Paolo Padoan

List of Publications by Year
in descending order

91 papers	6,381 citations	66336 42 h-index	66906 78 g-index
92 all docs	92 docs citations	92 times ranked	3573 citing authors

#	Article	IF	Citations
1	The Stellar Initial Mass Function from Turbulent Fragmentation. Astrophysical Journal, 2002, 576, 870-879.	4.5	810
2	The Statistics of Supersonic Isothermal Turbulence. Astrophysical Journal, 2007, 665, 416-431.	4.5	461
3	THE STAR FORMATION RATE OF SUPERSONIC MAGNETOHYDRODYNAMIC TURBULENCE. Astrophysical Journal, 2011, 730, 40.	4.5	374
4	A Superâ€Alfvenic Model of Dark Clouds. Astrophysical Journal, 1999, 526, 279-294.	4.5	314
5	The â€œMysteriousâ€• Origin of Brown Dwarfs. Astrophysical Journal, 2004, 617, 559-564.	4.5	219
6	The Turbulent Shock Origin of Protoâ€"Stellar Cores. Astrophysical Journal, 2001, 553, 227-234.	4.5	218
7	Supersonic Turbulence in the Interstellar Medium: Stellar Extinction Determinations as Probes of the Structure and Dynamics of Dark Clouds. Astrophysical Journal, 1997, 474, 730-734.	4.5	160
8	SUPERNOVA DRIVING. I. THE ORIGIN OF MOLECULAR CLOUD TURBULENCE. Astrophysical Journal, 2016, 822, 11.	4.5	159
9	Two Regimes of Turbulent Fragmentation and the Stellar Initial Mass Function from Primordial to Presentâ€Day Star Formation. Astrophysical Journal, 2007, 661, 972-981.	4.5	149
10	A SIMPLE LAW OF STAR FORMATION. Astrophysical Journal Letters, 2012, 759, L27.	8.3	138
11	The Density PDFs of Supersonic Random Flows. , 1999, , 218-222.		128
12	Theoretical Models of Polarized Dust Emission from Protostellar Cores. Astrophysical Journal, 2001, 559, 1005-1018.	4.5	124
13	Galaxy formation and evolution: low-surface-brightness galaxies. Monthly Notices of the Royal Astronomical Society, 1998, 299, 123-138.	4.4	121
14	THE TWO STATES OF STAR-FORMING CLOUDS. Astrophysical Journal, 2012, 750, 13.	4.5	119
15	Supersonic turbulent flows and the fragmentation of a cold medium. Monthly Notices of the Royal Astronomical Society, 1995, 277, 377-388.	4.4	118
16	Scaling Relations of Supersonic Turbulence in Starâ€forming Molecular Clouds. Astrophysical Journal, 2002, 573, 678-684.	4.5	106
17	COMPARING NUMERICAL METHODS FOR ISOTHERMAL MAGNETIZED SUPERSONIC TURBULENCE. Astrophysical Journal, 2011, 737, 13.	4.5	105
18	TURBULENT CLUSTERING OF PROTOPLANETARY DUST AND PLANETESIMAL FORMATION. Astrophysical Journal, 2011, 740, 6.	4.5	103

#	ARTICLE	IF	CITATIONS
19	The Power Spectrum of Supersonic Turbulence in Perseus. Astrophysical Journal, 2006, 653, L125-L128.	4.5	94
20	THE POWER SPECTRUM OF TURBULENCE IN NGC 1333: OUTFLOWS OR LARGE-SCALE DRIVING?. Astrophysical Journal, 2009, 707, L153-L157.	4.5	88
21	The Origin of Massive Stars: The Inertial-inflow Model. Astrophysical Journal, 2020, 900, 82.	4.5	82
22	INFALL-DRIVEN PROTOSTELLAR ACCRETION AND THE SOLUTION TO THE LUMINOSITY PROBLEM. Astrophysical Journal, 2014, 797, 32.	4.5	80
23	Relative velocity of inertial particles in turbulent flows. Journal of Fluid Mechanics, 2010, 661, 73-107.	3.4	79
24	Supernova Driving. IV. The Star-formation Rate of Molecular Clouds. Astrophysical Journal, 2017, 840, 48.	4.5	78
25	Supersonic Turbulence and Structure of Interstellar Molecular Clouds. Physical Review Letters, 2002, 89, 031102.	7.8	76
26	The Average Magnetic Field Strength in Molecular Clouds: New Evidence of Super-Alfvnic Turbulence. Astrophysical Journal, 2004, 604, L49-L52.	4.5	76
27	Synthetic stellar populations: single stellar populations, stellar interior models and primordial protogalaxies. Monthly Notices of the Royal Astronomical Society, 2004, 349, 240-254.	4.4	75
28	Structure Function Scaling in Compressible Super-AlfvÃ©nic MHD Turbulence. Physical Review Letters, 2004, 92, 191102.	7.8	74
29	Supersonic Turbulence in the Perseus Molecular Cloud. Astrophysical Journal, 1999, 525, 318-329.	4.5	69
30	The CARMA-NRO Orion Survey. Astrophysical Journal, Supplement Series, 2018, 236, 25.	7.7	64
31	THE RELATIVE AND ABSOLUTE AGES OF OLD GLOBULAR CLUSTERS IN THE LCDM FRAMEWORK. Astrophysical Journal Letters, 2015, 808, L35.	8.3	62
32	Structure Function Scaling in the Taurus and Perseus Molecular Cloud Complexes. Astrophysical Journal, 2003, 583, 308-313.	4.5	61
33	A Solution to the Pre-Main-Sequence Accretion Problem. Astrophysical Journal, 2005, 622, L61-L64.	4.5	58
34	Synthetic Molecular Clouds from Supersonic MHD and Nonâ€LTE Radiative Transfer Calculations. Astrophysical Journal, 1998, 504, 300-313.	4.5	57
35	THE TEMPERATURE OF INTERSTELLAR CLOUDS FROM TURBULENT HEATING. Astrophysical Journal, 2009, 692, 594-607.	4.5	56
36	Adaptive Mesh Refinement for Supersonic Molecular Cloud Turbulence. Astrophysical Journal, 2006, 638, L25-L28.	4.5	55

