Ilian Iliev

List of Publications by Year
in descending order

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137 papers	7,098 citations	44069 48 h-index	62596 80 g-index
139 all docs	139 docs citations	139 times ranked	3081 citing authors

#	Article	IF	Citations
1	Simulating cosmic reionization at large scales - I. The geometry of reionization. Monthly Notices of the Royal Astronomical Society, 2006, 369, 1625-1638.	4.4	300
2	Reionization and the Cosmic Dawn with the Square Kilometre Array. Experimental Astronomy, 2013, 36, 235-318.	3.7	255
3	Photoevaporation of cosmological minihaloes during reionization. Monthly Notices of the Royal Astronomical Society, 2004, 348, 753-782.	4.4	247
4	Upper Limits on the 21 cm Epoch of Reionization Power Spectrum from One Night with LOFAR. Astrophysical Journal, 2017, 838, 65.	4.5	219
5	The halo mass function through the cosmic ages. Monthly Notices of the Royal Astronomical Society, 2013, 433, 1230-1245.	4.4	197
6	Improved upper limits on the 21â€‰cm signal power spectrum of neutral hydrogen at z â‰ˆ 9.1 from LOFAR. Monthly Notices of the Royal Astronomical Society, 2020, 493, 1662-1685.	4.4	185
7	Cosmological radiative transfer codes comparison project ï¿½ï¿½ï¿½ I. The static density field tests. Monthly Notices of the Royal Astronomical Society, 2006, 371, 1057-1086.	4.4	181
8	C2-ray: A new method for photon-conserving transport of ionizing radiation. New Astronomy, 2006, 11, 374-395.	1.8	180
9	Simulating cosmic reionization at large scales - II. The 21-cm emission features and statistical signals. Monthly Notices of the Royal Astronomical Society, 2006, 372, 679-692.	4.4	176
10	Cosmic Dawn (CoDa): the first radiation-hydrodynamics simulation of reionization and galaxy formation in the Local Universe. Monthly Notices of the Royal Astronomical Society, 2016, 463, 1462-1485.	4.4	163
11	Self-regulated reionization. Monthly Notices of the Royal Astronomical Society, 2007, 376, 534-548.	4.4	161
12	Scale-dependent bias induced by local non-Gaussianity: a comparison toN-body simulations. Monthly Notices of the Royal Astronomical Society, 2009, 396, 85-96.	4.4	157
13	Simulating cosmic reionization: how large a volume is large enough?. Monthly Notices of the Royal Astronomical Society, 2014, 439, 725-743.	4.4	154
14	On the Direct Detectability of the Cosmic Dark Ages: 21 Centimeter Emission from Minihalos. Astrophysical Journal, 2002, 572, L123-L126.	4.5	138
15	Minihalo photoevaporation during cosmic reionization: evaporation times and photon consumption rates. Monthly Notices of the Royal Astronomical Society, 2005, 361, 405-414.	4.4	132
16	High-performance P3M N-body code: CUBEP3M. Monthly Notices of the Royal Astronomical Society, 2013, 436, 540-559.	4.4	123
17	THE INHOMOGENEOUS BACKGROUND OF H₂-DISSOCIATING RADIATION DURING COSMIC REIONIZATION. Astrophysical Journal, 2009, 695, 1430-1445.	4.5	109
18	Dynamical HiiRegion Evolution in Turbulent Molecular Clouds. Astrophysical Journal, 2006, 647, 397-403.	4.5	105

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19	Redshift-space distortion of the 21-cm background from the epoch of reionization - I. Methodology re-examined. Monthly Notices of the Royal Astronomical Society, 2012, 422, 926-954.	4.4	102
20	DETECTING THE RISE AND FALL OF THE FIRST STARS BY THEIR IMPACT ON COSMIC REIONIZATION. Astrophysical Journal Letters, 2012, 756, L16.	8.3	96
21	Probing ionospheric structures using the LOFAR radio telescope. Radio Science, 2016, 51, 927-941.	1.6	95
22	Cosmological radiative transfer comparison project Ã¢Â€Â“ II. The radiation-hydrodynamic tests. Monthly Notices of the Royal Astronomical Society, 2009, 400, 1283-1316.	4.4	94
