

Christoph Pfrommer

List of Publications by Year in descending order

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114
papers

6,571
citations

53794

45
h-index

69250

77
g-index

115
all docs

115
docs citations

115
times ranked

3813
citing authors

#	ARTICLE	IF	CITATIONS
1	Spectrally resolved cosmic rays â€“ II. Momentum-dependent cosmic ray diffusion drives powerful galactic winds. <i>Monthly Notices of the Royal Astronomical Society</i> , 2022, 510, 3917-3938.	4.4	30
2	Cold and hot gas distribution around the Milky-Way â€“ M31 system in the HESTIA simulations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2022, 512, 3717-3737.	4.4	9
3	Constraining blazar heating with the $z \approx 2$ Lyman- α forest. <i>Monthly Notices of the Royal Astronomical Society</i> , 2022, 512, 3045-3059.	4.4	1
4	Escaping the maze: a statistical subgrid model for cloud-scale density structures in the interstellar medium. <i>Monthly Notices of the Royal Astronomical Society</i> , 2022, 513, 1414-1428.	4.4	2
5	The Mechanism of Efficient Electron Acceleration at Parallel Nonrelativistic Shocks. <i>Astrophysical Journal</i> , 2022, 932, 86.	4.5	9
6	Simulating radio synchrotron emission in star-forming galaxies: small-scale magnetic dynamo and the origin of the far-infraredâ€“radio correlation. <i>Monthly Notices of the Royal Astronomical Society</i> , 2022, 515, 4229-4264.	4.4	19
7	Highly ordered magnetic fields in the tail of the jellyfish galaxy JO206. <i>Nature Astronomy</i> , 2021, 5, 159-168.	10.1	38
8	Connecting turbulent velocities and magnetic fields in galaxy cluster simulations with active galactic nuclei jets. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 503, 1327-1344.	4.4	13
9	A New Cosmic-Ray-driven Instability. <i>Astrophysical Journal</i> , 2021, 908, 206.	4.5	17
10	A finite volume method for two-moment cosmic ray hydrodynamics on a moving mesh. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 503, 2242-2264.	4.4	20
11	Suppressed heat conductivity in the intracluster medium: implications for the magneto-thermal instability. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 504, 3435-3454.	4.4	9
12	Non-Kolmogorov turbulence in multiphase intracluster medium driven by cold gas precipitation and AGN jets. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 504, 898-909.	4.4	21
13	MERGHERS pilot: MeerKAT discovery of diffuse emission in nine massive Sunyaevâ€“Zeldovich-selected galaxy clusters from ACT. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 504, 1749-1758.	4.4	9
14	Cosmic rays and non-thermal emission in simulated galaxies â€“ II. γ -ray maps, spectra, and the far-infraredâ€“ γ -ray relation. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 505, 3295-3313.	4.4	26
15	The impact of magnetic fields on cosmological galaxy mergers â€“ I. Reshaping gas and stellar discs. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 506, 229-255.	4.4	14
16	Cosmic rays and non-thermal emission in simulated galaxies â€“ I. Electron and proton spectra compared to Voyager-1 data. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 505, 3273-3294.	4.4	23
17	Cosmic rays and non-thermal emission in simulated galaxies â€“ III. Probing cosmic-ray calorimetry with radio spectra and the FIRâ€“radio correlation. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 508, 4072-4095.	4.4	25
18	The challenge of simultaneously matching the observed diversity of chemical abundance patterns in cosmological hydrodynamical simulations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 508, 3365-3387.	4.4	24

