

Tom Abel

List of Publications by Year in descending order

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120
papers

15,884
citations

15504

65
h-index

20961

115
g-index

121
all docs

121
docs citations

121
times ranked

5983
citing authors

#	ARTICLE	IF	CITATIONS
1	The Formation of the First Star in the Universe. <i>Science</i> , 2002, 295, 93-98.	12.6	1,138
2	yt: A MULTI-CODE ANALYSIS TOOLKIT FOR ASTROPHYSICAL SIMULATION DATA. <i>Astrophysical Journal, Supplement Series</i> , 2011, 192, 9.	7.7	959
3	How Small Were the First Cosmological Objects?. <i>Astrophysical Journal</i> , 1997, 474, 1-12.	4.5	660
4	ENZO: AN ADAPTIVE MESH REFINEMENT CODE FOR ASTROPHYSICS. <i>Astrophysical Journal, Supplement Series</i> , 2014, 211, 19.	7.7	615
5	Multi-scale initial conditions for cosmological simulations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2011, 415, 2101-2121.	4.4	591
6	Modeling primordial gas in numerical cosmology. <i>New Astronomy</i> , 1997, 2, 181-207.	1.8	469
7	The Formation and Fragmentation of Primordial Molecular Clouds. <i>Astrophysical Journal</i> , 2000, 540, 39-44.	4.5	460
8	Simulations of Early Structure Formation: Primordial Gas Clouds. <i>Astrophysical Journal</i> , 2003, 592, 645-663.	4.5	441
9	Formation of Primordial Stars in a Λ CDM Universe. <i>Astrophysical Journal</i> , 2006, 652, 6-25.	4.5	384
10	THE BIRTH OF A GALAXY: PRIMORDIAL METAL ENRICHMENT AND STELLAR POPULATIONS. <i>Astrophysical Journal</i> , 2012, 745, 50.	4.5	357
11	The birth of a galaxy III. Propelling reionization with the faintest galaxies. <i>Monthly Notices of the Royal Astronomical Society</i> , 2014, 442, 2560-2579.	4.4	321
12	Simulations of Pregalactic Structure Formation with Radiative Feedback. <i>Astrophysical Journal</i> , 2001, 548, 509-521.	4.5	311
13	OUTFLOW FEEDBACK REGULATED MASSIVE STAR FORMATION IN PARSEC-SCALE CLUSTER-FORMING CLUMPS. <i>Astrophysical Journal</i> , 2010, 709, 27-41.	4.5	307
14	The Radiative Feedback of the First Cosmological Objects. <i>Astrophysical Journal</i> , 2000, 534, 11-24.	4.5	306
15	The Formation of Population III Binaries from Cosmological Initial Conditions. <i>Science</i> , 2009, 325, 601-605.	12.6	301
16	Two Distinct Ancient Components in the Sculptor Dwarf Spheroidal Galaxy: First Results from the Dwarf Abundances and Radial Velocities Team. <i>Astrophysical Journal</i> , 2004, 617, L119-L122.	4.5	299
17	Radiation Hydrodynamic Evolution of Primordial HII Regions. <i>Astrophysical Journal</i> , 2004, 610, 14-22.	4.5	256
18	Cosmological hydrodynamics with multi-species chemistry and nonequilibrium ionization and cooling. <i>New Astronomy</i> , 1997, 2, 209-224.	1.8	236

