



WHOLE SUN PROJECT
Publications
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2024

- 1) Finley A. J., Brun S. A., Strugarek A., Cameron R., 2024, "How well does surface magnetism represent deep Sun-like star dynamo action?", arXiv, arXiv:2401.10984
- 2) Noraz Q., Brun A. S., Strugarek A., 2024, "Magnetochronology of solar-type star dynamos", arXiv, arXiv:2401.14460
- 3) Lamarre H., Charbonneau P., Strugarek A., 2024, "Energy Definition and Minimization in Avalanche Models for Solar Flares", SoPh, 299, 13
- 4) Lekshmi B., Gizon L., Jain K., Liang Z.-C., Philidet J., 2024, "Temporal Variation of Solar Equatorial Rossby Modes with Azimuthal Orders $\leq m \leq 10$ ", arXiv, arXiv:2402.05781
- 5) Pham H., Faucher F., Fournier D., Barucq H., Gizon L., 2024, "Assembling algorithm for Green's tensors and absorbing boundary conditions for Galbrun's equation in radial symmetry", arXiv, arXiv:2401.17080
- 6) Witzke V., Shapiro A. I., Kostogryz N. M., et al., 2024, "Testing MURaM and MPS-ATLAS against the quiet solar spectrum", A&A, 681, A81

2023

- 1) Moraitis K., Patsourakos S., Nindos A., Thalmann J. K., Pariat É., 2023, "On the use of relative field line helicity as an indicator for solar eruptivity", arXiv, arXiv:2312.13950
- 2) Breton S. N., Dhouib H., García R. A., et al., 2023, "In search of gravity mode signatures in main sequence solar-type stars observed by Kepler", A&A, 679, A104
- 3) Nóbrega-Siverio D., Moreno-Insertis F., Galsgaard K., Krikova K., Rouppe van der Voort L., Joshi R., Madjarska M. S., 2023, "Deciphering Solar Coronal Heating: Energizing Small-scale Loops through Surface Convection", ApJL, 958, L38
- 4) Færder Ø. H., Nóbrega-Siverio D., Carlsson M., 2023, "A comparative study of resistivity models for simulations of magnetic reconnection in the solar atmosphere", A&A, 675, A97
- 5) Joshi R., Luna M., Schmieder B., Moreno-Insertis F., Chandra R., 2023, "Interaction of solar jets with filaments: Triggering of large-amplitude filament oscillations", A&A, 672, A15
- 6) Bose S., Nóbrega-Siverio D., De Pontieu B., Rouppe van der Voort L., 2023, "The Chromosphere Underneath a Coronal Bright Point", ApJ, 944, 171
- 7) do Nascimento J.-D., Barnes S. A., Saar S. H., et al., 2023, "A Hale-like Cycle in the Solar Twin 18 Scorpii", ApJ, 958, 57
- 8) Finley A. J., Brun A. S., 2023, "Evolution of solar wind sources and coronal rotation driven by the cyclic variation of the Sun's large-scale magnetic field", A&A, 679, A29
- 9) Čemeljić M., Brun A. S., 2023, "Trends in torques acting on the star during a star-disk magnetospheric interaction", A&A, 679, A16
- 10) Käpylä P. J., Browning M. K., Brun A. S., Guerrero G., Warnecke J., 2023, "Simulations of Solar and Stellar Dynamos and Their Theoretical Interpretation", SSRv, 219, 58