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19	Two striking headâ€“tail galaxies in the galaxy cluster IIZW108: insights into transition to turbulence, magnetic fields, and particle re-acceleration. Monthly Notices of the Royal Astronomical Society, 2021, 508, 5326-5344.	4.4	14
20	Comparing different closure relations for cosmic ray hydrodynamics. Monthly Notices of the Royal Astronomical Society, 2021, 509, 4803-4816.	4.4	9
21	Gas flows in galaxy mergers: supersonic turbulence in bridges, accretion from the circumgalactic medium, and metallicity dilution. Monthly Notices of the Royal Astronomical Society, 2021, 509, 2720-2735.	4.4	18
22	A Multiwavelength Dynamical State Analysis of ACT-CL J0019.6+0336. Galaxies, 2021, 9, 97.	3.0	2
23	Turning AGN Bubbles into Radio Relics with Sloshing: Modeling CR Transport with Realistic Physics. Galaxies, 2021, 9, 91.	3.0	9
24	Whistler-regulated Magnetohydrodynamics: Transport Equations for Electron Thermal Conduction in the High- I^2 Intracluster Medium of Galaxy Clusters. Astrophysical Journal, 2021, 923, 245.	4.5	19
25	ETHOS â€“ an effective parametrization and classification for structure formation: the non-linear regime at $z \hat{=} 5$. Monthly Notices of the Royal Astronomical Society, 2020, 498, 3403-3419.	4.4	20
26	Simulating TeV gamma-ray morphologies of shell-type supernova remnants. Monthly Notices of the Royal Astronomical Society, 2020, 498, 5557-5573.	4.4	10
27	Magnetizing the circumgalactic medium of disc galaxies. Monthly Notices of the Royal Astronomical Society, 2020, 498, 3125-3137.	4.4	40
28	The <sc>hestia</sc> project: simulations of the Local Group. Monthly Notices of the Royal Astronomical Society, 2020, 498, 2968-2983.	4.4	56
29	Constraining the coherence scale of the interstellar magnetic field using TeV gamma-ray observations of supernova remnants. Monthly Notices of the Royal Astronomical Society, 2020, 496, 2448-2461.	4.4	11
30	The effects of cosmic rays on the formation of Milky Way-mass galaxies in a cosmological context. Monthly Notices of the Royal Astronomical Society, 2020, 497, 1712-1737.	4.4	64
31	Evolution and observational signatures of the cosmic ray electron spectrum in SNâ€“1006. Monthly Notices of the Royal Astronomical Society, 2020, 499, 2785-2802.	4.4	17
32	Constraints on the Intergalactic Magnetic Field from Bow Ties in the Gamma-Ray Sky. Astrophysical Journal, 2020, 892, 123.	4.5	5
33	Braginskii viscosity on an unstructured, moving mesh accelerated with super-time-stepping. Monthly Notices of the Royal Astronomical Society, 2020, 491, 2919-2938.	4.4	10
34	The growth of the longitudinal beamâ€“plasma instability in the presence of an inhomogeneous background. Journal of Plasma Physics, 2020, 86, .	2.1	13
35	Interaction of a cold cloud with a hot wind: the regimes of cloud growth and destruction and the impact of magnetic fields. Monthly Notices of the Royal Astronomical Society, 2020, 499, 4261-4281.	4.4	72
36	Probing Cosmic-Ray Transport with Radio Synchrotron Harps in the Galactic Center. Astrophysical Journal Letters, 2020, 890, L18.	8.3	34

