

# Rennan Barkana

## List of Publications by Citations

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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.

70  
papers

5,793  
citations

38  
h-index

72  
g-index

72  
ext. papers

6,603  
ext. citations

8.5  
avg, IF

6.48  
L-index

#	Paper	IF	Citations
70	In the beginning: the first sources of light and the reionization of the universe. <i>Physics Reports</i> , <b>2001</b> , 349, 125-238	27.7	916
69	Fuzzy cold dark matter: the wave properties of ultralight particles. <i>Physical Review Letters</i> , <b>2000</b> , 85, 1158-61	7.4	856
68	Possible interaction between baryons and dark-matter particles revealed by the first stars. <i>Nature</i> , <b>2018</b> , 555, 71-74	50.4	288
67	The Reionization of the Universe by the First Stars and Quasars. <i>Annual Review of Astronomy and Astrophysics</i> , <b>2001</b> , 39, 19-66	31.7	260
66	The Photoevaporation of Dwarf Galaxies during Reionization. <i>Astrophysical Journal</i> , <b>1999</b> , 523, 54-65	4.7	231
65	Unusually Large Fluctuations in the Statistics of Galaxy Formation at High Redshift. <i>Astrophysical Journal</i> , <b>2004</b> , 609, 474-481	4.7	223
64	A Method for Separating the Physics from the Astrophysics of High-Redshift 21 Centimeter Fluctuations. <i>Astrophysical Journal</i> , <b>2005</b> , 624, L65-L68	4.7	185
63	Detecting the Earliest Galaxies through Two New Sources of 21 Centimeter Fluctuations. <i>Astrophysical Journal</i> , <b>2005</b> , 626, 1-11	4.7	175
62	Constraints on Warm Dark Matter from Cosmological Reionization. <i>Astrophysical Journal</i> , <b>2001</b> , 558, 482-496	4.7	135
61	The observable signature of late heating of the Universe during cosmic reionization. <i>Nature</i> , <b>2014</b> , 506, 197-9	50.4	119
60	Strong constraints on light dark matter interpretation of the EDGES signal. <i>Physical Review D</i> , <b>2018</b> , 98,	4.9	105
59	Fast Calculation of a Family of Elliptical Gravitational Lens Models. <i>Astrophysical Journal</i> , <b>1998</b> , 502, 531-537	4.7	98
58	Constraining Baryon-Dark-Matter Scattering with the Cosmic Dawn 21-cm Signal. <i>Physical Review Letters</i> , <b>2018</b> , 121, 011101	7.4	95
57	Impact of the relative motion between the dark matter and baryons on the first stars: semi-analytical modelling. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2012</b> , 424, 1335-1345	4.3	94
56	Charting the parameter space of the global 21-cm signal. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2017</b> , 472, 1915-1931	4.3	94
55	The signature of the first stars in atomic hydrogen at redshift 20. <i>Nature</i> , <b>2012</b> , 487, 70-73	50.4	90
54	Gamma-Ray Bursts versus Quasars: Ly $\alpha$ Signatures of Reionization versus Cosmological Infall. <i>Astrophysical Journal</i> , <b>2004</b> , 601, 64-77	4.7	81

