

Richard A Battye

List of Publications by Year in descending order

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129
papers

6,675
citations

66343

42
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64796

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130
docs citations

130
times ranked

4019
citing authors

#	ARTICLE	IF	CITATIONS
1	The Simons Observatory: science goals and forecasts. <i>Journal of Cosmology and Astroparticle Physics</i> , 2019, 2019, 056-056.	5.4	741
2	Do consistent models mimic general relativity plus $\hat{\Lambda}$? <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2007, 654, 7-12.	4.1	445
3	Cosmology intertwined: A review of the particle physics, astrophysics, and cosmology associated with the cosmological tensions and anomalies. <i>Journal of High Energy Astrophysics</i> , 2022, 34, 49-211.	6.7	350
4	Knots as Stable Soliton Solutions in a Three-Dimensional Classical Field Theory. <i>Physical Review Letters</i> , 1998, 81, 4798-4801.	7.8	238
5	Evidence for Massive Neutrinos from Cosmic Microwave Background and Lensing Observations. <i>Physical Review Letters</i> , 2014, 112, 051303.	7.8	208
6	Curing singularities in cosmological evolution of $F(R)$ gravity. <i>Journal of Cosmology and Astroparticle Physics</i> , 2010, 2010, 005-005.	5.4	195
7	Cosmology with Phase 1 of the Square Kilometre Array Red Book 2018: Technical specifications and performance forecasts. <i>Publications of the Astronomical Society of Australia</i> , 2020, 37, .	3.4	195
8	High-sensitivity measurements of the cosmic microwave background power spectrum with the extended Very Small Array. <i>Monthly Notices of the Royal Astronomical Society</i> , 2004, 353, 732-746.	4.4	183
9	PRISM (Polarized Radiation Imaging and Spectroscopy Mission): an extended white paper. <i>Journal of Cosmology and Astroparticle Physics</i> , 2014, 2014, 006-006.	5.4	138
10	Stable Skyrmions in Two-Component Bose-Einstein Condensates. <i>Physical Review Letters</i> , 2002, 88, 080401.	7.8	137
11	Impact of baryon physics on dark matter structures: a detailed simulation study of halo density profiles. <i>Monthly Notices of the Royal Astronomical Society</i> , 2010, , no-no.	4.4	135
12	Solitons, links and knots. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 1999, 455, 4305-4331.	2.1	131
13	Constraints on cosmic string tension imposed by the limit on the stochastic gravitational wave background from the European Pulsar Timing Array. <i>Physical Review D</i> , 2012, 85, .	4.7	128
14	Tension between the power spectrum of density perturbations measured on large and small scales. <i>Physical Review D</i> , 2015, 91, .	4.7	116
15	The Case against Scaling Defect Models of Cosmic Structure Formation. <i>Physical Review Letters</i> , 1997, 79, 4736-4739.	7.8	113
16	SKYRMIONS, FULLERENES AND RATIONAL MAPS. <i>Reviews in Mathematical Physics</i> , 2002, 14, 29-85.	1.7	106
17	Neutral hydrogen surveys for high-redshift galaxy clusters and protoclusters. <i>Monthly Notices of the Royal Astronomical Society</i> , 2004, 355, 1339-1347.	4.4	106
18	Constraining cosmological parameters using Sunyaev-Zeldovich cluster surveys. <i>Physical Review D</i> , 2003, 68, .	4.7	102

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19	Constraints on supersymmetric hybrid inflation models. <i>Journal of Cosmology and Astroparticle Physics</i> , 2006, 2006, 007-007.	5.4	100
20	Aspects of cosmological expansion in $F(R)$ gravity models. <i>Journal of Cosmology and Astroparticle Physics</i> , 2008, 2008, 019.	5.4	96
21	Updated constraints on the cosmic string tension. <i>Physical Review D</i> , 2010, 82, .	4.7	93
22	Constraining Dark Energy with Sunyaev-Zeldovich Cluster Surveys. <i>Physical Review Letters</i> , 2002, 88, 231301.	7.8	87
23	Cosmological parameter estimation using Very Small Array data out to $z = 1500$. <i>Monthly Notices of the Royal Astronomical Society</i> , 2004, 353, 747-759.	4.4	82
24	Effective action approach to cosmological perturbations in dark energy and modified gravity. <i>Journal of Cosmology and Astroparticle Physics</i> , 2012, 2012, 019-019.	5.4	82
25	Cosmic concordance and the fine structure constant. <i>Physical Review D</i> , 2001, 63, .	4.7	79
26	Vacuum topology of the two Higgs doublet model. <i>Journal of High Energy Physics</i> , 2011, 2011, 1.	4.7	75
27	Skyrmions and the Λ -particle model of nuclei. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2007, 463, 261-279.	2.1	72
28	Cosmological expansion on a dilatonic brane-world. <i>Classical and Quantum Gravity</i> , 2001, 18, 2171-2194.	4.0	70
29	Skyrmions and the pion mass. <i>Nuclear Physics B</i> , 2005, 705, 384-400.	2.5	70
30	Sunyaev-Zeldovich clusters in Millennium gas simulations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2012, 422, 1999-2023.	4.4	70
31	Detailed study of defect models for cosmic structure formation. <i>Physical Review D</i> , 1998, 59, .	4.7	69
32	Skyrmions with massive pions. <i>Physical Review C</i> , 2006, 73, .	2.9	63
33	Generic junction conditions in brane-world scenarios. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2001, 509, 331-336.	4.1	62
34	Solitonic Fullerene Structures in Light Atomic Nuclei. <i>Physical Review Letters</i> , 2001, 86, 3989-3992.	7.8	61
35	Spinning skyrmions and the Skyrme parameters. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2005, 626, 120-126.	4.1	60
36	The cosmic microwave background and the ionization history of the Universe. <i>Monthly Notices of the Royal Astronomical Society</i> , 2006, 373, 561-570.	4.4	60

