James A Klimchuk

List of Publications by Year
in descending order

143 papers	8,204 citations	47006 47 h-index	48315 88 g-index
147 all docs	147 docs citations	147 times ranked	2051 citing authors

#	Article	IF	Citations
1	A Model for Solar Coronal Mass Ejections. Astrophysical Journal, 1999, 510, 485-493.	4.5	1,180
2	On Solving the Coronal Heating Problem. Solar Physics, 2006, 234, 41-77.	2.5	639
3	Threeâ€dimensional Stereoscopic Analysis of Solar Active Region Loops. I.SOHO/EIT Observations at Temperatures of (1.0â€“1.5) x 106K. Astrophysical Journal, 1999, 515, 842-867.	4.5	252
4	Highly Efficient Modeling of Dynamic Coronal Loops. Astrophysical Journal, 2008, 682, 1351-1362.	4.5	246
5	The magnetic field of solar prominences. Astrophysical Journal, 1994, 420, L41.	4.5	208
6	Magnetic Field and Plasma Scaling Laws: Their Implications for Coronal Heating Models. Astrophysical Journal, 2000, 530, 999-1015.	4.5	187
7	The Dynamic Formation of Prominence Condensations. Astrophysical Journal, 1999, 512, 985-991.	4.5	185
8	Key aspects of coronal heating. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140256.	3.4	168
9	Are Magnetic Dips Necessary for Prominence Formation?. Astrophysical Journal, 2001, 553, L85-L88.	4.5	161
10	Nanoflare Heating of the Corona Revisited. Astrophysical Journal, 2004, 605, 911-920.	4.5	157
11	Soft X-Ray Loops and Coronal Heating. Astrophysical Journal, 1995, 454, 499.	4.5	146
12	NEW SOLAR EXTREME-ULTRAVIOLET IRRADIANCE OBSERVATIONS DURING FLARES. Astrophysical Journal, 2011, 739, 59.	4.5	144
13	A Nanoflare Explanation for the Heating of Coronal Loops Observed byYohkoh. Astrophysical Journal, 1997, 478, 799-806.	4.5	143
14	A model for the formation of solar prominences. Astrophysical Journal, 1991, 378, 372.	4.5	134
15	Nonthermal Spectral Line Broadening and the Nanoflare Model. Astrophysical Journal, 2006, 647, 1452-1465.	4.5	115
16	EVIDENCE FOR WIDESPREAD COOLING IN AN ACTIVE REGION OBSERVED WITH THESDOATMOSPHERIC IMAGING ASSEMBLY. Astrophysical Journal, 2012, 753, 35.	4.5	110
17	Structure of solar coronal loops: from miniature to large-scale. Astronomy and Astrophysics, 2013, 556, A104.	5.1	102
18	The possible role of MHD waves in heating the solar corona. Astrophysical Journal, 1994, 435, 482.	4.5	101

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19	PATTERNS OF NANOFLARE STORM HEATING EXHIBITED BY AN ACTIVE REGION OBSERVED WITHSOLAR DYNAMICS OBSERVATORY/ATMOSPHERIC IMAGING ASSEMBLY. Astrophysical Journal, 2011, 738, 24.	4.5	98
20	Threeâ€dimensional Stereoscopic Analysis of Solar Active Region Loops. II.SOHO/EIT Observations at Temperatures of 1.5â€“2.5 MK. Astrophysical Journal, 2000, 531, 1129-1149.	4.5	98
21	A Selfâ€consistent Model for the Resonant Heating of Coronal Loops: The Effects of Coupling with the Chromosphere. Astrophysical Journal, 1998, 493, 474-479.	4.5	95
22	ENTHALPY-BASED THERMAL EVOLUTION OF LOOPS. II. IMPROVEMENTS TO THE MODEL. Astrophysical Journal, 2012, 752, 161.	4.5	93
