

# Alexander G Kosovichev

## List of Publications by Year in descending order

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128  
papers

10,554  
citations

76196

40  
h-index

30848

102  
g-index

130  
all docs

130  
docs citations

130  
times ranked

3126  
citing authors

#	ARTICLE	IF	CITATIONS
1	The Solar Oscillations Investigation - Michelson Doppler Imager. <i>Solar Physics</i> , 1995, 162, 129-188.	1.0	2,044
2	The Helioseismic and Magnetic Imager (HMI) Investigation for the Solar Dynamics Observatory (SDO). <i>Solar Physics</i> , 2012, 275, 207-227.	1.0	1,677
3	The Current State of Solar Modeling. <i>Science</i> , 1996, 272, 1286-1292.	6.0	957
4	Helioseismic Studies of Differential Rotation in the Solar Envelope by the Solar Oscillations Investigation Using the Michelson Doppler Imager. <i>Astrophysical Journal</i> , 1998, 505, 390-417.	1.6	816
5	Differential Rotation and Dynamics of the Solar Interior. <i>Science</i> , 1996, 272, 1300-1305.	6.0	326
6	Torsional Oscillation, Meridional Flows, and Vorticity Inferred in the Upper Convection Zone of the Sun by Time-Dependent Helioseismology. <i>Astrophysical Journal</i> , 2004, 603, 776-784.	1.6	285
7	DETECTION OF EQUATORWARD MERIDIONAL FLOW AND EVIDENCE OF DOUBLE-CELL MERIDIONAL CIRCULATION INSIDE THE SUN. <i>Astrophysical Journal Letters</i> , 2013, 774, L29.	3.0	251
8	STRUCTURE AND ROTATION OF THE SOLAR INTERIOR: INITIAL RESULTS FROM THE MDI MEDIUM-L PROGRAM. <i>Solar Physics</i> , 1997, 170, 43-61.	1.0	239
9	X-ray flare sparks quake inside Sun. <i>Nature</i> , 1998, 393, 317-318.	13.7	188
10	Magnetic Energy Release and Transients in the Solar Flare of 2000 July 14. <i>Astrophysical Journal</i> , 2001, 550, L105-L108.	1.6	183
11	Helioseismic Constraints on the Gradient of Angular Velocity at the Base of the Solar Convection Zone. <i>Astrophysical Journal</i> , 1996, 469, L61-L64.	1.6	160
12	Tomographic Imaging of the Sun's Interior. <i>Astrophysical Journal</i> , 1996, 461, .	1.6	150
13	The Solar Acoustic Spectrum and Eigenmode Parameters. <i>Science</i> , 1996, 272, 1292-1295.	6.0	131
14	A PRECISE ASTEROSEISMIC AGE AND RADIUS FOR THE EVOLVED SUN-LIKE STAR KIC 11026764. <i>Astrophysical Journal</i> , 2010, 723, 1583-1598.	1.6	130
15	Acoustic Tomography of Solar Convective Flows And Structures. <i>Astrophysics and Space Science Library</i> , 1997, , 241-260.	1.0	123
16	THE ASTEROSEISMIC POTENTIAL OF <i>KEPLER</i> : FIRST RESULTS FOR SOLAR-TYPE STARS. <i>Astrophysical Journal Letters</i> , 2010, 713, L169-L175.	3.0	122
17	Measuring the Sun's Eigenfrequencies from Velocity and Intensity Helioseismic Spectra: Asymmetrical Line Profile-fitting Formula. <i>Astrophysical Journal</i> , 1998, 505, L51-L54.	1.6	117
18	DIFFERENTIAL ROTATION IN SOLAR-LIKE STARS FROM GLOBAL SIMULATIONS. <i>Astrophysical Journal</i> , 2013, 779, 176.	1.6	96

