

Matias Zaldarriaga

List of Publications by Year in descending order

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105
papers

15,389
citations

18482

62
h-index

34986

98
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105
all docs

105
docs citations

105
times ranked

4950
citing authors

#	ARTICLE	IF	CITATIONS
1	A Line-of-Sight Integration Approach to Cosmic Microwave Background Anisotropies. <i>Astrophysical Journal</i> , 1996, 469, 437.	4.5	1,788
2	All-sky analysis of polarization in the microwave background. <i>Physical Review D</i> , 1997, 55, 1830-1840.	4.7	884
3	Signature of Gravity Waves in the Polarization of the Microwave Background. <i>Physical Review Letters</i> , 1997, 78, 2054-2057.	7.8	772
4	A NEW CALCULATION OF THE IONIZING BACKGROUND SPECTRUM AND THE EFFECTS OF He II REIONIZATION. <i>Astrophysical Journal</i> , 2009, 703, 1416-1443.	4.5	529
5	The Growth of HiiRegions During Reionization. <i>Astrophysical Journal</i> , 2004, 613, 1-15.	4.5	508
6	Significance of the largest scale CMB fluctuations in WMAP. <i>Physical Review D</i> , 2004, 69, .	4.7	488
7	Gravitational lensing effect on cosmic microwave background polarization. <i>Physical Review D</i> , 1998, 58, .	4.7	400
8	Cosmological Parameter Estimation Using 21 cm Radiation from the Epoch of Reionization. <i>Astrophysical Journal</i> , 2006, 653, 815-834.	4.5	385
9	21 Centimeter Fluctuations from Cosmic Gas at High Redshifts. <i>Astrophysical Journal</i> , 2004, 608, 622-635.	4.5	368
10	Microwave Background Constraints on Cosmological Parameters. <i>Astrophysical Journal</i> , 1997, 488, 1-13.	4.5	360
11	The end of unified dark matter?. <i>Physical Review D</i> , 2004, 69, .	4.7	357
12	Measuring the Small-Scale Power Spectrum of Cosmic Density Fluctuations through 21Åcm Tomography Prior to the Epoch of Structure Formation. <i>Physical Review Letters</i> , 2004, 92, 211301.	7.8	279
13	Simulations and Analytic Calculations of Bubble Growth during Hydrogen Reionization. <i>Astrophysical Journal</i> , 2007, 654, 12-26.	4.5	273
14	New perspective on galaxy clustering as a cosmological probe: General relativistic effects. <i>Physical Review D</i> , 2009, 80, .	4.7	255
15	Probing Inflation with CMB Polarization. , 2009, , .		252
16	He II REIONIZATION AND ITS EFFECT ON THE INTERGALACTIC MEDIUM. <i>Astrophysical Journal</i> , 2009, 694, 842-866.	4.5	219
17	Studying reionization with Ly $\hat{\pm}$ emitters. <i>Monthly Notices of the Royal Astronomical Society</i> , 2007, 381, 75-96.	4.4	212
18	Evolution of the Intergalactic Opacity: Implications for the Ionizing Background, Cosmic Star Formation, and Quasar Activity. <i>Astrophysical Journal</i> , 2008, 688, 85-107.	4.5	208