23	The Origin of Highâ€Speed Motions and Threads in Prominences. Astrophysical Journal, 2006, 637, 531-540.	4.5	91
24	WHAT DOMINATES THE CORONAL EMISSION SPECTRUM DURING THE CYCLE OF IMPULSIVE HEATING AND COOLING?. Astrophysical Journal, Supplement Series, 2011, 194, 26.	7.7	87
25	Spectroscopic Diagnostics of Nanoflareâ€heated Loops. Astrophysical Journal, 2001, 553, 440-448.	4.5	86
26	HINODE X-RAY TELESCOPE DETECTION OF HOT EMISSION FROM QUIESCENT ACTIVE REGIONS: A NANOFLARE SIGNATURE?. Astrophysical Journal, 2009, 693, L131-L135.	4.5	85
27	EVIDENCE OF WIDESPREAD HOT PLASMA IN A NONFLARING CORONAL ACTIVE REGION FROMHINODE/X-RAY TELESCOPE. Astrophysical Journal, 2009, 698, 756-765.	4.5	84
28	An Explanation for the â€œSwitchâ€Onâ€•Nature of Magnetic Energy Release and Its Application to Coronal Heating. Astrophysical Journal, 2005, 622, 1191-1201.	4.5	79
29	CAN THERMAL NONEQUILIBRIUM EXPLAIN CORONAL LOOPS?. Astrophysical Journal, 2010, 714, 1239-1248.	4.5	76
30	The Magnetic Structure of Coronal Loops Observed byTRACE. Astrophysical Journal, 2006, 639, 459-474.	4.5	74
31	Achievements of Hinode in the first eleven years. Publication of the Astronomical Society of Japan, 2019, 71, .	2.5	69
32	EMISSION MEASURE DISTRIBUTION AND HEATING OF TWO ACTIVE REGION CORES. Astrophysical Journal, 2011, 740, 111.	4.5	68
33	Force-free magnetic fields - Is there a 'loss of equilibrium'?. Astrophysical Journal, 1989, 345, 1034.	4.5	68
34	DIAGNOSING THE TIME-DEPENDENCE OF ACTIVE REGION CORE HEATING FROM THE EMISSION MEASURE. I. LOW-FREQUENCY NANOFLARES. Astrophysical Journal, 2012, 758, 53.	4.5	65
35	Theory of Coronal Mass Ejections. Geophysical Monograph Series, 0, , 143-157.	0.1	64
36	Measurements of outflow from the base of solar coronal holes. Astrophysical Journal, 1982, 260, 326.	4.5	63

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37	The role of type II spicules in the upper solar atmosphere. Journal of Geophysical Research, 2012, 117, .	3.3	62
38	Scaling of heating rates in solar coronal loops. Nature, 1995, 377, 131-133.	27.8	59
39	A Transient Heating Model for Coronal Structure and Dynamics. Astrophysical Journal, 2003, 582, 486-494.	4.5	59
40	ENTHALPY-BASED THERMAL EVOLUTION OF LOOPS. III. COMPARISON OF ZERO-DIMENSIONAL MODELS. Astrophysical Journal, 2012, 758, 5.	4.5	58
41	Multi-wavelength observations and modelling of a canonical solar flare. Astronomy and Astrophysics, 2009, 494, 1127-1136.	5.1	55
42	Constraints on the Magnetic Field Geometry in Prominences. Astrophysical Journal, 2003, 593, 1187-1194.	4.5	54
43	MODELING THE LINE-OF-SIGHT INTEGRATED EMISSION IN THE CORONA: IMPLICATIONS FOR CORONAL HEATING. Astrophysical Journal, 2013, 771, 115.	4.5	54
44	A Comparison of Active Region Temperatures and Emission Measures Observed in Soft X-Rays and Microwaves and Implications for Coronal Heating. Astrophysical Journal, 1995, 448, 925.	4.5	53
45	Twisted Coronal Magnetic Loops. Astrophysical Journal, 2000, 542, 504-512.	4.5	52