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19	Uncertainties in H_2 and HD chemistry and cooling and their role in early structure formation. Monthly Notices of the Royal Astronomical Society, 2008, 388, 1627-1651.	4.4	224
20	ACCRETION ONTO THE FIRST STELLAR-MASS BLACK HOLES. Astrophysical Journal, 2009, 701, L133-L137.	4.5	218
21	Multi-dimensional cosmological radiative transfer with a Variable Eddington Tensor formalism. New Astronomy, 2001, 6, 437-455.	1.8	216
22	Resolving the Formation of Protogalaxies. III. Feedback from the First Stars. Astrophysical Journal, 2008, 685, 40-56.	4.5	206
23	grackle: a chemistry and cooling library for astrophysics. Monthly Notices of the Royal Astronomical Society, 2017, 466, 2217-2234.	4.4	201
24	The Angular Momentum of Gas in Protogalaxies. I. Implications for the Formation of Disk Galaxies. Astrophysical Journal, 2002, 576, 21-35.	4.5	201
25	Radio Foregrounds for the 21 Centimeter Tomography of the Neutral Intergalactic Medium at High Redshifts. Astrophysical Journal, 2002, 564, 576-580.	4.5	190
26	Tracing the cosmic web. Monthly Notices of the Royal Astronomical Society, 2018, 473, 1195-1217.	4.4	187
27	Resolving the Formation of Protogalaxies. II. Central Gravitational Collapse. Astrophysical Journal, 2008, 682, 745-757.	4.5	185
28	THE AGORA HIGH-RESOLUTION GALAXY SIMULATIONS COMPARISON PROJECT. Astrophysical Journal, Supplement Series, 2014, 210, 14.	7.7	185
29	A New View of the Dwarf Spheroidal Satellites of the Milky Way from VLT FLAMES: Where Are the Very Metal-poor Stars?. Astrophysical Journal, 2006, 651, L121-L124.	4.5	178
30	The birth of a galaxy II. The role of radiation pressure. Monthly Notices of the Royal Astronomical Society, 2012, 427, 311-326.	4.4	147
31	enzo+moray: radiation hydrodynamics adaptive mesh refinement simulations with adaptive ray tracing. Monthly Notices of the Royal Astronomical Society, 2011, 414, 3458-3491.	4.4	145
32	Cosmic reionization by stellar sources: population III stars. Monthly Notices of the Royal Astronomical Society, 2004, 350, 47-65.	4.4	139
33	Suppression of H_2 Cooling in the Ultraviolet Background. Astrophysical Journal, 2007, 671, 1559-1567.	4.5	139
34	Resolving the Formation of Protogalaxies. I. Virialization. Astrophysical Journal, 2007, 665, 899-910.	4.5	138
35	The H II Region of a Primordial Star. Astrophysical Journal, 2007, 659, L87-L90.	4.5	138
36	First Structure Formation. I. Primordial Star-forming Regions in Hierarchical Models. Astrophysical Journal, 1998, 508, 518-529.	4.5	136

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37	MAGNETIC FIELDS IN POPULATION III STAR FORMATION. <i>Astrophysical Journal</i> , 2012, 745, 154.	4.5	134
38	The warm dark matter halo mass function below the cut-off scale. <i>Monthly Notices of the Royal Astronomical Society</i> , 2013, 434, 3337-3347.	4.4	134
39	Radiative Transfer Effects during Photoheating of the Intergalactic Medium. <i>Astrophysical Journal</i> , 1999, 520, L13-L16.	4.5	132
40	Photon-conserving Radiative Transfer around Point Sources in Multidimensional Numerical Cosmology. <i>Astrophysical Journal</i> , 1999, 523, 66-71.	4.5	132
41	Tracing the dark matter sheet in phase space. <i>Monthly Notices of the Royal Astronomical Society</i> , 2012, 427, 61-76.	4.4	132
42	Adaptive ray tracing for radiative transfer around point sources. <i>Monthly Notices of the Royal Astronomical Society</i> , 2002, 330, L53-L56.	4.4	122
43	Effects of a soft X-ray background on structure formation at high redshift. <i>Monthly Notices of the Royal Astronomical Society</i> , 2003, 338, 273-286.	4.4	111
44	Metal cooling in simulations of cosmic structure formation. <i>Monthly Notices of the Royal Astronomical Society</i> , 2008, 385, 1443-1454.	4.4	107
45	MAGNETOHYDRODYNAMIC SIMULATIONS OF DISK GALAXY FORMATION: THE MAGNETIZATION OF THE COLD AND WARM MEDIUM. <i>Astrophysical Journal</i> , 2009, 696, 96-109.	4.5	105
46	COMPARING NUMERICAL METHODS FOR ISOTHERMAL MAGNETIZED SUPERSONIC TURBULENCE. <i>Astrophysical Journal</i> , 2011, 737, 13.	4.5	105
47	The first generation of stars in the Λ cold dark matter cosmology. <i>Monthly Notices of the Royal Astronomical Society</i> , 2007, 378, 449-468.	4.4	102
48	The Influence of Supershells and Galactic Outflows on the Escape of Ionizing Radiation from Dwarf Starburst Galaxies. <i>Astrophysical Journal</i> , 2003, 599, 50-69.	4.5	96
49	Photon Consumption in Minihalos during Cosmological Reionization. <i>Astrophysical Journal</i> , 2001, 551, 599-607.	4.5	95
50	THE IMPACT OF INHOMOGENEOUS REIONIZATION ON THE SATELLITE GALAXY POPULATION OF THE MILKY WAY. <i>Astrophysical Journal</i> , 2010, 710, 408-420.	4.5	93
51	Forming a Primordial Star in a Relic H II Region. <i>Astrophysical Journal</i> , 2005, 628, L5-L8.	4.5	89
52	THE AGORA HIGH-RESOLUTION GALAXY SIMULATIONS COMPARISON PROJECT. II. ISOLATED DISK TEST. <i>Astrophysical Journal</i> , 2016, 833, 202.	4.5	88
53	Intergalactic H ₂ Photodissociation and the Soft Ultraviolet Background Produced by Population III Objects. <i>Astrophysical Journal</i> , 2000, 533, 594-600.	4.5	86
54	Cosmological Hydrogen Reionization with Three-dimensional Radiative Transfer. <i>Astrophysical Journal</i> , 2002, 572, 695-704.	4.5	86