53	The physics and early history of the intergalactic medium. <i>Reports on Progress in Physics</i> , <b>2007</b> , 70, 627-657.	4.4	80
52	The 21-cm signature of the first stars during the Lyman-Werner feedback era. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2013</b> , 432, 2909-2916	4.3	76
51	Suppression and spatial variation of early galaxies and minihaloes. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2011</b> , 418, 906-915	4.3	76
50	Tighter limits on dark matter explanations of the anomalous EDGES 21 cm signal. <i>Physical Review D</i> , <b>2018</b> , 98,	4.9	69
49	Analysis of Time Delays in the Gravitational Lens PG 1115+080. <i>Astrophysical Journal</i> , <b>1997</b> , 489, 21-28	4.7	68
48	First Results on the Epoch of Reionization from First Light with SARAS 2. <i>Astrophysical Journal Letters</i> , <b>2017</b> , 845, L12	7.9	64
47	Identifying the Reionization Redshift from the Cosmic Star Formation Rate. <i>Astrophysical Journal</i> , <b>2000</b> , 539, 20-25	4.7	64
46	DYNAMICAL STUDY OF A1689 FROM WIDE-FIELD VLT/VIMOS SPECTROSCOPY: MASS PROFILE, CONCENTRATION PARAMETER, AND VELOCITY ANISOTROPY. <i>Astrophysical Journal</i> , <b>2009</b> , 701, 1336-1346	4.7	61
45	Signature of excess radio background in the 21-cm global signal and power spectrum. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2019</b> , 486, 1763-1773	4.3	60
44	Mass and gas profiles in A1689: joint X-ray and lensing analysis. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2008</b> , 386, 1092-1106	4.3	59
43	Effective Screening Due to Minihalos during the Epoch of Reionization. <i>Astrophysical Journal</i> , <b>2002</b> , 578, 1-11	4.7	56
42	Spectral signature of cosmological infall of gas around the first quasars. <i>Nature</i> , <b>2003</b> , 421, 341-3	50.4	50
41	SARAS 2 Constraints on Global 21 cm Signals from the Epoch of Reionization. <i>Astrophysical Journal</i> , <b>2018</b> , 858, 54	4.7	49
40	Strong-lensing analysis of a complete sample of 12 MACS clusters at $z > 0.5$ : mass models and Einstein radii. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2010</b> , no-no	4.3	48
39	High-Redshift Galaxies: Their Predicted Size and Surface Brightness Distributions and Their Gravitational Lensing Probability. <i>Astrophysical Journal</i> , <b>2000</b> , 531, 613-623	4.7	48
38	An Analytical Approach to Inhomogeneous Structure Formation. <i>Astrophysical Journal</i> , <b>2002</b> , 571, 585-603	3.7	47
37	The rise of the first stars: Supersonic streaming, radiative feedback, and 21-cm cosmology. <i>Physics Reports</i> , <b>2016</b> , 645, 1-59	27.7	47
36	Critical assessment of CMB limits on dark matter-baryon scattering: New treatment of the relative bulk velocity. <i>Physical Review D</i> , <b>2018</b> , 98,	4.9	46

35	PROFILES OF DARK MATTER VELOCITY ANISOTROPY IN SIMULATED CLUSTERS. <i>Astrophysical Journal</i> , <b>2012</b> , 752, 141	4-7	43
34	Constraining the redshifted 21-cm signal with the unresolved soft X-ray background. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2017</b> , 464, 3498-3508	4-3	42
33	High-redshift star formation in a time-dependent Lyman $\alpha$ Werner background. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2014</b> , 445, 107-114	4-3	42
32	The rich complexity of 21-cm fluctuations produced by the first stars. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2014</b> , 445, 213-224	4-3	38
31	Complete history of the observable 21 cm signal from the first stars during the pre-reionization era. <i>Monthly Notices of the Royal Astronomical Society: Letters</i> , <b>2014</b> , 437, L36-L40	4-3	36
30	Triaxiality and non-thermal gas pressure in Abell 1689. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2011</b> , 416, 2567-2573	4-3	33
29	Studying the sources of cosmic reionization with 21-cm fluctuations. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2009</b> , 397, 1454-1463	4-3	29
28	Gas in simulations of high-redshift galaxies and minihaloes. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2009</b> , 399, 369-376	4-3	28
27	Results from EDGES High-Band. III. New Constraints on Parameters of the Early Universe. <i>Astrophysical Journal</i> , <b>2019</b> , 875, 67	4-7	27
26	The difference PDF of 21-cm fluctuations: a powerful statistical tool for probing cosmic reionization. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2008</b> , 384, 1069-1079	4-3	27
25	Was the Universe Reionized at Redshift 10?. <i>Astrophysical Journal</i> , <b>2005</b> , 620, 553-558	4-7	27
24	Measuring the history of cosmic reionization using the 21-cm probability distribution function from simulations. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2010</b> , 406, 2521-2532	4-3	26
23	Light-cone anisotropy in 21-cm fluctuations during the epoch of reionization. <i>Monthly Notices of the Royal Astronomical Society: Letters</i> , <b>2006</b> , 372, L43-L47	4-3	25
22	A Reassessment of the Data and Models of the Gravitational Lens Q0957+561. <i>Astrophysical Journal</i> , <b>1999</b> , 520, 479-490	4-7	24
21	Detecting early galaxies through their 21-cm signature. <i>Monthly Notices of the Royal Astronomical Society: Letters</i> , <b>2008</b> , 385, L63-L67	4-3	22
20	Reconstructing the nature of the first cosmic sources from the anisotropic 21-cm signal. <i>Physical Review Letters</i> , <b>2015</b> , 114, 101303	7-4	20
19	Scale-dependent bias of galaxies from baryonic acoustic oscillations. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2011</b> , 415, 3113-3118	4-3	20
18	The first stars in the universe and cosmic reionization. <i>Science</i> , <b>2006</b> , 313, 931-4	33-3	20

