf. Ser.*, page 55.

van Noort, M., Rouppe van der Voort, L., and Löfdahl, M. G. (2005). Solar image restoration by use of multi-frame blind deconvolution with multiple objects and phase diversity. *Sol. Phys.*, 228(1–2):191–215.

van Noort, M., Rouppe van der Voort, L. H. M., and Löfdahl, M. G. (2004). Multi-object phase diversity solar image reconstruction. In Gallagher, P., editor, *Solar Image Processing Workshop II (abstracts)*, Annapolis, Maryland, USA. NASA's Sun-Earth Connection Division.

van Noort, M. J. and Rouppe van der Voort, L. H. M. (2006). High resolution observations of fast events in the solar chromosphere. *ApJ*, 648(1):L67–L70.

van Noort, M. J. and Rouppe van der Voort, L. H. M. (2008). Stokes imaging polarimetry using image restoration at the Swedish 1-m Solar Telescope. *A&A*, 489(1):429–440.

van Werkhoven, T. I. M., Homs, L., Sliepen, G., Rodenhuis, M., and Keller, C. U. (2012). FOAM: the modular adaptive optics framework. In Ellerbroek, B. L., Marchetti, E., and Véran, J.-P., editors, *Adaptive Optics Systems III*, volume 8447 of *Proc. SPIE*, page 84472V.

Vargas Dominguez, S. (2009). *Study of horizontal flows in solar active regions based on high-resolution image reconstruction techniques*. PhD thesis, Instituto de Astrofisica de Canarias.

Vargas Domínguez, S., Bonet, J. A., Martinez Pillet, V., and Katsukawa, Y. (2007). Evidence of an association between the presence of penumbrae and strong radial outflows in sunspots. In Marsch, E., Tsinganos, K., Marsden, R., and Conroy, L., editors, *The Second Solar Orbiter Workshop*, volume 641 of *ESA Special Publication*, page 87.

Vargas Dominguez, S., Bonet, J. A., Martinez Pillet, V., Katsukawa, Y., Kitakoshi, Y., and Rouppe van der Voort, L. (2007). On the moat-penumbra relation. *ApJ*, 660:L165–L168.

Vargas Domínguez, S., de Vicente, A., Bonet, J. A., and Martínez Pillet, V. (2010). Characterization of horizontal flows around solar pores from high-resolution time series of images. *A&A*, page A91.

Vargas Dominguez, S., Palacios, J., Balmaceda, L., Cabello, I., and Domingo, V. (2011). Spatial distribution and statistical properties of small-scale convective vortex-like motions in a quiet Sun region. *MNRAS*, 416:148–154.

Vargas Dominguez, S., Palacios, J., Balmaceda, L., Cabello, I., and Domingo, V. (2015). Evolution of small-scale magnetic elements in the vicinity of granular-size swirl convective motions. *Sol. Phys.*, 290:301–319.

Vargas Domínguez, S., Rouppe van der Voort, L., Bonet, J. A., Martínez Pillet, V., Van Noort, M., and Katsukawa, Y. (2008). Moat Flow in the Vicinity of Sunspots for Various Penumbral Configurations. *ApJ*, 679(1):900–909.

Vargas Domínguez, S. and Utz, D. (2022). Interaction of convective plasma and small-scale magnetic fields in the lower solar atmosphere. *Reviews of Modern Plasma Physics*, 6(1):33.

Vazquez, M. (1991). Solar research at the I.A.C. *Astro. Lett. and Communications*, 28:113–129.

Vázquez, M. (2000). Sunspot Umbra: Structure and Evolution. In Murdin, P., editor, *Encyclopedia of Astronomy and Astrophysics*, page 2082. Institute of Physics Publishing and Nature Publishing Group.

Vela Villahoz, E. J. (2001). *Estudio del efecto Evershed y de la estuctura fina del campo magnético en la penumbra de las manchas solares – Study of the Evershed effect and the fine structure of the magnetic field in the penumbra of sunspots*. PhD thesis, University of La Laguna, Spain.