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55	Fragmentation and the formation of primordial protostars: the possible role of collision-induced emission. <i>Monthly Notices of the Royal Astronomical Society</i> , 2004, 348, 1019-1034.	4.4	84
56	The epoch of helium reionization. <i>Monthly Notices of the Royal Astronomical Society</i> , 2002, 332, 601-616.	4.4	82
57	The Number of Supernovae from Primordial Stars in the Universe. <i>Astrophysical Journal</i> , 2005, 629, 615-624.	4.5	82
58	Computational Eulerian hydrodynamics and Galilean invariance. <i>Monthly Notices of the Royal Astronomical Society</i> , 2010, 401, 2463-2476.	4.4	79
59	GALAXY FORMATION WITH SELF-CONSISTENTLY MODELED STARS AND MASSIVE BLACK HOLES. I. FEEDBACK-REGULATED STAR FORMATION AND BLACK HOLE GROWTH. <i>Astrophysical Journal</i> , 2011, 738, 54.	4.5	79
60	The properties of cosmic velocity fields. <i>Monthly Notices of the Royal Astronomical Society</i> , 2015, 454, 3920-3937.	4.4	79
61	A new approach to simulating collisionless dark matter fluids. <i>Monthly Notices of the Royal Astronomical Society</i> , 2013, 434, 1171-1191.	4.4	78
62	Detectability of Long Gamma-Ray Burst Afterglows from Very High Redshifts. <i>Astrophysical Journal</i> , 2004, 604, 508-520.	4.5	75
63	An Excursion Set Model of the Cosmic Web: The Abundance of Sheets, Filaments, and Halos. <i>Astrophysical Journal</i> , 2006, 645, 783-791.	4.5	75
64	Relativistic Hydrodynamic Flows Using Spatial and Temporal Adaptive Structured Mesh Refinement. <i>Astrophysical Journal, Supplement Series</i> , 2008, 176, 467-483.	7.7	73
65	How Very Massive Metal-Free Stars Start Cosmological Reionization. <i>Astrophysical Journal</i> , 2008, 684, 1-17.	4.5	70
66	Adaptive mesh fluid simulations on GPU. <i>New Astronomy</i> , 2010, 15, 581-589.	1.8	66
67	Simulating reionization in numerical cosmology. <i>New Astronomy</i> , 2001, 6, 359-379.	1.8	61
68	ART2: coupling Ly α line and multi-wavelength continuum radiative transfer. <i>Monthly Notices of the Royal Astronomical Society</i> , 2012, 424, 884-901.	4.4	60
69	Escape of Ly α and continuum photons from star-forming galaxies. <i>Monthly Notices of the Royal Astronomical Society</i> , 2014, 440, 776-786.	4.4	59
70	CONNECTING REIONIZATION TO THE LOCAL UNIVERSE. <i>Astrophysical Journal</i> , 2009, 703, L167-L171.	4.5	58
71	EFFECTS OF VARYING THE THREE-BODY MOLECULAR HYDROGEN FORMATION RATE IN PRIMORDIAL STAR FORMATION. <i>Astrophysical Journal</i> , 2011, 726, 55.	4.5	58
72	rpSPH: a novel smoothed particle hydrodynamics algorithm. <i>Monthly Notices of the Royal Astronomical Society</i> , 2011, 413, 271-285.	4.4	55