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37	Anisotropic perturbations due to dark energy. <i>Physical Review D</i> , 2006, 74, .	4.7	51
38	Structure Formation by Cosmic Strings with a Cosmological Constant. <i>Physical Review Letters</i> , 1998, 80, 4847-4850.	7.8	48
39	Cosmic structure formation in hybrid inflation models. <i>Physical Review D</i> , 2000, 61, .	4.7	46
40	Einstein equations for an asymmetric brane-world. <i>Physical Review D</i> , 2001, 64, .	4.7	43
41	Gravitational wave constraints on dark sector models. <i>Physical Review D</i> , 2018, 98, .	4.7	43
42	A Skyrme lattice with hexagonal symmetry. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1998, 416, 385-391.	4.1	42
43	Anisotropic dark energy and CMB anomalies. <i>Physical Review D</i> , 2009, 80, .	4.7	42
44	Multi-soliton dynamics in the Skyrme model. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1997, 391, 150-156.	4.1	40
45	Planck data versus large scale structure: Methods to quantify discordance. <i>Physical Review D</i> , 2017, 95, .	4.7	40
46	Impact of baryons on the cluster mass function and cosmological parameter determination. <i>Monthly Notices of the Royal Astronomical Society</i> , 2014, 439, 2485-2493.	4.4	38
47	Spectral distortion constraints on photon injection from low-mass decaying particles. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 507, 3148-3178.	4.4	38
48	Cosmological perturbations in elastic dark energy models. <i>Physical Review D</i> , 2007, 76, .	4.7	37
49	Source subtraction for the extended Very Small Array and 33-GHz source count estimates. <i>Monthly Notices of the Royal Astronomical Society</i> , 2005, 360, 340-353.	4.4	36
50	Tight constraints on F- and D-term hybrid inflation scenarios. <i>Physical Review D</i> , 2010, 81, .	4.7	36
51	PROJECTED CONSTRAINTS ON THE COSMIC (SUPER)STRING TENSION WITH FUTURE GRAVITATIONAL WAVE DETECTION EXPERIMENTS. <i>Astrophysical Journal</i> , 2013, 764, 108.	4.5	35
52	Parametrizing dark sector perturbations via equations of state. <i>Physical Review D</i> , 2013, 88, .	4.7	31
53	Constraints on the anisotropy of dark energy. <i>Physical Review D</i> , 2010, 81, .	4.7	30
54	Galaxy redshift surveys selected by neutral hydrogen using the Five-hundred metre Aperture Spherical Telescope. <i>Monthly Notices of the Royal Astronomical Society</i> , 0, 383, 150-160.	4.4	28