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19	Detection of Zonal Shear Flows beneath the Sun's Surface from [CLC][ITAL]f[/ITAL][[/CLC]-Mode Frequency Splitting. <i>Astrophysical Journal</i> , 1997, 482, L207-L210.	1.6	95
20	SYSTEMATIC CENTER-TO-LIMB VARIATION IN MEASURED HELIOSEISMIC TRAVEL TIMES AND ITS EFFECT ON INFERENCES OF SOLAR INTERIOR MERIDIONAL FLOWS. <i>Astrophysical Journal Letters</i> , 2012, 749, L5.	3.0	90
21	Helioseismic Observation of the Structure and Dynamics of a Rotating Sunspot Beneath the Solar Surface. <i>Astrophysical Journal</i> , 2003, 591, 446-453.	1.6	89
22	Solving the Discrepancy between the Seismic and Photospheric Solar Radius. <i>Astrophysical Journal</i> , 2008, 675, L53-L56.	1.6	87
23	Detection of Emerging Sunspot Regions in the Solar Interior. <i>Science</i> , 2011, 333, 993-996.	6.0	85
24	A solar mean field dynamo benchmark. <i>Astronomy and Astrophysics</i> , 2008, 483, 949-960.	2.1	83
25	Properties of Flares-Generated Seismic Waves on the Sun. <i>Solar Physics</i> , 2006, 238, 1-11.	1.0	75
26	MECHANISM OF SPONTANEOUS FORMATION OF STABLE MAGNETIC STRUCTURES ON THE SUN. <i>Astrophysical Journal</i> , 2010, 719, 307-312.	1.6	71
27	The optical continuum of solar and stellar flares. <i>Solar Physics</i> , 1981, 73, 269-288.	1.0	70
28	ON THE ROLE OF TACHOCLINES IN SOLAR AND STELLAR DYNAMOS. <i>Astrophysical Journal</i> , 2016, 819, 104.	1.6	65
29	Changes in the Subsurface Stratification of the Sun with the 11-Year Activity Cycle. <i>Astrophysical Journal</i> , 2005, 633, L149-L152.	1.6	59
30	THE ASYMMETRY OF SUNSPOT CYCLES AND WALDMEIER RELATIONS AS A RESULT OF NONLINEAR SURFACE-SHEAR SHAPED DYNAMO. <i>Astrophysical Journal</i> , 2011, 741, 1.	1.6	57
31	HIGH-RESOLUTION HELIOSEISMIC IMAGING OF SUBSURFACE STRUCTURES AND FLOWS OF A SOLAR ACTIVE REGION OBSERVED BY <i>Hinode</i> . <i>Astrophysical Journal</i> , 2010, 708, 304-313.	1.6	55
32	THE SUBSURFACE-SHEAR-SHAPED SOLAR $\alpha$ -DYNAMO. <i>Astrophysical Journal Letters</i> , 2011, 727, L45.	3.0	52
33	Realistic Numerical Simulations of Solar Convection and Oscillations in Magnetic Regions. <i>Astrophysical Journal</i> , 2008, 684, L51-L54.	1.6	51
34	Three-dimensional Numerical Simulations of the Acoustic Wave Field in the Upper Convection Zone of the Sun. <i>Astrophysical Journal</i> , 2007, 666, 547-558.	1.6	49
35	Photospheric and Subphotospheric Dynamics of Emerging Magnetic Flux. <i>Space Science Reviews</i> , 2009, 144, 175-195.	3.7	49
36	Helioseismic Test of Nonhomologous Solar Radius Changes with the 11 Year Activity Cycle. <i>Astrophysical Journal</i> , 2007, 658, L135-L138.	1.6	47