46	The Occurrence Rate of Soft Xâ€Ray Flares as a Function of Solar Activity. Astrophysical Journal, 1997, 474, 511-517.	4.5	49
47	A numerical study of the nonlinear thermal stability of solar loops. Astrophysical Journal, 1987, 320, 409.	4.5	49
48	Three-dimensional force-free magnetic fields and flare energy buildup. Astrophysical Journal, 1992, 385, 344.	4.5	49
49	The Longâ€Term Evolution of AR 7978: The Scalings of the Coronal Plasma Parameters with the Mean Photospheric Magnetic Field. Astrophysical Journal, 2003, 586, 579-591.	4.5	44
50	On the large-scale dynamics and magnetic structure of solar active regions. Astrophysical Journal, 1987, 323, 368.	4.5	44
51	The Inability of Steadyâ€Flow Models to Explain the Extremeâ€Ultraviolet Coronal Loops. Astrophysical Journal, 2004, 603, 322-329.	4.5	43
52	Coronal Loop Heating by Nanoflares: The Impact of the Fieldâ€aligned Distribution of the Heating on Loop Observations. Astrophysical Journal, 2005, 628, 1023-1030.	4.5	43
53	Prominence Formation by Localized Heating. Astrophysical Journal, 1998, 495, 485-490.	4.5	42
54	CAN THE DIFFERENTIAL EMISSION MEASURE CONSTRAIN THE TIMESCALE OF ENERGY DEPOSITION IN THE CORONA?. Astrophysical Journal, 2013, 774, 31.	4.5	42

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55	Solar Rotation Stereoscopy in Microwaves. Astrophysical Journal, 1995, 454, 512.	4.5	41
56	Coronal Seismology and the Propagation of Acoustic Waves along Coronal Loops. Astrophysical Journal, 2004, 616, 1232-1241.	4.5	40
57	DIAGNOSING THE TIME DEPENDENCE OF ACTIVE REGION CORE HEATING FROM THE EMISSION MEASURE. II. NANOFLARE TRAINS. Astrophysical Journal, 2013, 764, 193.	4.5	40
58	Episodic coronal heating. Astrophysical Journal, 1990, 356, L31.	4.5	40
59	WIDESPREAD NANOFLARE VARIABILITY DETECTED WITHHINODE/X-RAY TELESCOPE IN A SOLAR ACTIVE REGION. Astrophysical Journal, 2011, 736, 111.	4.5	39
60	SPECTROSCOPIC OBSERVATIONS OF HOT LINES CONSTRAINING CORONAL HEATING IN SOLAR ACTIVE REGIONS. Astrophysical Journal, 2009, 696, 760-765.	4.5	37
61	ARE CHROMOSPHERIC NANOFLARES A PRIMARY SOURCE OF CORONAL PLASMA?. Astrophysical Journal, 2014, 791, 60.	4.5	37
62	The possible role of high-frequency waves in heating solar coronal loops. Astrophysical Journal, 1994, 435, 502.	4.5	36
63	The Longâ€Term Evolution of AR 7978: Testing Coronal Heating Models. Astrophysical Journal, 2003, 586, 592-605.	4.5	35
64	The practical application of the magnetic virial theorem. Astrophysical Journal, 1992, 385, 327.	4.5	35
65	EVIDENCE OF IMPULSIVE HEATING IN ACTIVE REGION CORE LOOPS. Astrophysical Journal, 2010, 723, 713-718.	4.5	33
66	On the Correlation between Coronal and Lower Transition Region Structures at Arcsecond Scales. Astrophysical Journal, 2001, 563, 374-380.	4.5	33
67	The Role of Asymmetries in Thermal Nonequilibrium. Astrophysical Journal, 2019, 884, 68.	4.5	32
68	Are Constant Loop Widths an Artifact of the Background and the Spatial Resolution?. Astrophysical Journal, 2008, 673, 586-597.	4.5	29