- 11) Finley A. J., Brun A. S., 2023, "Accounting for differential rotation in calculations of the Sun's angular momentum-loss rate", *A&A*, 674, A42
- 12) Cloutier S., Cameron R. H., Gizon L., 2023, "A Babcock-Leighton dynamo model of the Sun incorporating toroidal flux loss and the helioseismically inferred meridional flow", *A&A*, 680, A42
- 13) Benomar O., Takata M., Bazot M., Sekii T., Gizon L., Lu Y., 2023, "Detecting active latitudes of Sun-like stars using asteroseismic a-coefficients", *A&A*, 680, A27
- 14) Yeo K. L., Krivova N. A., Solanki S. K., et al., 2023, "Reconstruction of total solar irradiance variability as simultaneously apparent from Solar Orbiter and Solar Dynamics Observatory", *A&A*, 679, A25
- 15) Nölke J. D., Solanki S. K., Hirzberger J., et al., 2023, "Coronal voids and their magnetic nature", *A&A*, 678, A196
- 16) Yang D., Gizon L., Barucq H., et al., 2023, "Direct assessment of SDO/HMI helioseismology of active regions on the Sun's far side using SO/PHI magnetograms", *A&A*, 674, A183
- 17) Philidet J., Gizon L., 2023, "Interaction of solar inertial modes with turbulent convection. A 2D model for the excitation of linearly stable modes", *A&A*, 673, A124
- 18) Shapiro A. V., Brühl C., Klingmüller K., et al., 2023, "Metal-rich stars are less suitable for the evolution of life on their planets", *NatCo*, 14, 1893
- 19) Kostogryz N., Shapiro A. I., Witzke V., Grant D., Wakeford H. R., Stevenson K. B., Solanki S. K., Gizon L., 2023, "MPS-ATLAS Library of Stellar Model Atmospheres and Spectra", *RNAAS*, 7, 39
- 20) Yu J., Khanna S., Themessl N., Hekker S., Dréau G., Gizon L., Bi S., 2023, "Revised Extinctions and Radii for 1.5 Million Stars Observed by APOGEE, GALAH, and RAVE", *ApJS*, 264, 41
- 21) Yang D., Gizon L., Barucq H., 2023, "Imaging individual active regions on the Sun's far side with improved helioseismic holography", *A&A*, 669, A89
- 22) Noraz Q., Breton S. N., Brun A. S., García R. A., Strugarek A., Santos A. R. G., Mathur S., Amard L., 2022, "Hunting for anti-solar differentially rotating stars using the Rossby number. An application to the Kepler field", *A&A*, 667, A50

2022

- 1) Breton S. N., Brun A. S., García R. A., 2022, "Stochastic excitation of internal gravity waves in rotating late F-type stars: A 3D simulation approach", *A&A*, 667, A43
- 2) Brun A. S., Strugarek A., Noraz Q., Perri B., Varela J., Augustson K., Charbonneau P., Toomre J., 2022, "Powering Stellar Magnetism: Energy Transfers in Cyclic Dynamos of Sun-like Stars", *ApJ*, 926, 21
- 3) Noraz Q., Brun A. S., Strugarek A., Depambour G., 2022, "Impact of anti-solar differential rotation in mean-field solar-type dynamos. Exploring possible magnetic cycles in slowly rotating stars", *A&A*, 658, A144
- 4) Nóbrega-Siverio D., Moreno-Insertis F., 2022, "A 2D Model for Coronal Bright Points: Association with Spicules, UV Bursts, Surges, and EUV Coronal Jets", *ApJL*, 935, L21
- 5) Vasilyev V., Reinhold T., Shapiro A. I., Krivova N. A., Usoskin I., Montet B. T., Solanki S. K., Gizon L., 2022, "Superflares on solar-like stars. A new method for identifying the true flare sources in photometric surveys", *A&A*, 668, A167
- 6) Bekki Y., Cameron R. H., Gizon L., 2022, "Theory of solar oscillations in the inertial frequency range: Amplitudes of equatorial modes from a nonlinear rotating convection simulation", *A&A*, 666, A135
- 7) Kostogryz N. M., Witzke V., Shapiro A. I., Solanki S. K., Maxted P. F. L., Kurucz R. L., Gizon L., 2022, "Stellar limb darkening. A new MPS-ATLAS library for Kepler, TESS, CHEOPS, and PLATO passbands", *A&A*, 666, A60
- 8) Némec N.-E., Shapiro A. I., Işık E., Sowmya K., Solanki S. K., Krivova N. A., Cameron R. H., Gizon L., 2022, "Faculae Cancel out on the Surfaces of Active Suns", *ApJL*, 934, L23