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37	NUMERICAL SIMULATION OF EXCITATION AND PROPAGATION OF HELIOSEISMIC MHD WAVES: EFFECTS OF INCLINED MAGNETIC FIELD. <i>Astrophysical Journal</i> , 2009, 694, 573-581.	1.6	46
38	Reduction of mass loss by the hot Jupiter WASP-12b due to its magnetic field. <i>Astronomy Reports</i> , 2017, 61, 932-941.	0.2	46
39	EXCITATION OF ACOUSTIC WAVES BY VORTICES IN THE QUIET SUN. <i>Astrophysical Journal Letters</i> , 2011, 727, L50.	3.0	43
40	Source of Solar Acoustic Modes. <i>Astrophysical Journal</i> , 1999, 514, L53-L56.	1.6	41
41	DYNAMICS OF MAGNETIZED VORTEX TUBES IN THE SOLAR CHROMOSPHERE. <i>Astrophysical Journal Letters</i> , 2012, 751, L21.	3.0	41
42	Timeâ€Distance Helioseismology Data-Analysis Pipeline for Helioseismic and Magnetic Imager Onboard Solar Dynamics Observatory (SDO/HMI) and Its Initial Results. <i>Solar Physics</i> , 2012, 275, 375-390.	1.0	40
43	PROPERTIES OF CHROMOSPHERIC EVAPORATION AND PLASMA DYNAMICS OF A SOLAR FLARE FROM IRIS OBSERVATIONS. <i>Astrophysical Journal</i> , 2015, 805, 167.	1.6	39
44	SOLAR MERIDIONAL FLOW IN THE SHALLOW INTERIOR DURING THE RISING PHASE OF CYCLE 24. <i>Astrophysical Journal Letters</i> , 2014, 789, L7.	3.0	37
45	FINE STRUCTURE OF FLARE RIBBONS AND EVOLUTION OF ELECTRIC CURRENTS. <i>Astrophysical Journal Letters</i> , 2014, 788, L18.	3.0	35
46	On the Relationship between the Rotational Velocity and the Field Strength of Solar Magnetic Elements. <i>Astrophysical Journal</i> , 2004, 607, L135-L138.	1.6	34
47	Signatures of Emerging Subsurface Structures in Acoustic Power Maps of the Sun. <i>Solar Physics</i> , 2011, 268, 321-327.	1.0	31
48	THE MEAN-FIELD SOLAR DYNAMO WITH A DOUBLE CELL MERIDIONAL CIRCULATION PATTERN. <i>Astrophysical Journal</i> , 2013, 776, 36.	1.6	31
49	UNDERSTANDING SOLAR TORSIONAL OSCILLATIONS FROM GLOBAL DYNAMO MODELS. <i>Astrophysical Journal Letters</i> , 2016, 828, L3.	3.0	31
50	What Sets the Magnetic Field Strength and Cycle Period in Solar-type Stars?. <i>Astrophysical Journal</i> , 2019, 880, 6.	1.6	30
51	Comparison of Large-Scale Flows on the Sun Measured by Time-Distance Helioseismology and Local Correlation Tracking. <i>Solar Physics</i> , 2007, 241, 27-37.	1.0	29
52	Local Helioseismology of Sunspots: Current Status and Perspectives. <i>Solar Physics</i> , 2012, 279, 323-348.	1.0	29
53	Validating Timeâ€Distance Farâ€Side Imaging of Solar Active Regions through Numerical Simulations. <i>Astrophysical Journal</i> , 2008, 689, 1373-1378.	1.6	26
54	Vortex tubes of turbulent solar convection. <i>Physica Scripta</i> , 2012, 86, 018403.	1.2	26