69	ASYMMETRIES IN CORONAL SPECTRAL LINES AND EMISSION MEASURE DISTRIBUTION. Astrophysical Journal, 2013, 779, 1.	4.5	29
70	A Survey of Nanoflare Properties in Active Regions Observed with the Solar Dynamics Observatory. Astrophysical Journal, 2017, 842, 108.	4.5	29
71	The Temporal Evolution of Coronal Loops Observed byGOESSXI. Astrophysical Journal, 2007, 657, 1127-1136.	4.5	27
72	Power-law Statistics of Driven Reconnection in the Magnetically Closed Corona. Astrophysical Journal, 2018, 853, 82.	4.5	27

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73	Heating-related flows in cool solar loops. Astrophysical Journal, 1988, 328, 334.	4.5	27
74	Cylindrically symmetric force-free magnetic fields. Astrophysical Journal, 1992, 385, 738.	4.5	27
75	THE TRANSITION REGION RESPONSE TO A CORONAL NANOFLARE: FORWARD MODELING AND OBSERVATIONS INSDO/AIA. Astrophysical Journal, 2015, 799, 58.	4.5	26
76	Dressing the Coronal Magnetic Extrapolations of Active Regions with a Parameterized Thermal Structure. Astrophysical Journal, 2018, 853, 66.	4.5	26
77	The Distinction Between Thermal Nonequilibrium and Thermal Instability. Solar Physics, 2019, 294, 1.	2.5	26
78	Shear-induced inflation of coronal magnetic fields. Astrophysical Journal, 1990, 354, 745.	4.5	26
79	A SIMPLE MODEL FOR THE EVOLUTION OF MULTI-STRANDED CORONAL LOOPS. Astrophysical Journal, 2010, 719, 591-601.	4.5	25
80	Cross Sections of Coronal Loop Flux Tubes. Astrophysical Journal, 2020, 900, 167.	4.5	25
81	EXPLOSIVE INSTABILITY AND CORONAL HEATING. Astrophysical Journal, 2009, 704, 1059-1064.	4.5	23
82	Magnetic Braids in Eruptions of a Spiral Structure in the Solar Atmosphere. Astrophysical Journal, 2018, 854, 80.	4.5	23
83	Coronal magnetic fields produced by photospheric shear. Astrophysical Journal, 1988, 335, 456.	4.5	23
84	Outflow from the sun's polar corona. Astrophysical Journal, 1983, 266, L65.	4.5	23
85	Static and Impulsive Models of Solar Active Regions. Astrophysical Journal, 2008, 689, 1406-1411.	4.5	22
86	ACTIVE REGION MOSS: DOPPLER SHIFTS FROMHINODE/EXTREME-ULTRAVIOLET IMAGING SPECTROMETER OBSERVATIONS. Astrophysical Journal, 2012, 753, 37.	4.5	22
87	ON THE ISOTHERMALITY OF SOLAR PLASMAS. Astrophysical Journal, 2010, 723, 320-328.	4.5	21
88	CHROMOSPHERIC NANOFLARES AS A SOURCE OF CORONAL PLASMA. II. REPEATING NANOFLARES. Astrophysical Journal, 2015, 811, 129.	4.5	21
89	ULTRAVIOLET AND EXTREME-ULTRAVIOLET EMISSIONS AT THE FLARE FOOTPOINTS OBSERVED BY ATMOSPHERE IMAGING ASSEMBLY. Astrophysical Journal, 2013, 774, 14.	4.5	20
90	Measurement of systematic outflow from the solar transition region underlying a coronal hole. Astrophysical Journal, 1981, 247, L135.	4.5	20

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91	TWO-DIMENSIONAL CELLULAR AUTOMATON MODEL FOR THE EVOLUTION OF ACTIVE REGION CORONAL PLASMAS. Astrophysical Journal, 2015, 799, 128.	4.5	19
92	SIGNATURES OF STEADY HEATING IN TIME LAG ANALYSIS OF CORONAL EMISSION. Astrophysical Journal, 2016, 828, 76.	4.5	19
93	The Role of Magnetic Helicity in Coronal Heating. Astrophysical Journal, 2019, 883, 26.	4.5	19