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37	Evolution of cosmic ray electron spectra in magnetohydrodynamical simulations. Monthly Notices of the Royal Astronomical Society, 2019, 488, 2235-2252.	4.4	34
38	The impact of magnetic fields on cold streams feeding galaxies. Monthly Notices of the Royal Astronomical Society, 2019, 489, 3368-3384.	4.4	32
39	Enhancing AGN efficiency and cool-core formation with anisotropic thermal conduction. Monthly Notices of the Royal Astronomical Society, 2019, 488, 3003-3013.	4.4	22
40	The Sunyaev-Zeldovich Effect of Simulated Jet-inflated Bubbles in Clusters. Astrophysical Journal Letters, 2019, 872, L8.	8.3	13
41	ETHOS – an Effective Theory of Structure Formation: detecting dark matter interactions through the Lyman- α forest. Monthly Notices of the Royal Astronomical Society, 2019, 487, 522-536.	4.4	23
42	On the Kelvin-Helmholtz instability with smooth initial conditions – linear theory and simulations. Monthly Notices of the Royal Astronomical Society, 2019, 485, 908-923.	4.4	23
43	Cosmic-ray hydrodynamics: Alfvén-wave regulated transport of cosmic rays. Monthly Notices of the Royal Astronomical Society, 2019, 485, 2977-3008.	4.4	74
44	The physics of multiphase gas flows: fragmentation of a radiatively cooling gas cloud in a hot wind. Monthly Notices of the Royal Astronomical Society, 2019, 482, 5401-5421.	4.4	69
45	Simulations of the dynamics of magnetized jets and cosmic rays in galaxy clusters. Monthly Notices of the Royal Astronomical Society, 2018, 481, 2878-2900.	4.4	67
46	Missing Gamma-Ray Halos and the Need for New Physics in the Gamma-Ray Sky. Astrophysical Journal, 2018, 868, 87.	4.5	35
47	Faraday rotation maps of disc galaxies. Monthly Notices of the Royal Astronomical Society, 2018, 481, 4410-4418.	4.4	44
48	IMAGINE: a comprehensive view of the interstellar medium, Galactic magnetic fields and cosmic rays. Journal of Cosmology and Astroparticle Physics, 2018, 2018, 049-049.	5.4	49
49	Growth of Beam-Plasma Instabilities in the Presence of Background Inhomogeneity. Astrophysical Journal, 2018, 859, 45.	4.5	18
50	The dependence of cosmic ray-driven galactic winds on halo mass. Monthly Notices of the Royal Astronomical Society, 2018, 475, 570-584.	4.4	65
51	The effect of cosmic ray acceleration on supernova blast wave dynamics. Monthly Notices of the Royal Astronomical Society, 2018, 478, 5278-5295.	4.4	27
52	MERGHERS: An SZ-selected cluster survey with MeerKAT. , 2018, , .		1
53	SHARP: A Spatially Higher-order, Relativistic Particle-in-cell Code. Astrophysical Journal, 2017, 841, 52.	4.5	28
54	Simulating cosmic ray physics on a moving mesh. Monthly Notices of the Royal Astronomical Society, 2017, 465, 4500-4529.	4.4	137