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55	Initial Observations of Sunspot Oscillations Excited by Solar Flare. <i>Astrophysical Journal</i> , 2007, 670, L147-L149.	1.6	23
56	DYNAMICS OF ELECTRIC CURRENTS, MAGNETIC FIELD TOPOLOGY, AND HELIOSEISMIC RESPONSE OF A SOLAR FLARE. <i>Astrophysical Journal</i> , 2015, 808, 72.	1.6	23
57	Nonlinear dynamical modeling of solar cycles using dynamo formulation with turbulent magnetic helicity. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2009, 103, 53-68.	0.4	22
58	REALISTIC MODELING OF LOCAL DYNAMO PROCESSES ON THE SUN. <i>Astrophysical Journal</i> , 2015, 809, 84.	1.6	22
59	Onset of Photospheric Impacts and Helioseismic Waves in X9.3 Solar Flare of 2017 September 6. <i>Astrophysical Journal</i> , 2018, 864, 86.	1.6	21
60	Evolution of Magnetic Helicity in Solar Cycle 24. <i>Astrophysical Journal Letters</i> , 2019, 877, L36.	3.0	21
61	Dynamo Wave Patterns inside of the Sun Revealed by Torsional Oscillations. <i>Astrophysical Journal Letters</i> , 2019, 871, L20.	3.0	21
62	Numerical Simulations of Oscillation Modes of the Solar Convection Zone. <i>Astrophysical Journal</i> , 2000, 530, L139-L142.	1.6	21
63	ENERGY RELEASE AND INITIATION OF A SUNQUAKE IN A C-CLASS FLARE. <i>Astrophysical Journal</i> , 2015, 807, 102.	1.6	20
64	IMAGING THE SOLAR TACHOCLINE BY TIME-DISTANCE HELIOSEISMOLOGY. <i>Astrophysical Journal</i> , 2009, 702, 1150-1156.	1.6	19
65	SOLAR WAVE-FIELD SIMULATION FOR TESTING PROSPECTS OF HELIOSEISMIC MEASUREMENTS OF DEEP MERIDIONAL FLOWS. <i>Astrophysical Journal</i> , 2013, 762, 132.	1.6	19
66	EFFECTS OF LARGE-SCALE NON-AXISYMMETRIC PERTURBATIONS IN THE MEAN-FIELD SOLAR DYNAMO. <i>Astrophysical Journal</i> , 2015, 813, 134.	1.6	19
67	Implementation and Comparison of Acoustic Travel-Time Measurement Procedures for the Solar Dynamics Observatory/Helioseismic and Magnetic Imager Timeâ€‰Distance Helioseismology Pipeline. <i>Solar Physics</i> , 2012, 275, 357-374.	1.0	18
68	Investigation of Relationship between High-energy X-Ray Sources and Photospheric and Helioseismic Impacts of X1.8 Solar Flare of 2012 October 23. <i>Astrophysical Journal</i> , 2017, 843, 67.	1.6	18
69	On the Origin of Solar Torsional Oscillations and Extended Solar Cycle. <i>Astrophysical Journal</i> , 2019, 887, 215.	1.6	18
70	DYNAMICS OF TURBULENT CONVECTION AND CONVECTIVE OVERSHOOT IN A MODERATE-MASS STAR. <i>Astrophysical Journal Letters</i> , 2016, 821, L17.	3.0	17
71	Toward Waveform Heliotomography: Observing Interactions of Helioseismic Waves with a Sunspot. <i>Solar Physics</i> , 2011, 268, 429-442.	1.0	16
72	DETECTION OF FAST-MOVING WAVES PROPAGATING OUTWARD ALONG SUNSPOTSâ€™ RADIAL DIRECTION IN THE PHOTOSPHERE. <i>Astrophysical Journal Letters</i> , 2015, 809, L15.	3.0	16