23	On the use of LyÎ± emitters as probes of reionization. Monthly Notices of the Royal Astronomical Society, 2013, 428, 1366-1381.	4.4	94
24	Non-linear clustering during the cosmic Dark Ages and its effect on the 21-cm background from minihaloes. Monthly Notices of the Royal Astronomical Society, 2003, 341, 81-90.	4.4	89
25	Cosmic Dawn II (CoDa II): a new radiation-hydrodynamics simulation of the self-consistent coupling of galaxy formation and reionization. Monthly Notices of the Royal Astronomical Society, 2020, 496, 4087-4107.	4.4	89
26	A model for the post-collapse equilibrium of cosmological structure: truncated isothermal spheres from top-hat density perturbations. Monthly Notices of the Royal Astronomical Society, 1999, 307, 203-224.	4.4	87
27	Light-cone effect on the reionization 21-cm power spectrum. Monthly Notices of the Royal Astronomical Society, 2012, 424, 1877-1891.	4.4	87
28	Topology and sizes of Hâ€ƒii regions during cosmic reionization. Monthly Notices of the Royal Astronomical Society, 2011, 413, 1353-1372.	4.4	82
29	The Impact of Smallâ€Scale Structure on Cosmological Ionization Fronts and Reionization. Astrophysical Journal, 2005, 624, 491-504.	4.5	81
30	Can 21-cm observations discriminate between high-mass and low-mass galaxies as reionization sources?. Monthly Notices of the Royal Astronomical Society, 2012, 423, 2222-2253.	4.4	80
31	starbench: the D-type expansion of an Hâ€‰ii region. Monthly Notices of the Royal Astronomical Society, 2015, 453, 1324-1343.	4.4	80
32	The first power spectrum limit on the 21-cm signal of neutral hydrogen during the Cosmic Dawn at zÂ= 20â€“25 from LOFAR. Monthly Notices of the Royal Astronomical Society, 2019, 488, 4271-4287.	4.4	77
33	The effect of minihaloes on cosmic reionization. Monthly Notices of the Royal Astronomical Society, 2006, 366, 689-696.	4.4	75
34	The effect of the intergalactic environment on the observability of LyÎ± emitters during reionization. Monthly Notices of the Royal Astronomical Society, 2008, 391, 63-83.	4.4	73
35	Systematic biases in low-frequency radio interferometric data due to calibration: the LOFAR-EoR case. Monthly Notices of the Royal Astronomical Society, 2016, 463, 4317-4330.	4.4	73
36	The post-collapse equilibrium structure of cosmological haloes in a low-density universe. Monthly Notices of the Royal Astronomical Society, 2001, 325, 468-482.	4.4	71

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37	Probing reionization with LOFAR using 21-cm redshift space distortions. Monthly Notices of the Royal Astronomical Society, 2013, 435, 460-474.	4.4	69
38	Constraining the intergalactic medium at z â‰ˆ 9.1 using LOFAR Epoch of Reionization observations. Monthly Notices of the Royal Astronomical Society, 2020, 493, 4728-4747.	4.4	69
39	THE KINETIC SUNYAEV-ZEL'DOVICH EFFECT AS A PROBE OF THE PHYSICS OF COSMIC REIONIZATION: THE EFFECT OF SELF-REGULATED REIONIZATION. Astrophysical Journal, 2013, 769, 93.	4.5	64
40	The Kinetic Sunyaevâ€Želâ€™dovich Effect from Radiative Transfer Simulations of Patchy Reionization. Astrophysical Journal, 2007, 660, 933-944.	4.5	61
41	Linear polarization structures in LOFAR observations of the interstellar medium in the 3Câ€‰196 field. Astronomy and Astrophysics, 2015, 583, A137.	5.1	60
42	Cosmic variance of the local Hubble flow in large-scale cosmological simulations. Monthly Notices of the Royal Astronomical Society, 2014, 438, 1805-1812.	4.4	58
43	Polarization leakage in epoch of reionization windows â€“ I. Low Frequency Array observations of the 3C196 field. Monthly Notices of the Royal Astronomical Society, 2015, 451, 3709-3727.	4.4	58