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55	Increasing Black Hole Feedback-induced Quenching with Anisotropic Thermal Conduction. <i>Astrophysical Journal Letters</i> , 2017, 837, L18.	8.3	40
56	Simulating Gamma-Ray Emission in Star-forming Galaxies. <i>Astrophysical Journal Letters</i> , 2017, 847, L13.	8.3	45
57	Importance of Resolving the Spectral Support of Beam-plasma Instabilities in Simulations. <i>Astrophysical Journal</i> , 2017, 848, 81.	4.5	29
58	Cosmic ray feedback in galaxies and active galactic nuclei. <i>AIP Conference Proceedings</i> , 2017, , .	0.4	2
59	Magnetic field formation in the Milky Way like disc galaxies of the Auriga project. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, 3185-3199.	4.4	120
60	Bow Ties in the Sky. II. Searching for Gamma-Ray Halos in the Fermi Sky Using Anisotropy. <i>Astrophysical Journal</i> , 2017, 850, 157.	4.5	9
61	Simulating the interaction of jets with the intracluster medium. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 470, 4530-4546.	4.4	74
62	Turbulence and particle acceleration in giant radio haloes: the origin of seed electrons. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 465, 4800-4816.	4.4	73
63	GALACTIC WINDS DRIVEN BY ISOTROPIC AND ANISOTROPIC COSMIC-RAY DIFFUSION IN DISK GALAXIES. <i>Astrophysical Journal Letters</i> , 2016, 824, L30.	8.3	122
64	THE LINEAR INSTABILITY OF DILUTE ULTRARELATIVISTIC e^{\pm} PAIR BEAMS. <i>Astrophysical Journal</i> , 2016, 833, 118.	4.5	19
65	Deep observation of the NGC 1275 region with MAGIC: search of diffuse γ -ray emission from cosmic rays in the Perseus cluster. <i>Astronomy and Astrophysics</i> , 2016, 589, A33.	5.1	40
66	BOW TIES IN THE SKY. I. THE ANGULAR STRUCTURE OF INVERSE COMPTON GAMMA-RAY HALOS IN THE FERMI SKY. <i>Astrophysical Journal</i> , 2016, 832, 109.	4.5	13
67	THE ROLE OF COSMIC-RAY PRESSURE IN ACCELERATING GALACTIC OUTFLOWS. <i>Astrophysical Journal Letters</i> , 2016, 827, L29.	8.3	113
68	ETHOS – an effective theory of structure formation: From dark particle physics to the matter distribution of the Universe. <i>Physical Review D</i> , 2016, 93, .	4.7	155
69	Shock finding on a moving-mesh – II. Hydrodynamic shocks in the Illustris universe. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 461, 4441-4465.	4.4	24
70	Semi-implicit anisotropic cosmic ray transport on an unstructured moving mesh. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 462, 2603-2616.	4.4	51
71	ETHOS – an effective theory of structure formation: dark matter physics as a possible explanation of the small-scale CDM problems. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 460, 1399-1416.	4.4	185
72	PATCHY BLAZAR HEATING: DIVERSIFYING THE THERMAL HISTORY OF THE INTERGALACTIC MEDIUM. <i>Astrophysical Journal</i> , 2015, 811, 19.	4.5	19