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37	A New Method to Measure and Map the Gas Scale Height of Disk Galaxies. Astrophysical Journal, 2001, 555, L33-L36.	4.5	53
38	TURBULENCE-INDUCED RELATIVE VELOCITY OF DUST PARTICLES. I. IDENTICAL PARTICLES. Astrophysical Journal, 2013, 776, 12.	4.5	51
39	The Stellar IMF from Isothermal MHD Turbulence. Astrophysical Journal, 2018, 854, 35.	4.5	51
40	Structure Function Scaling of a 2MASS Extinction Map of Taurus. Astrophysical Journal, 2002, 580, L57-L60.	4.5	50
41	Confinement-driven Spatial Variations in the Cosmic-Ray Flux. Astrophysical Journal, 2005, 624, L97-L100.	4.5	50
42	MASS AND MAGNETIC DISTRIBUTIONS IN SELF-GRAVITATING SUPER-ALFVÃ‰NIC TURBULENCE WITH ADAPTIVE MESH REFINEMENT. Astrophysical Journal, 2011, 731, 59.	4.5	45
43	The CARMA-NRO Orion Survey. Astronomy and Astrophysics, 2019, 623, A142.	5.1	45
44	Ambipolar Drift Heating in Turbulent Molecular Clouds. Astrophysical Journal, 2000, 540, 332-341.	4.5	44
45	THE OBSERVABLE PRESTELLAR PHASE OF THE INITIAL MASS FUNCTION. Astrophysical Journal Letters, 2011, 741, L22.	8.3	41
46	TURBULENCE-INDUCED RELATIVE VELOCITY OF DUST PARTICLES. IV. THE COLLISION KERNEL. Astrophysical Journal, 2014, 797, 101.	4.5	41
47	The Spectral Correlation Function of Molecular Clouds: A Statistical Test for Theoretical Models. Astrophysical Journal, 2003, 588, 881-893.	4.5	40
48	SUPERNOVA DRIVING. II. COMPRESSIVE RATIO IN MOLECULAR-CLOUD TURBULENCE. Astrophysical Journal, 2016, 825, 30.	4.5	35
49	Can We Trust the Dust? Evidence of Dust Segregation in Molecular Clouds. Astrophysical Journal, 2006, 649, 807-815.	4.5	35
50	A Comparison of13CO Local Thermodynamic Equilibrium and True Column Densities in Molecular Cloud Models. Astrophysical Journal, 2000, 529, 259-267.	4.5	33
51	The Effects of Noise and Sampling on the Spectral Correlation Function. Astrophysical Journal, 2001, 547, 862-871.	4.5	33
52	Dissipative Structures in Supersonic Turbulence. Physical Review Letters, 2009, 102, 034501.	7.8	32
53	THE SUPER-ALFVÃ‰NIC MODEL OF MOLECULAR CLOUDS: PREDICTIONS FOR MASS-TO-FLUX AND TURBULENT-TO-MAGNETIC ENERGY RATIOS. Astrophysical Journal, 2009, 702, L37-L41.	4.5	31
54	High-Resolution Mapping of Interstellar Clouds by Near-Infrared Scattering. Astrophysical Journal, 2006, 636, L101-L104.	4.5	28