- 9) Poulier P.-L., Liang Z.-C., Fournier D., Gizon L., 2022, "Contribution of flows around active regions to the north-south helioseismic travel-time measurements", A&A, 664, A189
- 10) Fournier D., Gizon L., Hyest L., 2022, "Viscous inertial modes on a differentially rotating sphere: Comparison with solar observations", A&A, 664, A6
- 11) Bekki Y., Cameron R. H., Gizon L., 2022, "Theory of solar oscillations in the inertial frequency range: Linear modes of the convection zone", A&A, 662, A16
- 12) Varela J., Brun A. S., Zarka P., Strugarek A., Pantellini F., Réville V., 2022, "MHD Study of Extreme Space Weather Conditions for Exoplanets With Earth-Like Magnetospheres: On Habitability Conditions and Radio-Emission", SpWea, 20, e2022SW003164
- 13) Noraz Q., Breton S. N., Brun A. S., García R. A., Strugarek A., Santos A. R. G., Mathur S., Amard L., 2022, "Hunting for anti-solar differentially rotating stars using the Rossby number. An application to the Kepler field", A&A, 667, A50
- 14) Breton S. N., Brun A. S., García R. A., 2022, "Stochastic excitation of internal gravity waves in rotating late F-type stars: A 3D simulation approach", A&A, 667, A43
- 15) Finley A. J., Brun A. S., Carlsson M., Szydlarski M., Hansteen V., Shoda M., 2022, "Stirring the base of the solar wind: On heat transfer and vortex formation", A&A, 665, A118
- 16) Parenti S., Réville V., Brun A. S., Pinto R. F., Auchère F., Buchlin É., Perri B., Strugarek A., 2022, "Validation of a Wave Heated 3D MHD Coronal-wind Model using Polarized Brightness and EUV Observations", ApJ, 929, 75
- 17) Le Saux A., Guillet T., Baraffe I., et al., 2022, "Two-dimensional simulations of solar-like models with artificially enhanced luminosity. II. Impact on internal gravity waves", A&A, 660, A51
- 18) Réville V., Fargette N., Rouillard A. P., et al., 2022, "Flux rope and dynamics of the heliospheric current sheet. Study of the Parker Solar Probe and Solar Orbiter conjunction of June 2020", A&A, 659, A110
- 19) Varela J., Brun A. S., Strugarek A., Réville V., Zarka P., Pantellini F., 2022, "MHD study of the planetary magnetospheric response during extreme solar wind conditions: Earth and exoplanet magnetospheres applications", A&A, 659, A10
- 20) Brun A. S., Strugarek A., Noraz Q., Perri B., Varela J., Augustson K., Charbonneau P., Toomre J., 2022, "Powering Stellar Magnetism: Energy Transfers in Cyclic Dynamos of Sun-like Stars", ApJ, 926, 21
- 21) Noraz Q., Brun A. S., Strugarek A., Depambour G., 2022, "Impact of anti-solar differential rotation in mean-field solar-type dynamos. Exploring possible magnetic cycles in slowly rotating stars", A&A, 658, A144

2021

- 1) Gizon L., Cameron R. H., Bekki Y., et al., 2021, "Solar inertial modes: Observations, identification, and diagnostic promise", A&A, 652, L6
- 2) Ahuir J., Strugarek A., Brun A.-S., Mathis S., 2021, "Magnetic and tidal migration of close-in planets. Influence of secular evolution on their population", A&A, 650, A126
- 3) Hazra S., Réville V., Perri B., Strugarek A., Brun A. S., Buchlin E., 2021, "Modeling Solar Wind Variations over an 11 Year Cycle with Alfvén Wave Dissipation: A Parameter Study", ApJ, 910, 90
- 4) Perri B., Brun A. S., Strugarek A., Réville V., 2021, "Dynamical Coupling of a Mean-field Dynamo and Its Wind: Feedback Loop over a Stellar Activity Cycle", ApJ, 910, 50
- 5) Madjarska M. S., Chae J., Moreno-Insertis F., Hou Z., Nóbrega-Siverio D., Kwak H., Galsgaard K., Cho K., 2021, "The chromospheric component of coronal bright points. Coronal and chromospheric responses to magnetic-flux emergence", A&A, 646, A107
- 6) Kostogryz N. M., Fournier D., Gizon L., 2021, "Modelling continuum intensity perturbations caused by solar acoustic oscillations", A&A, 654, A1
- 7) Gizon L., Cameron R. H., Bekki Y., et al., 2021, "Solar inertial modes: Observations, identification, and diagnostic promise", A&A, 652, L6

- 8) Mandal K., Hanasoge S. M., Gizon L., 2021, "Detection of Rossby modes with even azimuthal orders using helioseismic normal-mode coupling", A&A, 652, A96

2020

- 1) Hazra S., Brun A. S., Nandy D., 2020, "Does the mean-field α effect have any impact on the memory of the solar cycle?", A&A, 642, A51
- 2) Shoda M., Suzuki T. K., Matt S. P., et al., 2020, "Alfvén-wave-driven Magnetic Rotator Winds from Low-mass Stars. I. Rotation Dependences of Magnetic Braking and Mass-loss Rate", ApJ, 896, 123
- 3) Takehiro S.- ichi ., Brun A. S., Yamada M., 2020, "Assessment of Critical Convection and Associated Rotation States in Models of Sun-like Stars Including a Stable Layer", ApJ, 893, 83
- 4) Ahuir J., Brun A. S., Strugarek A., 2020, "From stellar coronae to gyrochronology: A theoretical and observational exploration", A&A, 635, A170