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73	ON THE CLUSTER PHYSICS OF SUNYAEV-ZEL'DOVICH AND X-RAY SURVEYS. IV. CHARACTERIZING DENSITY AND PRESSURE CLUMPING DUE TO INFALLING SUBSTRUCTURES. <i>Astrophysical Journal</i> , 2015, 806, 43.	4.5	26
74	THE EFFECT OF NONLINEAR LANDAU DAMPING ON ULTRARELATIVISTIC BEAM PLASMA INSTABILITIES. <i>Astrophysical Journal</i> , 2014, 797, 110.	4.5	38
75	LOWER LIMITS ON THE ANISOTROPY OF THE EXTRAGALACTIC GAMMA-RAY BACKGROUND IMPLIED BY THE 2FGL AND 1FHL CATALOGS. <i>Astrophysical Journal</i> , 2014, 796, 12.	4.5	19
76	IMPLICATIONS OF PLASMA BEAM INSTABILITIES FOR THE STATISTICS OF THE <i>FERMI</i> HARD GAMMA-RAY BLAZARS AND THE ORIGIN OF THE EXTRAGALACTIC GAMMA-RAY BACKGROUND. <i>Astrophysical Journal</i> , 2014, 790, 137.	4.5	23
77	On the physics of radio haloes in galaxy clusters: scaling relations and luminosity functions. <i>Monthly Notices of the Royal Astronomical Society</i> , 2014, 438, 124-144.	4.4	57
78	Measuring the thermal Sunyaev-Zel'dovich effect through the cross correlation of Planck and WMAP maps with ROSAT galaxy cluster catalogs. <i>Journal of Cosmology and Astroparticle Physics</i> , 2013, 2013, 064-064.	5.4	32
79	Giant radio relics in galaxy clusters: reacceleration of fossil relativistic electrons?. <i>Monthly Notices of the Royal Astronomical Society</i> , 2013, 435, 1061-1082.	4.4	129
80	ON THE CLUSTER PHYSICS OF SUNYAEV-ZEL'DOVICH AND X-RAY SURVEYS. III. MEASUREMENT BIASES AND COSMOLOGICAL EVOLUTION OF GAS AND STELLAR MASS FRACTIONS. <i>Astrophysical Journal</i> , 2013, 777, 123.	4.5	77
81	TOWARD A COMPREHENSIVE MODEL FOR FEEDBACK BY ACTIVE GALACTIC NUCLEI: NEW INSIGHTS FROM M87 OBSERVATIONS BY LOFAR, <i>FERMI</i> , AND H.E.S.S.. <i>Astrophysical Journal</i> , 2013, 779, 10.	4.5	79
82	THE COSMOLOGICAL IMPACT OF LUMINOUS TeV BLAZARS. I. IMPLICATIONS OF PLASMA INSTABILITIES FOR THE INTERGALACTIC MAGNETIC FIELD AND EXTRAGALACTIC GAMMA-RAY BACKGROUND. <i>Astrophysical Journal</i> , 2012, 752, 22.	4.5	196
83	CONSTRAINTS ON COSMIC RAYS, MAGNETIC FIELDS, AND DARK MATTER FROM GAMMA-RAY OBSERVATIONS OF THE COMA CLUSTER OF GALAXIES WITH VERITAS AND <i>FERMI</i> . <i>Astrophysical Journal</i> , 2012, 757, 123.	4.5	92
84	ON THE CLUSTER PHYSICS OF SUNYAEV-ZEL'DOVICH AND X-RAY SURVEYS. I. THE INFLUENCE OF FEEDBACK, NON-THERMAL PRESSURE, AND CLUSTER SHAPES ON Y - M SCALING RELATIONS. <i>Astrophysical Journal</i> , 2012, 758, 74.	4.5	179
85	ON THE CLUSTER PHYSICS OF SUNYAEV-ZEL'DOVICH AND X-RAY SURVEYS. II. DECONSTRUCTING THE THERMAL SZ POWER SPECTRUM. <i>Astrophysical Journal</i> , 2012, 758, 75.	4.5	163
86	Is Dark Matter with Long-Range Interactions a Solution to All Small-Scale Problems of Λ Cold Dark Matter Cosmology?. <i>Physical Review Letters</i> , 2012, 109, 231301.	7.8	196
87	THE COSMOLOGICAL IMPACT OF LUMINOUS TeV BLAZARS. II. REWRITING THE THERMAL HISTORY OF THE INTERGALACTIC MEDIUM. <i>Astrophysical Journal</i> , 2012, 752, 23.	4.5	68
88	THE COSMOLOGICAL IMPACT OF LUMINOUS TeV BLAZARS. III. IMPLICATIONS FOR GALAXY CLUSTERS AND THE FORMATION OF DWARF GALAXIES. <i>Astrophysical Journal</i> , 2012, 752, 24.	4.5	56
89	The Lyman $\hat{\tau}$ forest in a blazar-heated Universe. <i>Monthly Notices of the Royal Astronomical Society</i> , 2012, 423, 149-164.	4.4	66
90	Galactic winds driven by cosmic ray streaming. <i>Monthly Notices of the Royal Astronomical Society</i> , 2012, 423, 2374-2396.	4.4	189