44	Current models of the observable consequences of cosmic reionization and their detectability. Monthly Notices of the Royal Astronomical Society, 2008, 384, 863-874.	4.4	56
45	Light cone effect on the reionization 21-cm signal â€“ II. Evolution, anisotropies and observational implications. Monthly Notices of the Royal Astronomical Society, 2014, 442, 1491-1506.	4.4	55
46	Tight constraints on the excess radio background at zÂ= 9.1 from LOFAR. Monthly Notices of the Royal Astronomical Society, 2020, 498, 4178-4191.	4.4	55
47	Detection and extraction of signals from the epoch of reionization using higher-order one-point statistics. Monthly Notices of the Royal Astronomical Society, 2009, 393, 1449-1458.	4.4	52
48	Bubble size statistics during reionization from 21-cm tomography. Monthly Notices of the Royal Astronomical Society, 2018, 473, 2949-2964.	4.4	50
49	The 21 cm Background from the Cosmic Dark Ages: Minihalos and the Intergalactic Medium before Reionization. Astrophysical Journal, 2006, 646, 681-690.	4.5	48
50	THE COSMIC NEAR-INFRARED BACKGROUND. II. FLUCTUATIONS. Astrophysical Journal, 2010, 710, 1089-1110.	4.5	48
51	Statistics of extreme objects in the Juropa Hubble Volume simulationâ˜…. Monthly Notices of the Royal Astronomical Society, 2014, 437, 3776-3786.	4.4	48
52	The large-scale observational signatures of low-mass galaxies during reionization. Monthly Notices of the Royal Astronomical Society, 2016, 456, 3011-3029.	4.4	46
53	Interpreting LOFAR 21-cm signal upper limits at z â‰ˆ 9.1 in the context of high-z galaxy and reionization observations. Monthly Notices of the Royal Astronomical Society, 2020, 501, 1-13.	4.4	46
54	The 21-cm bispectrum as a probe of non-Gaussianities due to X-ray heating. Monthly Notices of the Royal Astronomical Society, 2019, 482, 2653-2669.	4.4	44

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55	Implications of WMAP 3 Year Data for the Sources of Reionization. Astrophysical Journal, 2006, 644, L101-L104.	4.5	41
56	Relativistic Ionization Fronts. Astrophysical Journal, 2006, 648, 922-935.	4.5	40
57	Simulating the impact of X-ray heating during the cosmic dawn. Monthly Notices of the Royal Astronomical Society, 2017, 468, 3785-3797.	4.4	40
58	Suppression of star formation in low-mass galaxies caused by the reionization of their local neighbourhood. Monthly Notices of the Royal Astronomical Society, 2018, 480, 1740-1753.	4.4	39
59	Studying reionization with the next generation of LyÎ± emitter surveys. Monthly Notices of the Royal Astronomical Society, 2014, 444, 2114-2127.	4.4	38
60	The Jubilee ISW Project - II. Observed and simulated imprints of voids and superclusters on the cosmic microwave background. Monthly Notices of the Royal Astronomical Society, 2014, 446, 1321-1334.	4.4	36
61	Recovering the Hâ€‰ii region size statistics from 21-cm tomography. Monthly Notices of the Royal Astronomical Society, 2017, 471, 1936-1954.	4.4	36
62	Signature of patchy reionization in the polarization anisotropy of the CMB. Physical Review D, 2007, 76, .	4.7	35
63	Prospects of observing a quasar Hâ€ƒii region during the epoch of reionization with the redshifted 21-cm signal. Monthly Notices of the Royal Astronomical Society, 2012, 424, 762-778.	4.4	35
64	Non-linear bias of cosmological halo formation in the early universe. Monthly Notices of the Royal Astronomical Society, 2015, 450, 1486-1502.	4.4	34
65	Comparing foreground removal techniques for recovery of the LOFAR-EoR 21â€‰cm power spectrum. Monthly Notices of the Royal Astronomical Society, 2020, 500, 2264-2277.	4.4	34