Verth, G. and Jess, D. B. (2016). MHD wave modes resolved in fine-scale chromospheric magnetic structures. In Keiling, A., Lee, D.-H., and Nakariakov, V., editors, *Low-frequency Waves in Space Plasmas*, volume 216 of *Geophysical Monograph Series*, chapter 24, pages 431–448. AGU/Wiley.

Viavattene, G., Murabito, M., Guglielmino, S. L., Ermolli, I., Consolini, G., Giorgi, F., and Jafarzadeh, S. (2021). Analysis of Pseudo-Lyapunov Exponents of Solar Convection Using State-of-the-Art Observations. *Entropy*, 23(4):413.

Vicente Arévalo, A., Asensio Ramos, A., and Esteban Pozuelo, S. (2022). Accelerating non-LTE synthesis and inversions with graph networks. *ApJ*, 928(2):101.

Vilangot Nhalil, N., Shetye, J., and Doyle, J. G. (2022). Detection of spicules termed Rapid Blue-shifted Excursions as seen in the chromosphere via Hα and the transition region via Si IV 1394 Å line emission. *MNRAS*, 515(2):2672–2680.

Vilangot Nhalil, N., Shetye, J., and Doyle, J. G. (2023). Searching for signatures of Hα spicule-like features in the solar transition region. *MNRAS*, 524(1):1156–1168.

Vissers, G. (2018). Dissecting bombs and bursts: inversions of reconnection events in SST-IRIS observations. ESPOS seminar on 2018-02-08.

Vissers, G. and Rouppe van der Voort, L. (2012). Flocculent flows in the chromospheric canopy of a sunspot. *ApJ*, 750:22.

Vissers, G. J. M. (2013). *Dynamics of fine structure in the atmosphere of solar active regions*. PhD thesis, University of Oslo.

Vissers, G. J. M., Danilovic, S., de la Cruz Rodríguez, J., Leenaarts, J., Morosin, R., Díaz Baso, C. J., Reid, A., Pomoell, J., Price, D. J., and Inoue, S. (2021). Non-LTE inversions of a confined X2.2 flare: I. Vector magnetic field in the photosphere and chromosphere. *A&A*, 645:A1.

Vissers, G. J. M., Danilovic, S., Zhu, X., Leenaarts, J., Díaz Baso, C. J., da Silva Santos, J. M., de la Cruz Rodríguez, J., and Wiegelmann, T. (2022). Active region chromospheric magnetic fields. Observational inference versus magnetohydrostatic modelling. *A&A*, 662:A88.

Vissers, G. J. M., de la Cruz Rodriguez, J., Libbrecht, T., Rouppe van der Voort, L. H. M., Scharmer, G. B., and Carlsson, M. (2019a). Dissecting bombs and bursts: non-LTE inversions of low-atmosphere reconnection in SST and IRIS observations. *A&A*, 627:A101.

Vissers, G. J. M., Rouppe van der Voort, L. H. M., and Carlsson, M. (2015a). Evidence for a Transition Region response to penumbral microjets in sunspots. *ApJ*, 811:L33.

Vissers, G. J. M., Rouppe van der Voort, L. H. M., and Rutten, R. J. (2013). Ellerman Bombs at high resolution: II. Visibility, triggering and effect on upper atmosphere. *ApJ*, 774(1):32.

Vissers, G. J. M., Rouppe van der Voort, L. H. M., and Rutten, R. J. (2019b). Automating Ellerman bomb detection in ultraviolet continua. *A&A*, 626:A4.

Vissers, G. J. M., Rouppe van der Voort, L. H. M., Rutten, R. J., Carlsson, M., and De Pontieu, B. (2015b). Ellerman bombs at high resolution III. Simultaneous observations with IRIS and SST. *ApJ*, 812:11.

Vithlani, K. (2022). Studying the magnetic fields in sunspots using the Unno-Rachkovsky solution for the radiative transfer equation. Bsc thesis, Stockholm University.

