Jens Chluba

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

134 papers	14,538 citations	43 h-index	120 g-index
137 ext. papers	18,826 ext. citations	4.8 avg, IF	6.31 L-index

#	Paper	IF	Citations
134	Leverage on small-scale primordial non-Gaussianity through cross-correlations between CMB E-mode and □distortion anisotropies. *Monthly Notices of the Royal Astronomical Society*, **2022**, 512, 455-470	4.3	0
133	Cosmology Intertwined: A Review of the Particle Physics, Astrophysics, and Cosmology Associated with the Cosmological Tensions and Anomalies. *Journal of High Energy Astrophysics*, **2022**, 34, 49-49	2.5	17
132	The Simons Observatory: Galactic Science Goals and Forecasts. *Astrophysical Journal*, **2022**, 929, 166	4.7	1
131	Dust moments: towards a new modeling of the galactic dust emission for CMB B-modes analysis. *Astronomy and Astrophysics*, **2021**, 647, A52	5.1	7
130	A space mission to map the entire observable universe using the CMB as a backlight. *Experimental Astronomy*, **2021**, 51, 1555	1.3	0
129	Bridging the gap: spectral distortions meet gravitational waves. *Monthly Notices of the Royal Astronomical Society*, **2021**, 505, 4396-4405	4.3	11
128	New horizons in cosmology with spectral distortions of the cosmic microwave background. *Experimental Astronomy*, **2021**, 51, 1515	1.3	11
127	The Simons Observatory: gain, bandpass and polarization-angle calibration requirements for B-mode searches. *Journal of Cosmology and Astroparticle Physics*, **2021**, 2021, 032	6.4	6
126	Removing the giants and learning from the crowd: A new SZ power spectrum method and revised Compton y-map analysis. *Monthly Notices of the Royal Astronomical Society*, **2021**, 503, 5310-5328	4.3	2
125	Peeling off foregrounds with the constrained moment ILC method to unveil primordial CMB B modes. *Monthly Notices of the Royal Astronomical Society*, **2021**, 503, 2478-2498	4.3	8
124	Spectral distortion constraints on photon injection from low-mass decaying particles. *Monthly Notices of the Royal Astronomical Society*, **2021**, 507, 3148-3178	4.3	1
123	Comparison of numerical methods for computing the repeated Compton scattering of photons in isotropic media. *Monthly Notices of the Royal Astronomical Society*, **2021**, 507, 2052-2072	4.3	0
122	Snowmass2021 - Letter of interest cosmology intertwined I: Perspectives for the next decade. *Astroparticle Physics*, **2021**, 131, 102606	2.4	13
121	Understanding matched filters for precision cosmology. *Monthly Notices of the Royal Astronomical Society*, **2021**, 507, 4852-4863	4.3	0
120	Snowmass2021 - Letter of interest cosmology intertwined II: The hubble constant tension. *Astroparticle Physics*, **2021**, 131, 102605	2.4	65
119	Snowmass2021 - Letter of interest cosmology intertwined IV: The age of the universe and its curvature. *Astroparticle Physics*, **2021**, 131, 102607	2.4	16
118	Cosmology intertwined III: f□8 and S8. *Astroparticle Physics*, **2021**, 131, 102604	2.4	51

117	Mapping the relativistic electron gas temperature across the sky. *Monthly Notices of the Royal Astronomical Society*, **2020**, 494, 5734-5750	4.3	12
116	Including massive neutrinos in thermal Sunyaev Zeldovich power spectrum and cluster counts analyses. *Monthly Notices of the Royal Astronomical Society*, **2020**, 497, 1332-1347	4.3	8
115	Sensitivity forecasts for the cosmological recombination radiation in the presence of foregrounds. *Monthly Notices of the Royal Astronomical Society*, **2020**, 497, 4535-4548	4.3	6