66	Self-similarity and universality of void density profiles in simulation and SDSS data. Monthly Notices of the Royal Astronomical Society, 2015, 449, 3997-4009.	4.4	33
67	Galactic ionizing photon budget during the epoch of reionization in the Cosmic Dawn II simulation. Monthly Notices of the Royal Astronomical Society, 2020, 496, 4342-4357.	4.4	32
68	The Inhomogeneous Reionization Times of Present-day Galaxies. Astrophysical Journal Letters, 2018, 856, L22.	8.3	31
69	Evaluating the QSO contribution to the 21-cm signal from the Cosmic Dawn. Monthly Notices of the Royal Astronomical Society, 2019, 487, 1101-1119.	4.4	31
70	Measuring the history of cosmic reionization using the 21-cm probability distribution function from simulations. Monthly Notices of the Royal Astronomical Society, 2010, 406, 2521-2532.	4.4	30
71	The wedge bias in reionization 21-cm power spectrum measurements. Monthly Notices of the Royal Astronomical Society, 2016, 456, 66-70.	4.4	29
72	Dependence of the local reionization history on halo mass and environment: did Virgo reionize the Local Group?. Monthly Notices of the Royal Astronomical Society, 2007, 381, 367-376.	4.4	28

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73	The Jubilee ISW project â€“ I. Simulated ISW and weak lensing maps and initial power spectra results. Monthly Notices of the Royal Astronomical Society, 2014, 438, 412-425.	4.4	28
74	THE COSMIC NEAR INFRARED BACKGROUND. III. FLUCTUATIONS, REIONIZATION, AND THE EFFECTS OF MINIMUM MASS AND SELF-REGULATION. Astrophysical Journal, 2012, 750, 20.	4.5	27
75	Radiative transfer of energetic photons: X-rays and helium ionization in C2-Ray. Monthly Notices of the Royal Astronomical Society, 2012, 421, 2232-2250.	4.4	27
76	Observing supermassive dark stars with James Webb Space Telescope. Monthly Notices of the Royal Astronomical Society, 2012, 422, 2164-2186.	4.4	27
77	Predictions for the 21 cm-galaxy cross-power spectrum observable with LOFAR and Subaru. Monthly Notices of the Royal Astronomical Society, 2016, 457, 666-675.	4.4	27
78	On the Mass Profile of Galaxy Cluster C[CLC]l[/CLC] 0024+1654 Inferred from Strong Lensing. Astrophysical Journal, 2000, 542, L1-L4.	4.5	27
79	Polarization leakage in epoch of reionization windows â€“ II. Primary beam model and direction-dependent calibration. Monthly Notices of the Royal Astronomical Society, 2016, 462, 4482-4494.	4.4	26
80	Neutral island statistics during reionization from 21-cm tomography. Monthly Notices of the Royal Astronomical Society, 2019, 489, 1590-1605.	4.4	25
81	Will Nonlinear Peculiar Velocity and Inhomogeneous Reionization Spoil 21Âcm Cosmology from the Epoch of Reionization?. Physical Review Letters, 2013, 110, 151301.	7.8	24
82	Effects of the sources of reionization on 21-cm redshift-space distortions. Monthly Notices of the Royal Astronomical Society, 2016, 456, 2080-2094.	4.4	24
83	A PHYSICAL MODEL OF LyÎ± EMITTERS. Astrophysical Journal, 2009, 704, 724-732.	4.5	23
84	Reionization of the Local Group of galaxies. Monthly Notices of the Royal Astronomical Society, 2011, 413, 2093-2102.	4.4	22
85	Predictions for measuring the 21-cm multifrequency angular power spectrum using SKA-Low. Monthly Notices of the Royal Astronomical Society, 2020, 494, 4043-4056.	4.4	22
86	Observational constraints on supermassive dark stars. Monthly Notices of the Royal Astronomical Society: Letters, 2010, 407, L74-L78.	3.3	21
87	kSZ from patchy reionization: The view from the simulations. New Astronomy Reviews, 2006, 50, 909-917.	12.8	20
88	Lyman-Î± transmission properties of the intergalactic medium in the CoDaII simulation. Monthly Notices of the Royal Astronomical Society, 2021, 508, 3697-3709.	4.4	20