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73	RELATIONSHIP BETWEEN CHROMOSPHERIC EVAPORATION AND MAGNETIC FIELD TOPOLOGY IN ANÂM-CLASS SOLAR FLARE. <i>Astrophysical Journal</i> , 2016, 828, 4.	1.6	16
74	Cyclic Changes of the Sun's Seismic Radius. <i>Astrophysical Journal</i> , 2018, 861, 90.	1.6	16
75	The Observational Uncertainty of Coronal Hole Boundaries in Automated Detection Schemes. <i>Astrophysical Journal</i> , 2021, 913, 28.	1.6	16
76	A METHOD FOR THE ESTIMATION OF $p$ -MODE PARAMETERS FROM AVERAGED SOLAR OSCILLATION POWER SPECTRA. <i>Astrophysical Journal</i> , 2015, 803, 92.	1.6	15
77	Observed and Predicted Ratios of the Horizontal and Vertical Components of the Solar $p$ -Mode Velocity Eigenfunctions. <i>Astrophysical Journal</i> , 2001, 561, 1127-1143.	1.6	15
78	Analytical Models for Cross-Correlation Signal in Time-Distance Helioseismology. <i>Astrophysical Journal</i> , 2007, 659, 1736-1748.	1.6	14
79	Numerical MHD Simulations of Solar Magnetoconvection and Oscillations in Inclined Magnetic Field Regions. <i>Solar Physics</i> , 2011, 268, 283-291.	1.0	14
80	Response to Comment on "Detection of Emerging Sunspot Regions in the Solar Interior". <i>Science</i> , 2012, 336, 296-296.	6.0	14
81	EFFECTS OF ANISOTROPIES IN TURBULENT MAGNETIC DIFFUSION IN MEAN-FIELD SOLAR DYNAMO MODELS. <i>Astrophysical Journal</i> , 2014, 785, 49.	1.6	14
82	An Interactive Multi-instrument Database of Solar Flares. <i>Astrophysical Journal</i> , Supplement Series, 2017, 231, 6.	3.0	13
83	On the Origin of the Double-cell Meridional Circulation in the Solar Convection Zone. <i>Astrophysical Journal</i> , 2018, 854, 67.	1.6	13
84	Statistical Study of Chromospheric Evaporation in Impulsive Phase of Solar Flares. <i>Astrophysical Journal</i> , 2019, 871, 2.	1.6	13
85	Does Nonaxisymmetric Dynamo Operate in the Sun?. <i>Astrophysical Journal</i> , 2018, 867, 145.	1.6	12
86	DEPENDENCE OF STELLAR MAGNETIC ACTIVITY CYCLES ON ROTATIONAL PERIOD IN A NONLINEAR SOLAR-TYPE DYNAMO. <i>Astrophysical Journal</i> , 2016, 823, 133.	1.6	11
87	Torsional Oscillations in Dynamo Models with Fluctuations and Potential for Helioseismic Predictions of the Solar Cycles. <i>Astrophysical Journal</i> , 2020, 900, 26.	1.6	11
88	Inferences of element abundances from helioseismic data. <i>AIP Conference Proceedings</i> , 1997, . .	0.3	10
89	Evolution of Subsurface Zonal and Meridional Flows in Solar Cycle 24 from Helioseismological Data. <i>Astrophysical Journal Letters</i> , 2021, 908, L50.	3.0	10
90	Statistical Properties of Soft X-Ray Emission of Solar Flares. <i>Astrophysical Journal</i> , 2019, 874, 19.	1.6	9

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91	Response of SDO/HMI Observables to Heating of the Solar Atmosphere by Precipitating High-energy Electrons. <i>Astrophysical Journal</i> , 2020, 893, 24.	1.6	9
92	Sunquakes of Solar Cycle 24. <i>Astrophysical Journal</i> , 2020, 895, 76.	1.6	8
93	Reconstruction of Solar Subsurfaces by Local Helioseismology. <i>Lecture Notes in Physics</i> , 2016, , 25-41.	0.3	8
94	Sunquakes: Helioseismic response to solar flares. , 2015, , 306-322.		6
95	The Origin of Deep Acoustic Sources Associated with Solar Magnetic Structures. <i>Astrophysical Journal</i> , 2019, 872, 34.	1.6	6
96	Estimation of Key Sunquake Parameters through Hydrodynamic Modeling and Cross-correlation Analysis. <i>Astrophysical Journal</i> , 2020, 895, 65.	1.6	6
97	A Method for the Estimation of f- and p-mode Parameters and Rotational Splitting Coefficients from Un-averaged Solar Oscillation Power Spectra. <i>Astrophysical Journal</i> , 2020, 894, 80.	1.6	6
98	Machine-learning Approach to Identification of Coronal Holes in Solar Disk Images and Synoptic Maps. <i>Astrophysical Journal</i> , 2020, 903, 115.	1.6	6
99	VERIFICATION OF THE HELIOSEISMOLOGY TRAVEL-TIME MEASUREMENT TECHNIQUE AND THE INVERSION PROCEDURE FOR SOUND SPEED USING ARTIFICIAL DATA. <i>Astrophysical Journal</i> , 2014, 785, 40.	1.6	5
100	Resolving Power of Asteroseismic Inversion of the Kepler Legacy Sample. <i>Proceedings of the International Astronomical Union</i> , 2019, 15, 107-115.	0.0	5
101	Helioseismic Modeling of Background Flows. <i>Astrophysical Journal, Supplement Series</i> , 2021, 253, 9.	3.0	5
102	Forward Modeling Helioseismic Signatures of One- and Two-cell Meridional Circulation. <i>Astrophysical Journal</i> , 2021, 911, 90.	1.6	5
103	3D MHD Modeling of the Impact of Subsurface Stratification on the Solar Dynamo. <i>Astrophysical Journal</i> , 2020, 888, 16.	1.6	4
104	Simulating Solar Near-surface Rossby Waves by Inverse Cascade from Supergranule Energy. <i>Astrophysical Journal</i> , 2022, 931, 117.	1.6	4
105	Prediction of solar magnetic cycles by a data assimilation method. <i>Proceedings of the International Astronomical Union</i> , 2008, 4, 235-236.	0.0	3
106	Compression of Solar Spectroscopic Observations: a Case Study of Mg II k Spectral Line Profiles Observed by NASA's IRIS Satellite. , 2021, , .		3
107	Telechronhelioseismology. , 2003, , 279-296.		2
108	Magnetic fields and dynamics of the Sun's interior. <i>Proceedings of the International Astronomical Union</i> , 2008, 4, 147-158.	0.0	2