114	Improved calculations of electron–ion bremsstrahlung Gaunt factors for astrophysical applications. *Monthly Notices of the Royal Astronomical Society*, **2020**, 492, 177-194	4.3	9
113	The synergy between CMB spectral distortions and anisotropies. *Journal of Cosmology and Astroparticle Physics*, **2020**, 2020, 026-026	6.4	21
112	Updated fundamental constant constraints from Planck 2018 data and possible relations to the Hubble tension. *Monthly Notices of the Royal Astronomical Society*, **2020**, 493, 3255-3263	4.3	30
111	Measuring the Hubble Constant from the Cooling of the CMB Monopole. *Astrophysical Journal*, **2020**, 893, 18	4.7	3
110	Enlightening the dark ages with dark matter. *Journal of Cosmology and Astroparticle Physics*, **2020**, 2020, 020-020	6.4	2
109	The double Compton process in astrophysical plasmas. *Journal of Cosmology and Astroparticle Physics*, **2020**, 2020, 025-025	6.4	6
108	Thermalization of large energy release in the early Universe. *Monthly Notices of the Royal Astronomical Society*, **2020**, 498, 959-980	4.3	10
107	Relativistic SZ temperature scaling relations of groups and clusters derived from the BAHAMAS and MACSIS simulations. *Monthly Notices of the Royal Astronomical Society*, **2020**, 493, 3274-3292	4.3	10
106	Planck 2018 results. *Astronomy and Astrophysics*, **2020**, 641, A6	5.1	2476
105	Improved model-independent constraints on the recombination era and development of a direct projection method. *Monthly Notices of the Royal Astronomical Society*, **2020**, 495, 4210-4226	4.3	2
104	Can we neglect relativistic temperature corrections in thePlanckthermal SZ analysis?. *Monthly Notices of the Royal Astronomical Society*, **2019**, 483, 3459-3464	4.3	25
103	The Simons Observatory: science goals and forecasts. *Journal of Cosmology and Astroparticle Physics*, **2019**, 2019, 056-056	6.4	325
102	Improved CMB anisotropy constraints on primordial magnetic fields from the post-recombination ionization history. *Monthly Notices of the Royal Astronomical Society*, **2019**, 484, 185-195	4.3	20
101	Astrophysics with the Spatially and Spectrally Resolved Sunyaev-Zeldovich Effects. *Space Science Reviews*, **2019**, 215, 1	7.5	71
100	Dissecting the Compton scattering kernel I: Isotropic media. *Monthly Notices of the Royal Astronomical Society*, **2019**, 490, 3705-3726	4.3	5

99	Exploring cosmic origins with CORE: Survey requirements and mission design. *Journal of Cosmology and Astroparticle Physics*, **2018**, 2018, 014-014	6.4	68
98	Exploring cosmic origins with CORE: The instrument. *Journal of Cosmology and Astroparticle Physics*, **2018**, 2018, 015-015	6.4	15
97	Exploring cosmic origins with CORE: Inflation. *Journal of Cosmology and Astroparticle Physics*, **2018**, 2018, 016-016	6.4	52
96	Exploring cosmic origins with CORE: Cosmological parameters. *Journal of Cosmology and Astroparticle Physics*, **2018**, 2018, 017-017	6.4	54
95	Exploring cosmic origins with CORE: Gravitational lensing of the CMB. *Journal of Cosmology and Astroparticle Physics*, **2018**, 2018, 018-018	6.4	20
94	Exploring cosmic origins with CORE: Cluster science. *Journal of Cosmology and Astroparticle Physics*, **2018**, 2018, 019-019	6.4	15
93	Exploring cosmic origins with CORE: Extragalactic sources in cosmic microwave background maps. *Journal of Cosmology and Astroparticle Physics*, **2018**, 2018, 020-020	6.4	18
92	Exploring cosmic origins with CORE: Effects of observer peculiar motion. *Journal of Cosmology and Astroparticle Physics*, **2018**, 2018, 021-021	6.4	12