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91	Constraining cosmic rays and magnetic fields in the Perseus galaxy cluster with TeV observations by the MAGIC telescopes. <i>Astronomy and Astrophysics</i> , 2012, 541, A99.	5.1	64
92	Cosmic ray transport in galaxy clusters: implications for radio halos, gamma-ray signatures, and cool core heating. <i>Astronomy and Astrophysics</i> , 2011, 527, A99.	5.1	150
93	RADIO GALAXY NGC 1265 UNVEILS THE ACCRETION SHOCK ONTO THE PERSEUS GALAXY CLUSTER. <i>Astrophysical Journal</i> , 2011, 730, 22.	4.5	37
94	Simulating the γ -ray emission from galaxy clusters: a universal cosmic ray spectrum and spatial distribution. <i>Monthly Notices of the Royal Astronomical Society</i> , 2010, 409, 449-480.	4.4	89
95	Detecting the orientation of magnetic fields in galaxy clusters. <i>Nature Physics</i> , 2010, 6, 520-526.	16.7	61
96	SIMULATIONS OF THE SUNYAEV-ZEL'DOVICH POWER SPECTRUM WITH ACTIVE GALACTIC NUCLEUS FEEDBACK. <i>Astrophysical Journal</i> , 2010, 725, 91-99.	4.5	171
97	Exploring the magnetized cosmic web through low-frequency radio emission. <i>Monthly Notices of the Royal Astronomical Society</i> , 2009, 393, 1073-1089.	4.4	43
98	Simulating cosmic rays in clusters of galaxies – II. A unified scheme for radio haloes and relics with predictions of the γ -ray emission. <i>Monthly Notices of the Royal Astronomical Society</i> , 2008, 385, 1211-1241.	4.4	133
99	Simulations of cosmic-ray feedback by active galactic nuclei in galaxy clusters. <i>Monthly Notices of the Royal Astronomical Society</i> , 2008, 387, 1403-1415.	4.4	92
100	Draping of Cluster Magnetic Fields over Bullets and Bubbles – Morphology and Dynamic Effects. <i>Astrophysical Journal</i> , 2008, 677, 993-1018.	4.5	200
101	Cosmic ray feedback in hydrodynamical simulations of galaxy formation. <i>Astronomy and Astrophysics</i> , 2008, 481, 33-63.	5.1	155
102	Cosmic ray physics in calculations of cosmological structure formation. <i>Astronomy and Astrophysics</i> , 2007, 473, 41-57.	5.1	102
103	Simulating cosmic rays in clusters of galaxies - I. Effects on the Sunyaev-Zel'dovich effect and the X-ray emission. <i>Monthly Notices of the Royal Astronomical Society</i> , 2007, 378, 385-408.	4.4	119
104	Impact of tangled magnetic fields on fossil radio bubbles. <i>Monthly Notices of the Royal Astronomical Society</i> , 2007, 378, 662-672.	4.4	113
105	Particle acceleration processes in the cosmic large-scale structure. <i>Proceedings of the International Astronomical Union</i> , 2006, 2, 372-373.	0.0	0
106	Detecting shock waves in cosmological smoothed particle hydrodynamics simulations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2006, 367, 113-131.	4.4	214
107	Radio emission of galaxy clusters. <i>Astronomische Nachrichten</i> , 2006, 327, 569-570.	1.2	0
108	Unveiling the composition of radio plasma bubbles in galaxy clusters with the Sunyaev-Zel'dovich effect. <i>Astronomy and Astrophysics</i> , 2005, 430, 799-810.	5.1	45

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109	Estimating galaxy cluster magnetic fields by the classical and hadronic minimum energy criterion. Monthly Notices of the Royal Astronomical Society, 2004, 352, 76-90.	4.4	56
110	Constraining the population of cosmic ray protons in cooling flow clusters with γ -ray and radio observations: Are radio mini-halos of hadronic origin?. Astronomy and Astrophysics, 2004, 413, 17-36.	5.1	224
111	Cosmic ray-driven galactic winds: streaming or diffusion?. Monthly Notices of the Royal Astronomical Society, 0, , stx127.	4.4	77
112	Cosmic ray heating in cool core clusters I: diversity of steady state solutions. Monthly Notices of the Royal Astronomical Society, 0, , stx131.	4.4	39
113	Cosmic ray heating in cool core clusters II: Self-regulation cycle and non-thermal emission. Monthly Notices of the Royal Astronomical Society, 0, , stx132.	4.4	34
114	Spectrally resolved cosmic ray hydrodynamics – I. Spectral scheme. Monthly Notices of the Royal Astronomical Society, 0, , .	4.4	28