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109	Numerical Modeling of Solar Convection and Oscillations in Magnetic Regions. , 2009, , .		2
110	Sunquakes and starquakes. Proceedings of the International Astronomical Union, 2013, 9, 349-352.	0.0	2
111	Connecting Atmospheric Properties and Synthetic Emission of Shock Waves Using 3D RMHD Simulations of the Quiet Sun. Astrophysical Journal, 2021, 909, 35.	1.6	2
112	New Developments in Local Area Helioseismology. Symposium - International Astronomical Union, 2001, 203, 159-166.	0.1	1
113	Prediction of solar activity cycles by assimilating sunspot data into a dynamo model. Proceedings of the International Astronomical Union, 2009, 5, 202-209.	0.0	1
114	The future of helioseismology. Proceedings of the International Astronomical Union, 2009, 5, 352-353.	0.0	1
115	Realistic 3D MHD modeling of self-organized magnetic structuring of the solar corona. Proceedings of the International Astronomical Union, 2019, 15, 346-350.	0.0	1
116	Analysis of Timeâ€Distance Helioseismology for Detection of Emerging Active Regions. Astrophysical Journal, 2021, 913, 87.	1.6	1
117	Numerical Convergence of 2D Solar Convection in Implicit Large-eddy Simulations. Astrophysical Journal, 2022, 928, 148.	1.6	1
118	Active Longitudinal Structures of the Sun from MDI and EIT Observations. Symposium - International Astronomical Union, 2001, 203, 251-253.	0.1	0
119	Joint Discussion 8 Solar and stellar activity cycles. Proceedings of the International Astronomical Union, 2006, 2, 271-272.	0.0	0
120	Realistic MHD numerical simulations of solar convection and oscillations in inclined magnetic field regions. Proceedings of the International Astronomical Union, 2009, 5, 348-348.	0.0	0
121	Realistic MHD simulations of magnetic self-organization in solar plasma. Proceedings of the International Astronomical Union, 2010, 6, 120-124.	0.0	0
122	Investigations of solar plasma in the interior and corona from Solar Dynamics Observatory. Proceedings of the International Astronomical Union, 2010, 6, 287-290.	0.0	0
123	Numerical simulations of magnetic structures. Proceedings of the International Astronomical Union, 2010, 6, 315-319.	0.0	0
124	Comparison of numerical simulations and observations of helioseismic MHD waves in sunspots. Proceedings of the International Astronomical Union, 2010, 6, 422-425.	0.0	0
125	Initiation and chromospheric effects of a M1.0 class solar flare from high-resolution multi-wavelength observations. Proceedings of the International Astronomical Union, 2016, 12, 103-108.	0.0	0
126	Exploring shallow sunspot formation by using Implicit Large-eddy simulations. Proceedings of the International Astronomical Union, 2016, 12, 117-119.	0.0	0



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127	Solar oblateness & asphericities temporal variations: Outstanding some unsolved issues. Proceedings of the International Astronomical Union, 2019, 15, 232-237.	0.0	0
128	Detection of Travel Time Anisotropy from Subsurface Horizontal Magnetic Fields. Astrophysical Journal, 2022, 930, 10.	1.6	0