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19	Cosmic Microwave Background Observables and Their Cosmological Implications. <i>Astrophysical Journal</i> , 2001, 549, 669-680.	4.5	207
20	Small-scale power spectrum of cold dark matter. <i>Physical Review D</i> , 2005, 71, .	4.7	206
21	How accurately can 21cm tomography constrain cosmology?. <i>Physical Review D</i> , 2008, 78, .	4.7	202
22	Power Spectrum Correlations Induced by Nonlinear Clustering. <i>Astrophysical Journal</i> , 1999, 527, 1-15.	4.5	201
23	A Direct Precision Measurement of the Intergalactic Ly α Opacity at $z \approx 4.2$. <i>Astrophysical Journal</i> , 2008, 681, 831-855.	4.5	199
24	Ly α COOLING EMISSION FROM GALAXY FORMATION. <i>Astrophysical Journal</i> , 2010, 725, 633-657.	4.5	196
25	Statistical Probes of Reionization with 21 Centimeter Tomography. <i>Astrophysical Journal</i> , 2004, 613, 16-22.	4.5	177
26	Reconstructing projected matter density power spectrum from cosmic microwave background. <i>Physical Review D</i> , 1999, 59, .	4.7	173
27	Polarization of the microwave background in reionized models. <i>Physical Review D</i> , 1997, 55, 1822-1829.	4.7	163
28	Supernovae, CMB, and gravitational leakage into extra dimensions. <i>Physical Review D</i> , 2002, 66, .	4.7	155
29	Complete treatment of CMB anisotropies in a FRW universe. <i>Physical Review D</i> , 1998, 57, 3290-3301.	4.7	145
30	Detecting the Rise and Fall of 21 cm Fluctuations with the Murchison Widefield Array. <i>Astrophysical Journal</i> , 2008, 680, 962-974.	4.5	144
31	The effective field theory of multifield inflation. <i>Journal of High Energy Physics</i> , 2012, 2012, 1.	4.7	143
32	Benchmark parameters for CMB polarization experiments. <i>Physical Review D</i> , 2003, 67, .	4.7	142
33	Is cosmology consistent?. <i>Physical Review D</i> , 2002, 65, .	4.7	132
34	Analytic approach to the polarization of the cosmic microwave background in flat and open universes. <i>Physical Review D</i> , 1995, 52, 3276-3287.	4.7	131
35	A MEASUREMENT OF SMALL-SCALE STRUCTURE IN THE $z \approx 4.2$ Ly α FOREST. <i>Astrophysical Journal</i> , 2010, 718, 199-230.	4.5	131
36	Constraints from the Ly α Forest Power Spectrum. <i>Astrophysical Journal</i> , 2001, 557, 519-526.	4.5	130

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37	Instability of dark energy with mass-varying neutrinos. <i>Physical Review D</i> , 2005, 72, .	4.7	129
38	E/Bdecomposition of finite pixelized CMB maps. <i>Physical Review D</i> , 2003, 67, .	4.7	125
39	The Kinetic Sunyaev-Zeldovich Effect from Reionization. <i>Astrophysical Journal</i> , 2005, 630, 643-656.	4.5	125
40	Towards a refined cosmic concordance model: Joint 11-parameter constraints from the cosmic microwave background and large-scale structure. <i>Physical Review D</i> , 2001, 63, .	4.7	114
41	An improved method for 21-cm foreground removal. <i>Monthly Notices of the Royal Astronomical Society</i> , 2009, 398, 401-406.	4.4	110
42	Separating the early universe from the late universe: Cosmological parameter estimation beyond the black box. <i>Physical Review D</i> , 2002, 66, .	4.7	105
43	Quasar Proximity Zones and Patchy Reionization. <i>Astrophysical Journal</i> , 2007, 670, 39-59.	4.5	102
44	Integral Solution for the Microwave Background Anisotropies in Nonflat Universes. <i>Astrophysical Journal</i> , 1998, 494, 491-502.	4.5	101
45	Fast Fourier transform telescope. <i>Physical Review D</i> , 2009, 79, .	4.7	99
46	New Microwave Background Constraints on the Cosmic Matter Budget: Trouble for Nucleosynthesis?. <i>Physical Review Letters</i> , 2000, 85, 2240-2243.	7.8	98
47	The Influence of Nonuniform Reionization on the CMB. <i>Astrophysical Journal</i> , 2005, 630, 657-666.	4.5	97
48	Measuring Dark Matter Power Spectrum from Cosmic Microwave Background. <i>Physical Review Letters</i> , 1999, 82, 2636-2639.	7.8	96
49	PROBING REIONIZATION WITH THE 21 CM GALAXY CROSS-POWER SPECTRUM. <i>Astrophysical Journal</i> , 2009, 690, 252-266.	4.5	93
50	Cosmic Microwave Background Polarization as a Direct Test of Inflation. <i>Physical Review Letters</i> , 1997, 79, 2180-2183.	7.8	91
51	Lensing of the CMB: Non-Gaussian aspects. <i>Physical Review D</i> , 2000, 62, .	4.7	91
52	Algorithms for bispectra: forecasting, optimal analysis and simulation. <i>Monthly Notices of the Royal Astronomical Society</i> , 2011, 417, 2-19.	4.4	91
53	Current Cosmological Constraints from a 10 Parameter Cosmic Microwave Background Analysis. <i>Astrophysical Journal</i> , 2000, 544, 30-42.	4.5	90
54	Precision calibration of radio interferometers using redundant baselines. <i>Monthly Notices of the Royal Astronomical Society</i> , 2010, 408, 1029-1050.	4.4	86