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73	THE EFFECT OF ABSORPTION SYSTEMS ON COSMIC REIONIZATION. <i>Astrophysical Journal</i> , 2012, 747, 126.	4.5	53
74	Nearest neighbour distributions: New statistical measures for cosmological clustering. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020, 500, 5479-5499.	4.4	52
75	Supermassive black hole growth and merger rates from cosmological N-body simulations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2007, 380, 1533-1540.	4.4	44
76	GALAXY MERGERS WITH ADAPTIVE MESH REFINEMENT: STAR FORMATION AND HOT GAS OUTFLOW. <i>Astrophysical Journal</i> , 2009, 694, L123-L127.	4.5	44
77	How closely do baryons follow dark matter on large scales?. <i>Monthly Notices of the Royal Astronomical Society</i> , 2013, 434, 1756-1764.	4.4	44
78	ENZO: An Adaptive Mesh Refinement Code for Astrophysics (Version 2.6). <i>Journal of Open Source Software</i> , 2019, 4, 1636.	4.6	44
79	LOWERING THE CHARACTERISTIC MASS OF CLUSTER STARS BY MAGNETIC FIELDS AND OUTFLOW FEEDBACK. <i>Astrophysical Journal Letters</i> , 2010, 720, L26-L30.	8.3	43
80	Reducing noise in cosmological N-body simulations with neutrinos. <i>Journal of Cosmology and Astroparticle Physics</i> , 2018, 2018, 028-028.	5.4	42
81	Quasar H regions during cosmic reionization. <i>Monthly Notices of the Royal Astronomical Society: Letters</i> , 2007, 380, L30-L34.	3.3	41
82	Numerical Simulations of High-Redshift Star Formation in Dwarf Galaxies. <i>Astrophysical Journal</i> , 2003, 587, 13-24.	4.5	41
83	An exact general remeshing scheme applied to physically conservative voxelization. <i>Journal of Computational Physics</i> , 2015, 297, 340-356.	3.8	40
84	WERE PROGENITORS OF LOCAL GALAXIES Ly α EMITTERS AT HIGH REDSHIFT?. <i>Astrophysical Journal</i> , 2012, 754, 118.	4.5	39
85	Ab Initio Simulations of a Supernova-driven Galactic Dynamo in an Isolated Disk Galaxy. <i>Astrophysical Journal</i> , 2017, 843, 113.	4.5	37
86	DWARF GALAXIES WITH IONIZING RADIATION FEEDBACK. I. ESCAPE OF IONIZING PHOTONS. <i>Astrophysical Journal</i> , 2013, 775, 109.	4.5	35
87	Comparing fully general relativistic and Newtonian calculations of structure formation. <i>Physical Review D</i> , 2018, 97, .	4.7	33
88	The angular momentum of gas in protogalaxies – II. The impact of pre-heating. <i>Monthly Notices of the Royal Astronomical Society</i> , 2003, 346, 177-185.	4.4	31
89	A “Minihalo” Model for the Lyman Limit Absorption Systems at High Redshift. <i>Astrophysical Journal</i> , 1998, 494, L151-L154.	4.5	31
90	Dynamical Expansion of H Regions from Ultracompact to Compact Sizes in Turbulent, Self-gravitating Molecular Clouds. <i>Astrophysical Journal</i> , 2007, 668, 980-992.	4.5	28