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55	Simulating supersonic turbulence in magnetized molecular clouds. Journal of Physics: Conference Series, 2009, 180, 012020.	0.4	27
56	TURBULENCE-INDUCED RELATIVE VELOCITY OF DUST PARTICLES. II. THE BIDISPERSE CASE. Astrophysical Journal, 2014, 791, 48.	4.5	27
57	The Super-AlfvÃ©nic Model of Molecular Clouds: Predictions for Zeeman Splitting Measurements. Astrophysical Journal, 2008, 686, L91-L94.	4.5	26
58	POPULATION III STARS FROM TURBULENT FRAGMENTATION AT REDSHIFT â^¼11. Astrophysical Journal Letters, 2011, 731, L38.	8.3	26
59	The Probability Distribution of Density Fluctuations in Supersonic Turbulence. Astrophysical Journal, 2019, 881, 155.	4.5	24
60	The Ages and Distances of Globular Clusters with the Luminosity Function Method: The Case of M5 and M55. Astrophysical Journal, 1998, 498, 704-709.	4.5	23
61	SUPERNOVA DRIVING. III. SYNTHETIC MOLECULAR CLOUD OBSERVATIONS. Astrophysical Journal, 2016, 826, 140.	4.5	22
62	The IMF of stellar clusters: effects of accretion and feedback. Monthly Notices of the Royal Astronomical Society, 2010, , .	4.4	21
63	Electron Abundance in Protostellar Cores. Astrophysical Journal, 2004, 614, 203-210.	4.5	18
64	Cooling Rates of Molecular Clouds Based on Numerical Magnetohydrodynamic Turbulence and Nonâ€LTE Radiative Transfer. Astrophysical Journal, 2001, 563, 853-866.	4.5	18
65	Protogalactic Starbursts at High Redshift. Astrophysical Journal, 2000, 532, 152-169.	4.5	16
66	TURBULENCE-INDUCED RELATIVE VELOCITY OF DUST PARTICLES. III. THE PROBABILITY DISTRIBUTION. Astrophysical Journal, 2014, 792, 69.	4.5	16
67	The Core Mass Function in the Orion Nebula Cluster Region: What Determines the Final Stellar Masses?. Astrophysical Journal Letters, 2021, 910, L6.	8.3	15
68	The Effect of Supernovae on the Turbulence and Dispersal of Molecular Clouds. Astrophysical Journal, 2020, 904, 58.	4.5	15
69	Photoelectric Heating and [Cii] Cooling in Translucent Clouds: Results for Cloud Models Based on Simulations of Compressible Magnetohydrodynamic Turbulence. Astrophysical Journal, 2003, 591, 258-266.	4.5	14
70	Scaling laws and intermittency in highly compressible turbulence. AIP Conference Proceedings, 2007, , .	0.4	13
71	A New Self-consistency Check on the Ages of Globular Clusters. Astrophysical Journal, 1996, 463, L17-L20.	4.5	13
72	Are Low Surface Brightness Disks Young?. Astrophysical Journal, 1997, 481, L27-L30.	4.5	12

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73	TURBULENCE-INDUCED RELATIVE VELOCITY OF DUST PARTICLES V. TESTING PREVIOUS MODELS. Astrophysical Journal, 2015, 812, 10.	4.5	11
74	Multiresolution Radiative Transfer for Line Emission. Astrophysical Journal, 2005, 618, 744-756.	4.5	10
75	Detailed Balance and Exact Results for Density Fluctuations in Supersonic Turbulence. Astrophysical Journal Letters, 2018, 866, L17.	8.3	10
76	A physical model for the stellar IMF. AIP Conference Proceedings, 1997, , .	0.4	7
77	Star Formation and the Initial Mass Function. , 2003, , 271-298.		7
78	Ages of Globular Clusters: Breaking the Ageâ€Distance Degeneracy with the Luminosity Function. Astrophysical Journal, 1997, 475, 580-583.	4.5	6
79	The CARMA-NRO Orion Survey: Core Emergence and Kinematics in the Orion A Cloud. Astrophysical Journal, 2019, 882, 45.	4.5	6
80	Inaccuracy of Spatial Derivatives in Riemann Solver Simulations of Supersonic Turbulence. Astrophysical Journal, 2019, 876, 90.	4.5	5
81	Zooming in on the Formation of Protoplanetary Disks. Proceedings of the International Astronomical Union, 2013, 8, 131-135.	0.0	4
82	Magnetic Fields in Molecular Clouds. Proceedings of the International Astronomical Union, 2010, 6, 187-196.	0.0	3
83	Synthetic observations of dust emission and polarisation of Galactic cold clumps. Astronomy and Astrophysics, 2019, 629, A63.	5.1	3
84	The age of LSB discs. AIP Conference Proceedings, 1997, , .	0.4	2
85	The CARMA-NRO Orion Surveyâ€"Data Release. Research Notes of the AAS, 2021, 5, 55.	0.7	2
86	Dust polarization studies on MHD simulations of molecular clouds: comparison of methods for the relative-orientation analysis. Astronomy and Astrophysics, 2021, 647, A121.	5.1	2
87	The Stellar IMF as a Property of Turbulence. , 2005, , 357-362.		2
88	Physical properties and real nature of massive clumps in the galaxy. Monthly Notices of the Royal Astronomical Society, 2021, 510, 1697-1715.	4.4	2
89	The mass distribution of unstable cores in turbulent magnetized clouds. Proceedings of the International Astronomical Union, 2006, 2, 283-291.	0.0	1
90	Theory of the Star Formation Rate. Proceedings of the International Astronomical Union, 2010, 6, 347-354.	0.0	1

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91	The dynamical state of massive clumps. Monthly Notices of the Royal Astronomical Society, 2021, 509, 5589-5607.	4.4	1