Wang, H., Qu, M., Shih, F., Denker, C., Gerbessiotis, A., Löfdahl, M., Rees, D., and Keller, C. (2004). Innovative information technology for space weather research. *BAAS*, 36(2):755.

Warell, J. (1996). Structure of the Martian north polar cap and Vernal Hood system at l_s 61deg–66deg of the 1995 apparition. *Earth, Moon and Planets*, 74(2):93–107.

Warell, J. (1999). Merkurius – fortfarande en okänd planet. In *Astronomisk Årsbok 1999*. Inova.

Warell, J. (2002). Properties of the Hermean Regolith. II. Disk-Resolved Multicolor Photometry and Color Variations of the "Unknown" Hemisphere. *Icarus*, 156(2):303–317.

Warell, J. (2003a). Properties of the Hermean regolith: III. Disk-resolved vis-NIR reflectance spectra and implications for the abundance of iron. *Icarus*, 161:199–222.

Warell, J. (2003b). Properties of the Hermean regolith: IV. Photometric parameters of Mercury and the Moon contrasted with Hapke modelling. *Icarus*, 167(2):271–286.

Warell, J. (2003c). *Regolith properties of Mercury derived from observations and modelling*. PhD thesis, Uppsala Universitet.

Warell, J. and Lagerkvist, C.-I. (1998). Bränd av solen. *Forskning och Framsteg*, 1998(8):8–13.

Warell, J., Lagerkvist, C.-I., and Lagerros, J. S. V. (1997). Dust morphology of the inner coma of C/1995 o1 (Hale-Bopp). *Earth Moon and Planets*, 78:197–203.

Warell, J., Lagerkvist, C.-I., and Lagerros, J. S. V. (1999). Dust continuum imaging of C/1995 o1 (Hale-Bopp): Rotation period and dust outflow velocity. *A&AS*, 136:245–256.

Warell, J., Lagerkvist, C.-I., Limaye, S. S., Scharmer, G., Gunnarsson, M., Lagerros, J. S. V., and Muinonen, K. (1998). High-resolution groundbased imaging of Mercury at visual and near-infrared wavelengths. *Annales Geophysicae Part III*, Supplement III to Vol. 16:C995. Abstract.

Warell, J. and Limaye, S. S. (2000). Mercury: New global map of albedo variegation and correlation with geologic features. Abstract: Contribution for the 2000 General Assembly of the EGS European Geophysical Assembly, Nice, 25-29 April 2000.

Warell, J. and Limaye, S. S. (2001). Properties of the Hermean regolith: I. Global regolith albedo variation at 200 km scale from multicolor CCD imaging. *Planetary and Space Science*, 49(14-15):1531–1552.

Warell, J., Limaye, S. S., and Lagerkvist, C.-I. (1998). Regolith albedo variegation on Mercury. *BAAS*, 30:1111.

Warell, J. and Valegård, P.-G. (2006). Albedo-color distribution on Mercury. A photometric study of the poorly known hemisphere. *A&A*, 460:625–633.

Watanabe, H., Bellot Rubio, L. R., de la Cruz Rodríguez, J., and Rouppe van der Voort, L. (2012). Temporal Evolution of Velocity and Magnetic Field in and around Umbral Dots. *ApJ*, 757:49.

Watanabe, H., Vissers, G., Kitai, R., Rouppe van der Voort, L., and Rutten, R. J. (2011). Ellerman Bombs at high resolution: I. Morphological evidence for photospheric reconnection. *ApJ*, 736:71.

Wedemeyer, S. (2024). Broadening ALMA's Scientific Potential through Wideband Observations of the Sun. In *The Promises and Challenges of the ALMA Wideband Sensitivity Upgrade*, page 25. ESO.

Wedemeyer, S., Fleishman, G., de la Cruz Rodríguez, J., Gunár, S., da Silva Santos, J. M., Antolin, P., Guevara Gómez, J. C., Szydlarski, M., and Eklund, H. (2022). Prospects and challenges of numerical modeling of the Sun at millimeter wavelengths. *Frontiers in Astronomy and Space Sciences*, 9:967878.