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91	Voids in cosmological simulations over cosmic time. Monthly Notices of the Royal Astronomical Society, 2016, 458, 4431-4442.	4.4	26
92	The nature of the ionizing background at $z \sim 2.5$. Monthly Notices of the Royal Astronomical Society, 2003, 340, 473-484.	4.4	25
93	Nonthermal Electron Energization from Magnetic Reconnection in Laser-Driven Plasmas. Physical Review Letters, 2016, 116, 095003.	7.8	25
94	DWARF GALAXIES WITH IONIZING RADIATION FEEDBACK. II. SPATIALLY RESOLVED STAR FORMATION RELATION. Astrophysical Journal, 2013, 779, 8.	4.5	24
95	Cosmological cross-correlations and nearest neighbour distributions. Monthly Notices of the Royal Astronomical Society, 2021, 504, 2911-2923.	4.4	24
96	A Novel Approach to Visualizing Dark Matter Simulations. IEEE Transactions on Visualization and Computer Graphics, 2012, 18, 2078-2087.	4.4	23
97	BAM: bias assignment method to generate mock catalogues. Monthly Notices of the Royal Astronomical Society: Letters, 2019, 483, L58-L63.	3.3	23
98	Small-scale primordial magnetic fields and anisotropies in the cosmic microwave background radiation. Journal of Cosmology and Astroparticle Physics, 2013, 2013, 050-050.	5.4	22
99	COLD ACCRETION IN EARLY GALAXY FORMATION AND ITS α SIGNATURES. Astrophysical Journal, 2015, 801, 52.	4.5	18
100	Particle acceleration in laser-driven magnetic reconnection. Physics of Plasmas, 2017, 24, .	1.9	18
101	Towards noiseless gravitational lensing simulations. Monthly Notices of the Royal Astronomical Society, 2014, 444, 2925-2937.	4.4	16
102	HIGH-ENTROPY POLAR REGIONS AROUND THE FIRST PROTOSTARS. Astrophysical Journal Letters, 2010, 725, L140-L144.	8.3	15
103	Doppler effect on indirect detection of dark matter using dark matter only simulations. Physical Review D, 2017, 95, .	4.7	14
104	Modelling nearest neighbour distributions of biased tracers using hybrid effective field theory. Monthly Notices of the Royal Astronomical Society, 2022, 511, 2765-2781.	4.4	13
105	The AGORA High-resolution Galaxy Simulations Comparison Project. III. Cosmological Zoom-in Simulation of a Milky Way-mass Halo. Astrophysical Journal, 2021, 917, 64.	4.5	12
106	High-redshift Galaxy Formation with Self-consistently Modeled Stars and Massive Black Holes: Stellar Feedback and Quasar Growth. Astrophysical Journal, 2019, 887, 120.	4.5	11
107	REIONIZATION HISTORIES OF MILKY WAY MASS HALOS. Astrophysical Journal, 2014, 785, 134.	4.5	10
108	Investigating the use of field solvers for simulating classical systems. Physical Review D, 2020, 101, .	4.7	7

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109	Detection of spatial clustering in the 1000 richest SDSS DR8 redMaPPer clusters with nearest neighbor distributions. Monthly Notices of the Royal Astronomical Society, 2022, 514, 3828-3843.	4.4	6
110	First Star Formation in the Presence of Primordial Magnetic Fields. Astrophysical Journal Letters, 2021, 909, L21.	8.3	5
111	Single classical field description of interacting scalar fields. Physical Review D, 2022, 105, .	4.7	5
112	Field moment expansion method for interacting bosonic systems. Physical Review D, 2021, 104, .	4.7	4
113	Self-similarity of k -nearest neighbour distributions in scale-free simulations. Monthly Notices of the Royal Astronomical Society, 2021, 509, 2281-2288.	4.4	4
114	Nonthermal electron and ion acceleration by magnetic reconnection in large laser-driven plasmas. Physics of Plasmas, 2020, 27, 112111.	1.9	3
115	Black Hole Remnants of the First Stars. , 2008, , .		1
116	A new method for analyzing and visualizing plasma simulations using a phase-space tessellation. Physics of Plasmas, 2018, 25, .	1.9	1
117	Forming a primordial star in a relic HII region. Proceedings of the International Astronomical Union, 2005, 1, 169-170.	0.0	0
118	Galaxy Evolution with Adaptive Mesh Refinement. , 2008, , .		0
119	How the First Stars Shaped the First Galaxies. , 2008, , .		0
120	Population III Binary Formation. , 2010, , .		0