91	Exploring cosmic origins with CORE: Mitigation of systematic effects. *Journal of Cosmology and Astroparticle Physics*, **2018**, 2018, 022-022	6.4	11
90	Exploring cosmic origins with CORE:B-mode component separation. *Journal of Cosmology and Astroparticle Physics*, **2018**, 2018, 023-023	6.4	33
89	Impact of theoretical assumptions in the determination of the neutrino effective number from future CMB measurements. *Physical Review D*, **2018**, 97,	4.9	6
88	Magnetic heating across the cosmological recombination era: results from 3D MHD simulations. *Monthly Notices of the Royal Astronomical Society*, **2018**, 481, 3401-3422	4.3	8
87	Extracting foreground-obscured □-distortion anisotropies to constrain primordial non-Gaussianity. *Monthly Notices of the Royal Astronomical Society*, **2018**, 478, 807-824	4.3	9
86	New constraints on time-dependent variations of fundamental constants using Planck data. *Monthly Notices of the Royal Astronomical Society*, **2018**, 474, 1850-1861	4.3	27
85	Planck's view on the spectrum of the Sunyaev–Zeldovich effect. *Monthly Notices of the Royal Astronomical Society*, **2018**, 476, 3360-3381	4.3	32
84	Modeling the Radio Foreground for Detection of CMB Spectral Distortions from the Cosmic Dawn and the Epoch of Reionization. *Astrophysical Journal*, **2017**, 840, 33	4.7	22
83	GMOSS: ALL-SKY MODEL OF SPECTRAL RADIO BRIGHTNESS BASED ON PHYSICAL COMPONENTS AND ASSOCIATED RADIATIVE PROCESSES. *Astronomical Journal*, **2017**, 153, 26	4.9	8
82	Prospects for measuring cosmic microwave background spectral distortions in the presence of foregrounds. *Monthly Notices of the Royal Astronomical Society*, **2017**, 471, 1126-1140	4.3	39

81	Double Compton and Cyclo-Synchrotron in Super-Eddington Discs, Magnetized Coronae, and Jets. *Monthly Notices of the Royal Astronomical Society*, **2017**, stx227	4.3	6
80	Shedding light on the small-scale crisis with CMB spectral distortions. *Physical Review D*, **2017**, 95,	4.9	29
79	Evolution of CMB spectral distortion anisotropies and tests of primordial non-Gaussianity. *Monthly Notices of the Royal Astronomical Society*, **2017**, 466, 2390-2401	4.3	16
78	Rethinking CMB foregrounds: systematic extension of foreground parametrizations. *Monthly Notices of the Royal Astronomical Society*, **2017**, 472, 1195-1213	4.3	34
77	Which spectral distortions does ΛCDM actually predict?. *Monthly Notices of the Royal Astronomical Society*, **2016**, 460, 227-239	4.3	54
76	cosmospec: fast and detailed computation of the cosmological recombination radiation from hydrogen and helium. *Monthly Notices of the Royal Astronomical Society*, **2016**, 456, 3494-3508	4.3	27
75	Constraints on gravitino decay and the scale of inflation using CMB spectral distortions. *Physical Review D*, **2016**, 94,	4.9	15
74	Planck2015 results. *Astronomy and Astrophysics*, **2016**, 594, A19	5.1	220
73	Planck2015 results. *Astronomy and Astrophysics*, **2016**, 594, A1	5.1	596
72	THE ALMA SPECTROSCOPIC SURVEY IN THE HUBBLE ULTRA DEEP FIELD: IMPLICATIONS FOR SPECTRAL LINE INTENSITY MAPPING AT MILLIMETER WAVELENGTHS AND CMB SPECTRAL DISTORTIONS. *Astrophysical Journal*, **2016**, 833, 73	4.7	21
71	The Primordial Inflation Explorer (PIXIE) **2016**,		27
70	Planck2015 results. *Astronomy and Astrophysics*, **2016**, 594, A13	5.1	6658
69	Detecting the cosmological recombination signal from space. *Monthly Notices of the Royal Astronomical Society*, **2015**, 451, 4460-4470	4.3	12
68	Spectral distortions from the dissipation of tensor perturbations. *Monthly Notices of the Royal Astronomical Society*, **2015**, 446, 2871-2886	4.3	25