Wedemeyer, S., Scullion, E., Rouppe van der Voort, L., Bosnjak, A., and Antolin, P. (2013a). Are Giant Tornadoes the Legs of Solar Prominences? *ApJ*, 774:123.

Wedemeyer, S., Scullion, E., Steiner, O., de la Cruz Rodriguez, J., and Rouppe van der Voort, L. (2013b). Magnetic tornadoes and chromospheric swirls – Definition and classification. In Cally, P., Erdélyi, R., and Norton, A., editors, *Eclipse on the Coral Sea: Cycle 24 Ascending*, volume 440 of *Journal of Physics: Conference Series*, page 012005.

Wedemeyer, S., Szydlarski, M., Jafarzadeh, S., Eklund, H., Guevara Gomez, J. C., Bastian, T., Fleck, B., de la Cruz Rodriguez, J., Rodger, A., and Carlsson, M. (2020). The Sun at millimeter wavelengths I. Introduction to ALMA Band 3 observations. *A&A*, 635:A71.

Wedemeyer, S., Szydlarski, M., Toribio, M. C., Carozzi, T., Jakobsson, D., Guevara Gomez, J. C., Eklund, H., Henriques, V. M. J., Jafarzadeh, S., and de la Cruz Rodriguez, J. (2024). High-cadence observations of the Sun. ALMA Memo 628, NRAO. `https://library.nrao.edu/alma.shtml`.

Wedemeyer-Böhm, S. (2010). Small-scale structure and dynamics of the chromospheric magnetic field. *Mem. Soc. Astron. Italiana*, 81:693. NSO Workshop #25, Chromospheric Structure and Dynamics: From Old Wisdom to New Insights.

Wedemeyer-Böhm, S., Lagg, A., and Nordlund, Å. (2009a). Coupling from the Photosphere to the Chromosphere and the Corona. *Space Sci. Rev.*, 144:317–350.

Wedemeyer-Böhm, S., Lagg, A., and Nordlund, Å. (2009b). Coupling from the Photosphere to the Chromosphere and the Corona. In Thompson, M. J., Balogh, A., Culhane, J. L., Nordlund, Å., Solanki, S. K., and Zahn, J.-P., editors, *The Origin and Dynamics of Solar Magnetism*, volume 32 of *Space Sciences Series of ISSI*, page 317. Springer, New York.

Wedemeyer-Böhm, S. and Rouppe van der Voort, L. (2009). Small-scale swirl events in the quiet Sun chromosphere. *A&A*, 507:L9–L12.

Wedemeyer-Böhm, S., Scullion, E., Steiner, O., Rouppe van der Voort, L., de la Cruz Rodriguez, J., Fedun, V., and Erdélyi, R. (2012). Magnetic tornadoes as energy channels into the solar corona. *Nature*, 486:505–508.

Weiss, N. (2000). Sunspots. In Murdin, P., editor, *Encyclopedia of Astronomy and Astrophysics*, page 2050. Institute of Physics Publishing and Nature Publishing Group.

Weiss, N. (2001). Turbulent magnetic fields in the sun. *Astronomy and Geophysics*, 42(3):3.10–3.17. Presidential Address.

Weiss, N. O. (1997a). Magnetoconvection. In Schmieder, B., del Toro Iniesta, J. C., and Vázquez, M., editors, *1st Advances in Solar Physics Euroconference: Advances in the Physics of Sunspots*, volume 118 of *ASP Conf. Ser.*, pages 21–33, San Francisco.

Weiss, N. O. (1997b). Physics of sunspots: magnetoconvection and flux tube modelling. *Trans. IAU*, 23A:129–131.

Weiss, N. O. (2012). Reflections on magnetoconvection. *Geophysical and Astrophysical Fluid Dynamics*, 106:353–371.

Weiss, N. O., Brownjohn, D. P., Matthews, P. C., and Proctor, M. R. E. (1996). Photospheric convection in strong magnetic fields. *MNRAS*, 283(4):1153–1164.