94	The Coronal Veil. Astrophysical Journal, 2022, 927, 1.	4.5	19
95	HOW GAS-DYNAMIC FLARE MODELS POWERED BY PETSCHEK RECONNECTION DIFFER FROM THOSE WITH AD HOC ENERGY SOURCES. Astrophysical Journal, 2015, 813, 131.	4.5	18
96	The Onset of 3D Magnetic Reconnection and Heating in the Solar Corona. Astrophysical Journal, 2020, 891, 62.	4.5	18
97	MHD modeling of coronal loops: the transition region throat. Astronomy and Astrophysics, 2014, 564, A48.	5.1	18
98	A Model for Bright Extremeâ€Ultraviolet Knots in Solar Flare Loops. Astrophysical Journal, 2004, 614, 1022-1027.	4.5	17
99	The Crossâ€Field Thermal Structure of Coronal Loops from Tripleâ€FilterTRACEObservations. Astrophysical Journal, 2007, 667, 591-601.	4.5	17
100	CORE AND WING DENSITIES OF ASYMMETRIC CORONAL SPECTRAL PROFILES: IMPLICATIONS FOR THE MASS SUPPLY OF THE SOLAR CORONA. Astrophysical Journal, 2014, 781, 58.	4.5	17
101	EMISSION MEASURE DISTRIBUTION FOR DIFFUSE REGIONS IN SOLAR ACTIVE REGIONS. Astrophysical Journal, 2014, 795, 76.	4.5	15
102	Hard X-Ray Constraints on Small-scale Coronal Heating Events. Astrophysical Journal, 2018, 864, 5.	4.5	15
103	On the Temperatureâ€“Emission Measure Distribution in Stellar Coronae. Astrophysical Journal, 2006, 643, 438-443.	4.5	14
104	Coronal energy release via ideal three-dimensional instability three-dimensional instability. Advances in Space Research, 2003, 32, 1029-1034.	2.6	13
105	UNRAVELLING THE COMPONENTS OF A MULTI-THERMAL CORONAL LOOP USING MAGNETOHYDRODYNAMIC SEISMOLOGY. Astrophysical Journal, 2017, 834, 103.	4.5	13
106	High Resolution Soft X-ray Spectroscopy and the Quest for the Hot (5â€“10 MK) Plasma in Solar Active Regions. Frontiers in Astronomy and Space Sciences, 2021, 8, .	2.8	13
107	Cross-Sectional Properties of Coronal Loops. , 2001, , 53-75.		13
108	MHD modelling of coronal loops: injection of high-speed chromospheric flows. Astronomy and Astrophysics, 2014, 567, A70.	5.1	12

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109	A NANOFLARE-BASED CELLULAR AUTOMATON MODEL AND THE OBSERVED PROPERTIES OF THE CORONAL PLASMA. Astrophysical Journal, 2016, 828, 86.	4.5	11
110	Spectroscopic Constraints on the Cross-sectional Asymmetry and Expansion of Active Region Loops. Astrophysical Journal, 2019, 885, 7.	4.5	11
111	Magnetic properties of Civ Doppler shift patterns. Solar Physics, 1989, 119, 19-34.	2.5	10
112	Intensity Conserving Spectral Fitting. Solar Physics, 2016, 291, 55-65.	2.5	10
113	Static and dynamic solar coronal loops with cross-sectional area variations. Monthly Notices of the Royal Astronomical Society, 2021, 509, 4420-4429.	4.4	9
114	On Doppler Shift and Its Center-to-limb Variation in Active Regions in the Transition Region. Astrophysical Journal, 2019, 886, 46.	4.5	7
115	How Turbulent is the Magnetically Closed Corona?. Frontiers in Astronomy and Space Sciences, 2021, 8, .	2.8	7
116	Asymptotic forms for the energy of force-free magnetic field ion figurations of translational symmetry. Astrophysical Journal, 1994, 431, 870.	4.5	7