17	Charting the parameter space of the 21-cm power spectrum. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2018</b> , 478, 2193-2217	4-3	20
16	Detecting reionization in the star formation histories of high-redshift galaxies. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2006</b> , 371, 395-400	4-3	16
15	The 21-cm BAO signature of enriched low-mass galaxies during cosmic reionization. <i>Monthly Notices of the Royal Astronomical Society: Letters</i> , <b>2016</b> , 459, L90-L94	4-3	15
14	Studying cosmic reionization with observations of the global 21-cm signal. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2012</b> , 424, 2551-2561	4-3	15
13	Emulating the global 21-cm signal from Cosmic Dawn and Reionization. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2020</b> , 495, 4845-4859	4-3	15
12	High-redshift radio galaxies: a potential new source of 21-cm fluctuations. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2020</b> , 499, 5993-6008	4-3	13
11	The non-linear evolution of baryonic overdensities in the early universe: initial conditions of numerical simulations. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2011</b> , no-no	4-3	10
10	HERA Phase I Limits on the Cosmic 21 cm Signal: Constraints on Astrophysics and Cosmology during the Epoch of Reionization. <i>Astrophysical Journal</i> , <b>2022</b> , 924, 51	4-7	9
9	Statistics of 21-cm fluctuations in cosmic reionization simulations: PDFs and difference PDFs. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2010</b> , 408, 2373-2380	4-3	7
8	A Possible Gravitational Lens in the Hubble Deep Field South. <i>Astrophysical Journal</i> , <b>1999</b> , 513, L91-L94	4-7	7
7	The star formation rate intensity distribution function $\Sigma_{\text{SFR}}$ . <i>New Astronomy</i> , <b>2002</b> , 7, 337-347	1-8	6
6	The subtlety of Ly $\alpha$ photons: changing the expected range of the 21-cm signal. <i>Monthly Notices of the Royal Astronomical Society</i> ,	4-3	5
5	QUANTIFYING THE COLLISIONLESS NATURE OF DARK MATTER AND GALAXIES IN A1689. <i>Astrophysical Journal</i> , <b>2011</b> , 728, 40	4-7	3
4	Extracting the global signal from 21-cm fluctuations: the multitracer approach. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2019</b> ,	4-3	3
3	Quantiles as robust probes of non-Gaussianity in 21-cm images. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2021</b> , 503, 1221-1232	4-3	3
2	The infancy of cosmic reionization. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2008</b> , 391, 727-737	4-3	2
1	Shot noise and scatter in the star formation efficiency as a source of 21-cm fluctuations. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2022</b> , 511, 5265-5273	4-3	1