Westbrook, O. W., Pasachoff, J. M., Kozarev, K., and Yee, J. (2006). High-Resolution Observations of Limb Spicules from the Transition Region and Coronal Explorer and the Swedish Solar Telescope. In *spring SPD/AAS meeting*, page 221. Solar Physics Division of the American Astronomical Society.

Wheelwright, H. E., Oudmaijer, R. D., and Schnerr, R. S. (2009). The close Be star companion of β Cephei. *A&A*, 497:487–495.

White, S., Loukitcheva, M., Leenaarts, J., and da Silva Santos, J. M. (2022). Vertical temperature structure in the active-region chromosphere. *BAAS*, 54(7). The Third Triennial Earth-Sun Summit (TESS) Abstracts.

Wiehr, E. (2004). Observational aspects of Doppler oscillations in solar prominences. In Lacoste, H., editor, *Proc. SOHO 13, Waves, Oscillations and Small Scale Transient Events in the Solar Atmosphere: A Joint View from SOHO and TRACE*, volume 547 of *ESA Special Publication*, page 185. European Space Agency.

Wiehr, E., Bovelet, B., and Hirzberger, J. (2004). Brightness and size of small-scale solar magnetic flux concentrations. *A&A*, 422:L63–L66.

Wiehr, E., Stellmacher, G., and Hirzberger, J. (2007). Two-dimensional imaging of the He D_3/Hβ emission ratio in quiescent solar prominences. In Kneer, F., Puschmann, K. G., and Wittmann, A. D., editors, *Modern Solar Facilities – Advanced Solar Science*, pages 261–264. Universitätsverlag Göttingen.

Wiehr, E., Stellmacher, G., and Hirzberger, J. (2007). Two-dimensional mapping of the He D_3/Hβ emission ratio in solar prominences. *Sol. Phys.*, 240(1):25–36.

Wolfson, J., Ferguson, S., Frank, Z., Shine, R., Tarbell, T., Title, A., Topka, K., Scharmer, G., Brandt, P., and Gurman, J. (1988). Solar activity and flare observations from the Swedish solar observatory on La Palma. *BAAS*, 20:978.

Wülser, J.-P., Löfdahl, M. G., Tarbell, T., and Pontieu, B. D. (2023). IRIS NUV Slit-Jaw Image Deconvolution with Field Angle Dependent PSFs. IRIS Technical Note 52, LMSAL.

Wyller, A. (1991). *LEST - Large Earth-based Solar Telescope: an overview*. LEST Foundation, Inst. for Teoretisk Astrofysikk, Oslo. ISBN 91-7190-017-9.

Wyller, A. A. (1986). On the operation of the LEST Observatory. *LEST Foundation, Technical Report*, 19.

Wyller, A. A. (1987). The Swedish Fabry-Perot Echelle Scanner as a Two-Dimensional Universal Filter and Stokesmeter. In Schröter, E.-H., Vázquez, M., and Wyller, A. A., editors, *The Role of Finescale Magnetic Fields on the Structure of the Solar Atmosphere*, page 335. Cambridge University Press. Proc. Inaugural workshop and round table discussion for the D-E-S Telescope installations on the Canary Islands.

Wyller, A. A. and Scharmer, G. B. (1985). Sweden's solar and stellar telescopes on La Palma. *Vistas in Astronomy*, 28(2):467–481.

Xie, Q., Liu, J., Nelson, C. J., Erdélyi, R., and Wang, Y. (2925). Photospheric Swirls in a Quiet-Sun Region. *ApJ*, 979(1):27.

Yadav, R. (2020). Three-dimensional magnetic field structure of a flux-emerging region in the solar atmosphere. ESPOS seminar on 2020-04-16.

Yadav, R. (2021). Multiline Spectropolarimetric Observation of a C2-Class Solar Flare. ESPOS seminar on 2021-09-23.

Yadav, R., Baso, C. J. D., de la Cruz Rodríguez, J., Calvo, F., and Morosin, R. (2021). Stratification of physical parameters in a C-class solar flare using multi-line observations. *A&A*, 649:A106.