67	Green's function of the cosmological thermalization problem II. Effect of photon injection and constraints. *Monthly Notices of the Royal Astronomical Society*, **2015**, 454, 4182-4196	4.3	40
66	Probing the scale dependence of non-Gaussianity with spectral distortions of the cosmic microwave background. *Physical Review D*, **2015**, 91,	4.9	35
65	Constraints on Dark Matter Interactions with Standard Model Particles from Cosmic Microwave Background Spectral Distortions. *Physical Review Letters*, **2015**, 115, 071304	7.4	75
64	Taking the Universe's Temperature with Spectral Distortions of the Cosmic Microwave Background. *Physical Review Letters*, **2015**, 115, 261301	7.4	52

63	ON THE DETECTION OF SPECTRAL RIPPLES FROM THE RECOMBINATION EPOCH. *Astrophysical Journal*, **2015**, 810, 3	4.7	22
62	SPECTRAL DISTORTIONS OF THE CMB DIPOLE. *Astrophysical Journal*, **2015**, 810, 131	4.7	15
61	Features and new physical scales in primordial observables: Theory and observation. *International Journal of Modern Physics D*, **2015**, 24, 1530023	2.2	110
60	Effect of primordial magnetic fields on the ionization history. *Monthly Notices of the Royal Astronomical Society*, **2015**, 451, 2244-2250	4.3	54
59	Astronomy. Next steps for cosmology. *Science*, **2014**, 344, 586-8	33.3	9
58	Tests of the CMB temperature-redshift relation, CMB spectral distortions and why adiabatic photon production is hard. *Monthly Notices of the Royal Astronomical Society*, **2014**, 443, 1881-1888	4.3	29
57	Teasing bits of information out of the CMB energy spectrum. *Monthly Notices of the Royal Astronomical Society*, **2014**, 438, 2065-2082	4.3	69
56	PRISM (Polarized Radiation Imaging and Spectroscopy Mission): an extended white paper. *Journal of Cosmology and Astroparticle Physics*, **2014**, 2014, 006-006	6.4	107
55	Atomic, Molecular, and Optical Physics in the Early Universe: From Recombination to Reionization. *Advances in Atomic, Molecular and Optical Physics*, **2014**, 63, 135-270	1.7	11
54	Multiple scattering Sunyaev□eldovich signal □I. Relativistic effects. *Monthly Notices of the Royal Astronomical Society*, **2014**, 438, 1324-1334	4.3	6
53	Silk damping at a redshift of a billion: new limit on small-scale adiabatic perturbations. *Physical Review Letters*, **2014**, 113, 061301	7.4	56
52	New operator approach to the CMB aberration kernels in harmonic space. *Physical Review D*, **2014**, 89,	4.9	10
51	Effect of aberration on partial-sky measurements of the cosmic microwave background temperature power spectrum. *Physical Review D*, **2014**, 89,	4.9	23
50	Multiple scattering Sunyaev□eldovich signal □. Lowest order effect. *Monthly Notices of the Royal Astronomical Society*, **2014**, 437, 67-76	4.3	6
49	Refined approximations for the distortion visibility function and □type spectral distortions. *Monthly Notices of the Royal Astronomical Society*, **2014**, 440, 2544-2563	4.3	17
48	Linking the BICEP2 result and the hemispherical power asymmetry through spatial variation of r. *Monthly Notices of the Royal Astronomical Society*, **2014**, 442, 670-673	4.3	9
47	Cosmological parameters from pre-planck cosmic microwave background measurements. *Physical Review D*, **2013**, 87,	4.9	64
46	Non-thermal photons and H2 formation in the early Universe. *Monthly Notices of the Royal Astronomical Society*, **2013**, 434, 114-122	4.3	17

45	Green's function of the cosmological thermalization problem. *Monthly Notices of the Royal Astronomical Society*, **2013**, 434, 352-357	4.3	46