117	COMMISSION 10: SOLAR ACTIVITY. Proceedings of the International Astronomical Union, 2008, 4, 79-103.	0.0	5
118	Width Variations along Coronal Loops Observed by Trace. , 2001, , 77-92.		5
119	Magnetic shear. IV - Hale regions 16740, 16815, and 16850. Astrophysical Journal, 1986, 303, 884.	4.5	5
120	Transition Region Contribution to AIA Observations in the Context of Coronal Heating. Astrophysical Journal, 2020, 905, 115.	4.5	5
121	<title>STEREO: a solar terrestrial event observer mission concept</title>. , 1996, , .		4
122	<title>Report on new mission concept study: Stereo X-Ray Corona Imager mission</title>. , 1998, , .		4
123	DC coronal heating and the nonlinear evolution of current sheets. Advances in Space Research, 2006, 37, 1342-1347.	2.6	4
124	Magnetic energy release on the Sun. Nature, 1997, 386, 760-761.	27.8	3
125	Coronal Heating. AIP Conference Proceedings, 2006, , .	0.4	3
126	COMMISSION 10: SOLAR ACTIVITY. Proceedings of the International Astronomical Union, 2011, 7, 69-80.	0.0	3

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127	Nonthermal Velocity in the Transition Region of Active Regions and Its Center-to-limb Variation. Astrophysical Journal, 2021, 913, 151.	4.5	3
128	Properties of EUV and X-ray emission in solar active regions. Astronomy and Astrophysics, 2001, 365, 186-197.	5.1	3
129	The magnetic and velocity structure adjacent to solar active regions. Astrophysical Journal, 1987, 318, 437.	4.5	3
130	Impact of 3D Structure on Magnetic Reconnection. Astrophysical Journal, 2022, 927, 196.	4.5	3
131	Simulated SXT observations of coronal loops. , 1991, , 297-301.		2
132	Comments on `Possible Role of MHD Waves in Heating the Solar Corona' by Dwivedi and Pandey. Solar Physics, 2004, 221, 47-49.	2.5	2
133	Signatures of Type III Solar Radio Bursts from Nanoflares: Modeling. Astrophysical Journal, 2021, 922, 128.	4.5	2
134	Flows in Enthalpy-based Thermal Evolution of Loops. Astrophysical Journal, 2022, 924, 13.	4.5	1
135	An Observational Test for Coronal Heating Models. Symposium - International Astronomical Union, 2004, 219, 473-477.	0.1	0
136	Division II: Sun and Heliosphere. Proceedings of the International Astronomical Union, 2005, 1, 69-74.	0.0	0
137	Commission 10: Solar Activity. Proceedings of the International Astronomical Union, 2005, 1, 75-88.	0.0	0
138	DIVISION II: SUN AND HELIOSPHERE. Proceedings of the International Astronomical Union, 2007, 3, 101-106.	0.0	0
139	DIVISION II: SUN AND HELIOSPHERE. Proceedings of the International Astronomical Union, 2008, 4, 73-78.	0.0	0
140	DIVISION II: SUN and HELIOSPHERE. Proceedings of the International Astronomical Union, 2010, 6, 146-157.	0.0	0
141	A cellular automaton model for coronal heating. Proceedings of the International Astronomical Union, 2011, 7, 433-436.	0.0	0
142	DIVISION II: SUN and HELIOSPHERE. Proceedings of the International Astronomical Union, 2011, 7, 61-68.	0.0	0
143	The Heating of Soft X-Ray Coronal Loops. , 1996, , 39-40.		0