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55	CMBFAST for Spatially Closed Universes. <i>Astrophysical Journal, Supplement Series</i> , 2000, 129, 431-434.	7.7	85
56	General solution to the E mixing problem. <i>Physical Review D</i> , 2007, 76, .	4.7	77
57	A Flat Photoionization Rate at $z \sim 4.2$: Evidence for a Stellar-Dominated UV Background and against a Decline of Cosmic Star Formation beyond $z \sim 3$. <i>Astrophysical Journal</i> , 2008, 682, L9-L12.	4.5	77
58	The EBEX experiment. , 2004, , .		76
59	Comparison of cosmological Boltzmann codes: Are we ready for high precision cosmology?. <i>Physical Review D</i> , 2003, 68, .	4.7	75
60	Will point sources spoil 21-cm tomography?. <i>Monthly Notices of the Royal Astronomical Society</i> , 2009, 394, 1575-1587.	4.4	75
61	New sources of gravitational waves during inflation. <i>Journal of Cosmology and Astroparticle Physics</i> , 2014, 2014, 016-016.	5.4	73
62	Direct signature of an evolving gravitational potential from the cosmic microwave background. <i>Physical Review D</i> , 1999, 60, .	4.7	71
63	Nature of the B decomposition of CMB polarization. <i>Physical Review D</i> , 2001, 64, .	4.7	67
64	Cosmic Microwave Background Polarization Experiments. <i>Astrophysical Journal</i> , 1998, 503, 1-15.	4.5	65
65	Depolarization of the cosmic microwave background by a primordial magnetic field and its effect upon temperature anisotropy. <i>Physical Review D</i> , 1997, 55, 1841-1850.	4.7	62
66	Probing the Friedmann equation during recombination with future cosmic microwave background experiments. <i>Physical Review D</i> , 2003, 67, .	4.7	62
67	Lensing Reconstruction Using Redshifted 21 Centimeter Fluctuations. <i>Astrophysical Journal</i> , 2006, 653, 922-935.	4.5	61
68	Correlations in the Spatial Power Spectra Inferred from Angular Clustering: Methods and Application to the Automated Plate Measuring Survey. <i>Astrophysical Journal</i> , 2001, 546, 2-19.	4.5	60
69	Higher Order Contributions to the 21 cm Power Spectrum. <i>Astrophysical Journal</i> , 2007, 659, 865-876.	4.5	57
70	Omniscopes: Large area telescope arrays with only $N \log N$ computation cost. <i>Physical Review D</i> , 2010, 82, .	4.7	57
71	A naturally large four-point function in single field inflation. <i>Journal of Cosmology and Astroparticle Physics</i> , 2011, 2011, 003-003.	5.4	57
72	Constraining a spatially dependent rotation of the cosmic microwave background polarization. <i>Physical Review D</i> , 2009, 79, .	4.7	52