Yadav, R., de la Cruz Rodríguez, J., Díaz Baso, C. J., Prasad, A., Libbrecht, T., Robustini, C., and Asensio Ramos, A. (2019). Three-dimensional magnetic field structure of a flux-emerging region in the solar atmosphere. *A&A*, 632:A112.

Yadav, R., de la Cruz Rodríguez, J., Kerr, G. S., Díaz Baso, C. J., and Leenaarts, J. (2022). Radiative losses in the chromosphere during a C-class flare. *A&A*, 665:A50.

Yadav, R., Kazachenko, M., Afanasev, A., de la Cruz Rodríguez, J., and Leenaarts, J. (2023). Atmospheric heating due to small-scale events in the flux emerging region. *BAAS*, 55(7). AAS/Solar Physics Division Meeting presentation 303.04.

Yadav, R., Kazachenko, M., de la Cruz Rodrıguez, J., Leenaarts, J., and Afanasev, A. (2024). Solar Atmospheric Heating Due to Small-scale Events in an Emerging Flux Region. In *AGU Fall Meeting Abstracts*, volume 2024, pages SH21G–2921.

Yadav, R., Kazachenko, M. D., Afanasyev, A. N., de la Cruz Rodríguez, J., and Leenaarts, J. (2023). Solar Atmospheric Heating Due to Small-scale Events in an Emerging Flux Region. *ApJ*, 958(1):54.

Yelles Chaouche, L., Solanki, S. K., Rouppe van der Voort, L., and van Noort, M. (2009). Spectropolarimetric Diagnostics at the Solar Photosphere near the Limb. In Berdyugina, S. V., Nagendra, K. N., and Ramelli, R., editors, *Solar Polarization 5: In Honor of Jan Stenflo*, volume 405 of *ASP Conference Series*, page 189.

Yi, Z. (1992). *Dynamics and Small-Scale Structures of Quiescent Solar Filaments*. PhD thesis, University of Oslo.

Yi, Z. (1996). Rapid changes in Hα loop structures associated with flare activity. *A&A*, 308:637–642.

Yi, Z. and Engvold, B. (1991). Quiescent filaments and associated granulation network. General Assembly of the IAU.

Yi, Z. and Engvold, O. (1993). Filigree, magnetic fields, and flows in the photosphere. *Sol. Phys.*, 144(1):1–14.

Yi, Z. and Molowny-Horas, R. (1995). Correlation tracking technique for measurement of transverse chromospheric motions. *A&A*, 295:199–205.

Yi, Z. and Molowny Horas, R. L. (1992). Software for image remapping – testing of various algorithms. In Yi, Z., Darvann, T., and Molowny Horas, R., editors, *Proc. LEST Mini-Workshop: Software for Solar Image Processing*, volume 56 of *LEST Technical Report*, pages 69–80. Institute of Theoretical Astrophysics, University of Oslo.

Yordanova, E. (2021). Forskning för att skydda samhällskritisk infrastruktur mot extrema solstormar. Technical report, Myndigheten för samhällsskydd och beredskap (MSB). `https://rib.msb.se/filer/pdf/29797.pdf`.

Yoshimura, K., Kurokawa, H., Shimojo, M., and Shine, R. (2002). Surges, magnetic flux cancellations, and UV brightenings around an emerging flux region. In Martens, P. C. H. and Cauffman, D., editors, *Multi-Wavelength Observations of Coronal Structure and Dynamics*, COSPAR Colloquia Series, page 99.

Yoshimura, K., Kurokawa, H., Shimojo, M., and Shine, R. (2003). Close Correlation among Hα Surges, Magnetic Flux Cancellations, and UV Brightenings Found at the Edge of an Emerging Flux Region. *PASJ*, 55:313–320.