89	2D GENUS TOPOLOGY OF 21-CM DIFFERENTIAL BRIGHTNESS TEMPERATURE DURING COSMIC REIONIZATION. Journal of the Korean Astronomical Society, 2014, 47, 49-67.	1.5	20
90	A method to determine the evolution history of the mean neutral Hydrogen fraction. Monthly Notices of the Royal Astronomical Society: Letters, 2019, 483, L109-L113.	3.3	19

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91	The impact of inhomogeneous subgrid clumping on cosmic reionization. Monthly Notices of the Royal Astronomical Society, 2020, 491, 1600-1621.	4.4	19
92	Redshifted 21-cm bispectrum â€“ II. Impact of the spin temperature fluctuations and redshift space distortions on the signal from the Cosmic Dawn. Monthly Notices of the Royal Astronomical Society, 2021, 502, 3800-3813.	4.4	19
93	Stars and reionization: the cross-correlation of the 21â€‰cm line and the near-infrared background. Monthly Notices of the Royal Astronomical Society, 2014, 440, 298-306.	4.4	18
94	Crucial Factors for LyÎ± Transmission in the Reionizing Intergalactic Medium: Infall Motion, H ii Bubble Size, and Self-shielded Systems. Astrophysical Journal, 2021, 922, 263.	4.5	17
95	Reconstructing the Thomson Optical Depth due to Patchy Reionization with 21 cm Fluctuation Maps. Astrophysical Journal, 2007, 663, L1-L4.	4.5	16
96	Extracting the late-time kinetic Sunyaevâ€“Zel'dovich effect. Monthly Notices of the Royal Astronomical Society, 2016, 463, 2425-2442.	4.4	16
97	The effects of Lyman-limit systems on the evolution and observability of the epoch of reionization. Monthly Notices of the Royal Astronomical Society, 2016, 458, 135-150.	4.4	16
98	Deep learning approach for identification of Hâ€‰<scp>ii</scp> regions during reionization in 21-cm observations. Monthly Notices of the Royal Astronomical Society, 2021, 505, 3982-3997.	4.4	16
99	Simulating the 21Âcm forest detectable with LOFAR and SKA in the spectra of high-zGRBs. Monthly Notices of the Royal Astronomical Society, 2015, 453, 101-105.	4.4	15
100	A numerical study of 21-cm signal suppression and noise increase in direction-dependent calibration of LOFAR data. Monthly Notices of the Royal Astronomical Society, 2021, 509, 3693-3702.	4.4	15
101	Using artificial neural networks to constrain the halo baryon fraction during reionization. Monthly Notices of the Royal Astronomical Society, 2018, 473, 38-58.	4.4	14
102	Redshift-space distortions in simulations of the 21-cm signal from the cosmic dawn. Monthly Notices of the Royal Astronomical Society, 2021, 506, 3717-3733.	4.4	14
103	The Central Mass and Phase-Space Densities of Dark Matter Halos: Cosmological Implications. Astrophysical Journal, 2002, 565, L1-L4.	4.5	13
104	The brightness and spatial distributions of terrestrial radio sources. Monthly Notices of the Royal Astronomical Society, 2013, 435, 584-596.	4.4	12
105	The impact of inhomogeneous subgrid clumping on cosmic reionization â€“ II. Modelling stochasticity. Monthly Notices of the Royal Astronomical Society, 2021, 504, 2443-2460.	4.4	12
106	On the Origin of the Rotation Curves of Dark Matterâ€“dominated Galaxies. Astrophysical Journal, 2001, 546, L5-L8.	4.5	11
107	Reionization of the Milky Way, M31, and their satellites â€“ I. Reionization history and star formation. Monthly Notices of the Royal Astronomical Society, 2018, 477, 867-881.	4.4	11
108	Predictions for the 21cm-galaxy cross-power spectrum observable with SKA and future galaxy surveys. Monthly Notices of the Royal Astronomical Society, 0, , .	4.4	11

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109	The inhomogeneous reionization of the local intergalactic medium by metal-poor globular clusters. Monthly Notices of the Royal Astronomical Society, 2013, 431, 3087-3102.	4.4	10