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73	Moving-mesh cosmology: properties of neutral hydrogen in absorption. Monthly Notices of the Royal Astronomical Society, 2013, 429, 3341-3352.	4.4	52
74	Inferring the Linear Power Spectrum from the Ly \pm Forest. Astrophysical Journal, 2003, 590, 1-7.	4.5	51
75	Last stand before WMAP: Cosmological parameters from lensing, CMB, and galaxy clustering. Physical Review D, 2003, 68, .	4.7	48
76	Polarization of the microwave background in inflationary cosmology. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1993, 319, 96-103.	4.1	46
77	The signatures of large-scale temperature and intensity fluctuations in the Lyman $\hat{\pm}$ forest. Monthly Notices of the Royal Astronomical Society, 2011, 415, 977-992.	4.4	46
78	Gravitational waves and the scale of inflation. Physical Review D, 2015, 91, .	4.7	44
79	Probing the neutral fraction of the IGM with GRBs during the epoch of reionization. Monthly Notices of the Royal Astronomical Society, 2008, , ???-???.	4.4	39
80	The Line-of-Sight Proximity Effect and the Mass of Quasar Host Halos. Astrophysical Journal, 2008, 673, 39-61.	4.5	39
81	Searching for Fluctuations in the Intergalactic Medium Temperature Using the Ly $\hat{\pm}$ Forest. Astrophysical Journal, 2002, 564, 153-161.	4.5	38
82	Higher Order Moments of the Cosmic Shear and Other Spin-2 Fields. Astrophysical Journal, 2003, 584, 559-565.	4.5	35
83	Lensing effect on polarization in the microwave background: Extracting the convergence power spectrum. Physical Review D, 2000, 62, .	4.7	33
84	Constraining nonstandard recombination: A worked example. Physical Review D, 2001, 63, .	4.7	33
85	How Neutral Is the Intergalactic Medium at $z \approx 6$? Astrophysical Journal, 2002, 579, 491-499.	4.5	33
86	The Impact of Temperature Fluctuations on the Ly $\hat{\pm}$ Forest Power Spectrum. Astrophysical Journal, 2006, 644, 61-70.	4.5	30
87	Primordial B -mode diagnostics and self-calibrating the CMB polarization. Physical Review D, 2010, 81, .	4.7	29
88	Eavesdropping on radio broadcasts from galactic civilizations with upcoming observatories for redshifted 21 cm radiation. Journal of Cosmology and Astroparticle Physics, 2007, 2007, 020-020.	5.4	28
89	CMBFIT: Rapid WMAP likelihood calculations with normal parameters. Physical Review D, 2004, 69, .	4.7	22
90	Improved estimation of cluster mass profiles from the cosmic microwave background. Physical Review D, 2008, 78, .	4.7	22

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91	Weak Gravitational Lensing of High-Redshift 21 cm Power Spectra. <i>Astrophysical Journal</i> , 2006, 647, 719-736.	4.5	21
92	Connections between the Cosmic Baryon Fraction, the Extragalactic Ionizing Background, and Lyman Break Galaxies. <i>Astrophysical Journal</i> , 2002, 564, 525-533.	4.5	21
93	The Imprint of Lithium Recombination on the Microwave Background Anisotropies. <i>Astrophysical Journal</i> , 2002, 564, 52-59.	4.5	17
94	Causality and primordial tensor modes. <i>Journal of Cosmology and Astroparticle Physics</i> , 2009, 2009, 013-013.	5.4	16
95	Lensing reconstruction of cluster-mass cross correlation with cosmic microwave background polarization. <i>Physical Review D</i> , 2010, 81, .	4.7	16
96	First attempt at measuring the CMB cross-polarization. <i>Physical Review D</i> , 2003, 67, .	4.7	14
97	Perturbed recombination from dark matter annihilation. <i>Physical Review D</i> , 2013, 87, .	4.7	14
98	Impact of instrumental systematic contamination on the lensing mass reconstruction using the CMB polarization. <i>Physical Review D</i> , 2009, 79, .	4.7	11
99	A Mission to Map our Origins. , 2009, , .		11
100	Software systems for operation, control, and monitoring of the EBEX instrument. <i>Proceedings of SPIE</i> , 2010, , .	0.8	7
101	The kinetic Sunyaev-Zeldovich effect from reionization. <i>New Astronomy Reviews</i> , 2006, 50, 84-88.	12.8	4
102	Reionization Science with the Cosmic Microwave Background. , 2009, , .		3
103	Lensing of the CMB: Non-Gaussian Aspects. <i>Annals of the New York Academy of Sciences</i> , 2001, 927, 84-93.	3.8	0
104	An Introduction to CMB Anisotropies. <i>Astrophysics and Space Science Library</i> , 2000, , 213-278.	2.7	0
105	Latest Cosmological Constraints on the Densities of Hot and Cold Dark Matter. , 2001, , 128-137.		0