44	Sunyaev–Zeldovich signal processing and temperature–velocity moment method for individual clusters. *Monthly Notices of the Royal Astronomical Society*, **2013**, 430, 3054-3069	4.3	31
43	Distinguishing different scenarios of early energy release with spectral distortions of the cosmic microwave background. *Monthly Notices of the Royal Astronomical Society*, **2013**, 436, 2232-2243	4.3	62
42	CMB spectral distortions from small-scale isocurvature fluctuations. *Monthly Notices of the Royal Astronomical Society*, **2013**, 434, 1619-1635	4.3	46
41	The pesky power asymmetry. *Physical Review D*, **2013**, 87,	4.9	75
40	CONSTRAINTS ON PERTURBATIONS TO THE RECOMBINATION HISTORY FROM MEASUREMENTS OF THE COSMIC MICROWAVE BACKGROUND DAMPING TAIL. *Astrophysical Journal*, **2013**, 764, 137	4.7	14
39	Radiative transfer effects during primordial helium recombination. *Monthly Notices of the Royal Astronomical Society*, **2012**, 423, 3227-3242	4.3	14
38	CMB at 2 × 2 order: the dissipation of primordial acoustic waves and the observable part of the associated energy release. *Monthly Notices of the Royal Astronomical Society*, **2012**, 425, 1129-1169	4.3	134
37	Does Bose-Einstein condensation of CMB photons cancel μ distortions created by dissipation of sound waves in the early Universe?. *Astronomy and Astrophysics*, **2012**, 540, A124	5.1	53
36	The evolution of CMB spectral distortions in the early Universe. *Monthly Notices of the Royal Astronomical Society*, **2012**, 419, 1294-1314	4.3	216
35	A fast and accurate method for computing the Sunyaev-Zeldovich signal of hot galaxy clusters. *Monthly Notices of the Royal Astronomical Society*, **2012**, 426, 510-530	4.3	66
34	PROBING THE INFLATON: SMALL-SCALE POWER SPECTRUM CONSTRAINTS FROM MEASUREMENTS OF THE COSMIC MICROWAVE BACKGROUND ENERGY SPECTRUM. *Astrophysical Journal*, **2012**, 758, 76	4.7	155
33	SEMI-BLIND EIGEN ANALYSES OF RECOMBINATION HISTORIES USING COSMIC MICROWAVE BACKGROUND DATA. *Astrophysical Journal*, **2012**, 752, 88	4.7	15
32	Mixing of blackbodies: entropy production and dissipation of sound waves in the early Universe. *Astronomy and Astrophysics*, **2012**, 543, A136	5.1	49
31	WMAP7 and future CMB constraints on annihilating dark matter: implications for GeV-scale WIMPs. *Astronomy and Astrophysics*, **2011**, 535, A26	5.1	89
30	Precise cosmological parameter estimation using CosmoRec. *Monthly Notices of the Royal Astronomical Society*, **2011**, 415, 1343-1354	4.3	26
29	Fast and accurate computation of the aberration kernel for the cosmic microwave background sky. *Monthly Notices of the Royal Astronomical Society*, **2011**, 415, 3227-3236	4.3	27
28	Towards a complete treatment of the cosmological recombination problem. *Monthly Notices of the Royal Astronomical Society*, **2010**, no-no	4.3	73

27	Cosmological recombination: feedback of helium photons and its effect on the recombination spectrum. *Monthly Notices of the Royal Astronomical Society*, **2010**, 402, 1221-1248	4.3	28
26	Estimating the impact of recombination uncertainties on the cosmological parameter constraints from cosmic microwave background experiments. *Monthly Notices of the Royal Astronomical Society* , **2010**, 403, 439-452	4.3	49
25	Recombinations to the Rydberg states of hydrogen and their effect during the cosmological recombination epoch. *Monthly Notices of the Royal Astronomical Society*, **2010**, 407, 599-612	4.3	58