Young, P. R., Tian, H., Peter, H., Rutten, R. J., Nelson, C. J., Huang, Z., Schmieder, B., Vissers, G. J. M., Toriumi, S., Rouppe van der Voort, L. H. M., Madjarska, M. S., Danilovic, S., Berlicki, A., Chitta, L. P., Cheung, M. C. M., Madsen, C., Reardon, K. P., Katsukawa, Y., and Heinzel, P. (2018). Solar ultraviolet bursts. *Space Sci. Rev.*, 214:120.

Yu, H. C., Hong, J., and Ding, M. D. (2025). Sun-as-a-star analysis of simulated solar flares. *A&A*, 694:A315.

Yuan, Y., de Souza e Almeida Silva, S., Fedun, V., Kitiashvili, I. N., and Verth, G. (2023). Advanced Γ Method for Small-scale Vortex Detection in the Solar Atmosphere. *ApJS*, 267(2):35.

Zakharov, V., Gandorfer, A., Solanki, S. K., and Löfdahl, M. G. (2005). A comparative study of the contrast of solar magnetic elements in CN and CH. *A&A*, 437:L43–L46.

Zakharov, V., Gandorfer, A., Solanki, S. K., and Löfdahl, M. G. (2007a). Erratum – A comparative study of the contrast of solar magnetic elements in CN and CH. *A&A*, 461:695.

Zakharov, V., Hirzberger, J., Riethmüller, T. L., Solanki, S. K., and Kobel, P. (2008). Evidence of convective rolls in a sunspot penumbra. *A&A*, 488(2):L17–L20.

Zakharov, V. V., Gandorfer, A., and Solanki, S. K. (2006). High-Resolution CN Spectroscopy of Small-Scale Solar Magnetic Features. *Solar Active Regions and 3D Magnetic Structure, 26th meeting of the IAU, Joint Discussion 3, 16-17 August, 2006, Prague, Czech Republic, JD03, #87*, 3.

Zakharov, V. V., Gandorfer, A., and Solanki, S. K. (2007b). High-resolution CN spectroscopy of small-scale solar magnetic features. In Kneer, F., Puschmann, K. G., and Wittmann, A. D., editors, *Modern Solar Facilities – Advanced Solar Science*, pages 161–164. Universitätsverlag Göttingen. Invited.

Zarifis, V., Bell, Jr, R. M., Benson, L. R., Cuneo, P. J., Duncan, A. L., Herman, B. J., Holmes, B., Sigler, R. D., Stone, R. E., Stubbs, D. M., Kendrick, R. L., Paxman, R. G., Seldin, J. H., and Löfdahl, M. G. (1999). The multi aperture imaging array. In Unwin, S. and Stachnik, R., editors, *Working on the Fringe: Optical and IR Interferometry from Ground and Space*, volume 194 of *ASP Conf. Ser.*, page 278.

Zhang, H., Scharmer, G., Löfdahl, M., and Yi, Z. (1998). Fine structures of magnetic field in solar quiet region. *Solar Physics*, 183(2):283–290.

Zhang, Y., Jensen, E., and Engvold, O. (1993). Small-Scale Magnetic Structures and Supergranulation Flows. In Zirin, H., Ai, G., and Wang, H., editors, *The Magnetic and Velocity Fields of Solar Active Region*, volume 46 of *ASP Conf. Ser.*, page 232. IAU Colloq. 141.

Zharkov, S., Matthews, S., Zharkova, V., Druett, M., Inoue, S., Dammasch, I. E., and Macrae, C. (2020). Sunquake with a second bounce, other sunquakes, and emission associated with the X9.3 flare of 6 September 2017. I. Observations. *A&A*, 639:A78.

Zharkova, V., Zharkov, S., Druett, M., Matthews, S., and Inoue, S. (2020). Sunquake with a second bounce, other sunquakes, and emission associated with the X9.3 flare of 6 September 2017. II. Proposed interpretation. *A&A*, 639:A79.

Zhou, Y., Li, X., Jenkins, J. M., Hong, J., and Keppens, R. (2025). Frozen-field modeling of coronal condensations with mpi-amrvac ii: Optimization and application in three-dimensional models. *ApJ*, 978(1):72.