110	Modelling the stochasticity of high-redshift halo bias. Monthly Notices of the Royal Astronomical Society, 2020, 494, 3294-3309.	4.4	9
111	Reionization: characteristic scales, topology and observability. Astrophysics and Space Science, 2009, 320, 39-43.	1.4	7
112	A NOVEL APPROACH TO CONSTRAIN THE ESCAPE FRACTION AND DUST CONTENT AT HIGH REDSHIFT USING THE COSMIC INFRARED BACKGROUND FRACTIONAL ANISOTROPY. Astrophysical Journal, 2013, 764, 56.	4.5	7
113	Universal void density profiles from simulation and SDSS. Proceedings of the International Astronomical Union, 2014, 11, 542-545.	0.0	6
114	Epoch of Reionization modelling and simulations for SKA. , 2015, , .		6
115	Statistical analysis of the causes of excess variance in the 21 cm signal power spectra obtained with the Low-Frequency Array. Astronomy and Astrophysics, 2022, 663, A9.	5.1	6
116	The 21 centimeter background from the cosmic dark ages: Minihalos and the intergalactic medium before reionization. New Astronomy Reviews, 2006, 50, 179-183.	12.8	5
117	The Theory and Simulation of the 21â€cm Background from the Epoch of Reionization. AIP Conference Proceedings, 2008, , .	0.4	5
118	The Hâ€‰i bias during the Epoch of Reionization. Monthly Notices of the Royal Astronomical Society, 2019, 490, 5739-5748.	4.4	5
119	Fate of clumps in damped LyÂ systems. Monthly Notices of the Royal Astronomical Society, 2006, 368, 1885-1892.	4.4	4
120	Simulating cosmic reionization and the radiation backgrounds from the epoch of reionization. AIP Conference Proceedings, 2012, , .	0.4	3
121	Particle motion in weak relativistic gravitational fields. Physical Review D, 2012, 86, .	4.7	3
122	Understanding the Equilibrium Structure of CDM Halos. EAS Publications Series, 2006, 20, 5-10.	0.3	3
123	Ionisation fronts and their interaction with density fluctuations: implications for reionisation. Proceedings of the International Astronomical Union, 2005, 1, 369-374.	0.0	2
124	Simulating Reionization: Character and Observability. , 2008, , .		2
125	Effects of small-scale structure on the progress and duration of reionization. Proceedings of the International Astronomical Union, 2004, 2004, .	0.0	1
126	Distributed, Scalable Clustering for Detecting Halos in Terascale Astronomy Datasets. , 2010, , .		1

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127	Scattering of LyÎ± Photons through the Reionizing Intergalactic Medium: I. Spectral Energy Distribution. Astrophysical Journal, 2022, 931, 126.	4.5	1
128	Cosmological Reionization by the First Stars in the H[sub 2]-Dissociating Background. , 2010, , .		0
129	Effect of primordial non-Gaussianity on halo bias and mass function. , 2010, , .		0
130	Using the cosmic infrared background to deduce properties of high redshift stars. , 2012, , .		0
131	The ISW imprints of voids and superclusters on the CMB. Proceedings of the International Astronomical Union, 2014, 11, 580-584.	0.0	0
132	Radiative Feedback Effects during Cosmic Reionization. Proceedings of the International Astronomical Union, 2014, 11, 372-377.	0.0	0
133	Simulating the cosmic dawn. Astronomy and Geophysics, 2015, 56, 3.31-3.33.	0.2	0
134	New simulation of QSO X-ray heating during the Cosmic Dawn. Proceedings of the International Astronomical Union, 2017, 12, 34-38.	0.0	0
135	Reionization: characteristic scales, topology and observability. , 2008, , 39-43.		0
136	Character and detectability of the dark ages and the epoch of reionization: the view from the simulations. , 2008, , .		0
137	The Small Scale Structure of the Universe. , 2016, , 119-134.		0