24	Could the cosmological recombination spectrum help us understand annihilating dark matter?. *Monthly Notices of the Royal Astronomical Society*, **2010**, 402, 1195-1207	4.3	66
23	Ly escape during cosmological hydrogen recombination: the 3d-1s and 3s-1s two-photon processes. *Astronomy and Astrophysics*, **2010**, 512, A53	5.1	19
22	Time-dependent corrections to the Ly escape probability during cosmological recombination. *Astronomy and Astrophysics*, **2009**, 496, 619-635	5.1	27
21	Signals from the epoch of cosmological recombination Karl Schwarzschild Award Lecture 2008. *Astronomische Nachrichten*, **2009**, 330, 657-674	0.7	59
20	Cosmological hydrogen recombination: influence of resonance and electron scattering. *Astronomy and Astrophysics*, **2009**, 503, 345-355	5.1	27
19	RICO: A NEW APPROACH FOR FAST AND ACCURATE REPRESENTATION OF THE COSMOLOGICAL RECOMBINATION HISTORY. *Astrophysical Journal, Supplement Series*, **2009**, 181, 627-638	8	39
18	Pre-recombinational energy release and narrow features in the CMB spectrum. *Astronomy and Astrophysics*, **2009**, 501, 29-47	5.1	33
17	Two-photon transitions in hydrogen and cosmological recombination. *Astronomy and Astrophysics*, **2008**, 480, 629-645	5.1	65
16	Is there a need and another way to measure the cosmic microwave background temperature more accurately?. *Astronomy and Astrophysics*, **2008**, 478, L27-L30	5.1	32
15	Evolution of low-frequency features in the CMB spectrum due to stimulated Compton scattering and Doppler broadening. *Astronomy and Astrophysics*, **2008**, 488, 861-865	5.1	15
14	Lines in the cosmic microwave background spectrum from the epoch of cosmological helium recombination. *Astronomy and Astrophysics*, **2008**, 485, 377-393	5.1	74
13	The double Compton emissivity in a mildly relativistic thermal plasma within the soft photon limit. *Astronomy and Astrophysics*, **2007**, 468, 785-795	5.1	20
12	Cosmological hydrogen recombination: Lyn line feedback and continuum escape. *Astronomy and Astrophysics*, **2007**, 475, 109-114	5.1	42
11	Cosmological hydrogen recombination: populations of the high-level substates. *Monthly Notices of the Royal Astronomical Society*, **2007**, 374, 1310-1320	4.3	63
10	Induced two-photon decay of the 2s level and the rate of cosmological hydrogen recombination. *Astronomy and Astrophysics*, **2006**, 446, 39-42	5.1	97

9	Lines in the cosmic microwave background spectrum from the epoch of cosmological hydrogen recombination. *Monthly Notices of the Royal Astronomical Society*, **2006**, 371, 1939-1952	4.3	73
8	Free-bound emission from cosmological hydrogen recombination. *Astronomy and Astrophysics*, **2006**, 458, L29-L32	5.1	59
7	Clusters of galaxies in the microwave band: Influence of the motion of the Solar System. *Astronomy and Astrophysics*, **2005**, 434, 811-817	5.1	28
6	Superposition of blackbodies and the dipole anisotropy: A possibility to calibrate CMB experiments. *Astronomy and Astrophysics*, **2004**, 424, 389-408	5.1	51
5	Kinetic Sunyaev-Zeldovich effect from galaxy cluster rotation. *Astronomy and Astrophysics*, **2002**, 396, 419-427	5.1	32
4	Clarifying transfer function approximations for the large-scale gravitational wave background in CDM. *Monthly Notices of the Royal Astronomical Society*,	4.3	3
3	Combining ILC and moment expansion techniques for extracting average-sky signals and CMB anisotropies. *Monthly Notices of the Royal Astronomical Society*,	4.3	5
2	Microwave spectro-polarimetry of matter and radiation across space and time. *Experimental Astronomy*,1	1.3	5
1	Signals From the Epoch of Cosmological Recombination1-38		1