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55	Tilted physics: A cosmologically dipole-modulated sky. <i>Physical Review D</i> , 2011, 84, .	4.7	28
56	Computing model independent perturbations in dark energy and modified gravity. <i>Journal of Cosmology and Astroparticle Physics</i> , 2014, 2014, 051-051.	5.4	25
57	Simulated gravity without true gravity in asymmetric brane-world scenarios. <i>Classical and Quantum Gravity</i> , 2001, 18, 4871-4895.	4.0	23
58	Approximation of the potential in scalar field dark energy models. <i>Physical Review D</i> , 2016, 94, .	4.7	23
59	$T_j = \frac{1}{4\pi G} \left(\frac{1}{2} \dot{\phi}^2 - \frac{1}{2} \nabla_i \phi \nabla^i \phi - V(\phi) \right)$ D, 2016, 93, .	4.7	23
60	Cosmological perturbation theory in generalized Einstein-Aether models. <i>Physical Review D</i> , 2017, 96, .	4.7	23
61	Non-divergence of gravitational self interactions for Nambu-Goto strings. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1998, 430, 49-53.	4.1	22
62	Gradient Formula for Linearly Self-Interacting Branes. <i>Communications in Mathematical Physics</i> , 2003, 235, 289-311.	2.2	22
63	Isospinning baby Skyrmion solutions. <i>Physical Review D</i> , 2013, 88, .	4.7	22
64	Classically isospinning Skyrmion solutions. <i>Physical Review D</i> , 2014, 90, .	4.7	22
65	Central configurations in three dimensions. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2003, 459, 911-943.	2.1	20
66	Cosmological tensor perturbations in the Randall-Sundrum model: Evolution in the near-brane limit. <i>Physical Review D</i> , 2004, 69, .	4.7	20
67	Scaling dynamics of domain walls in the cubic anisotropy model. <i>Physical Review D</i> , 2006, 74, .	4.7	20
68	Constraints on brane inflation and cosmic strings. <i>Journal of Cosmology and Astroparticle Physics</i> , 2008, 2008, 020.	5.4	19
69	Polarization as an indicator of intrinsic alignment in radio weak lensing. <i>Monthly Notices of the Royal Astronomical Society</i> , 2010, , no-no.	4.4	19
70	Modelling neutral hydrogen in galaxies using cosmological hydrodynamical simulations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2012, , no-no.	4.4	18
71	Massive gravity, the elasticity of space-time, and perturbations in the dark sector. <i>Physical Review D</i> , 2013, 88, .	4.7	18
72	Do cosmological data rule out $f(R)$ with $w \approx -1$?. <i>Physical Review D</i> , 2018, 97, .	4.7	18

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73	Second-order Lagrangian and symplectic current for gravitationally perturbed Dirac-Goto-Nambu strings and branes. <i>Classical and Quantum Gravity</i> , 2000, 17, 3325-3334.	4.0	17
74	Constraints on the solid dark universe model. <i>Journal of Cosmology and Astroparticle Physics</i> , 2005, 2005, 001-001.	5.4	17
75	Elastic properties of anisotropic domain wall lattices. <i>Physical Review D</i> , 2006, 73, .	4.7	17
76	Optimal scan strategies for future CMB satellite experiments. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 466, 425-442.	4.4	17
77	Estimating the bispectrum of the Very Small Array data. <i>Monthly Notices of the Royal Astronomical Society</i> , 2004, 352, 887-902.	4.4	16
78	Vorton construction and dynamics. <i>Nuclear Physics B</i> , 2009, 814, 180-194.	2.5	16
79	Constraining dark sector perturbations I: cosmic shear and CMB lensing. <i>Journal of Cosmology and Astroparticle Physics</i> , 2015, 2015, 048-048.	5.4	14
80	Comparison of different approaches to the quasi-static approximation in Horndeski models. <i>Journal of Cosmology and Astroparticle Physics</i> , 2021, 2021, 017.	5.4	14
81	Searching for non-Gaussianity in the Very Small Array data. <i>Monthly Notices of the Royal Astronomical Society</i> , 2004, 349, 973-982.	4.4	13
82	Non-Gaussianity in the Very Small Array cosmic microwave background maps with smooth goodness-of-fit tests. <i>Monthly Notices of the Royal Astronomical Society</i> , 2006, 369, 909-920.	4.4	13
83	Separating weak lensing and intrinsic alignments using radio observations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2015, 451, 383-399.	4.4	13
84	Icosahedral Skyrmions. <i>Journal of Mathematical Physics</i> , 2003, 44, 3543-3554.	1.1	12
85	Sunyaev-Zel'dovich observations of a statistically complete sample of galaxy clusters with OCRA-p. <i>Monthly Notices of the Royal Astronomical Society</i> , 2011, 418, 1441-1451.	4.4	12
86	Classically isospinning Hopf solitons. <i>Physical Review D</i> , 2013, 87, .	4.7	12
87	Dark sector evolution in Horndeski models. <i>Journal of Cosmology and Astroparticle Physics</i> , 2019, 2019, 018-018.	5.4	12
88	Cosmologically viable generalized Einstein-aether theories. <i>Physical Review D</i> , 2019, 99, .	4.7	12
89	Domain wall constraints on two-Higgs-doublet models with Z_2 symmetry. <i>Physical Review D</i> , 2020, 102, .	4.7	12
90	Regularized braneworlds of arbitrary codimension. <i>Physical Review D</i> , 2007, 76, .	4.7	11

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91	Observations of the Corona Borealis supercluster with the superextended Very Small Array: further constraints on the nature of the non-Gaussian cosmic microwave background cold spot. Monthly Notices of the Royal Astronomical Society, 2008, 391, 1127-1136.	4.4	11
92	Kinky vortons. Nuclear Physics B, 2008, 805, 287-304.	2.5	11
93	Formation and evolution of kinky vortons. Journal of Cosmology and Astroparticle Physics, 2009, 2009, 039-039.	5.4	11
94	Charge, junctions, and the scaling of domain wall networks. Physical Review D, 2010, 82, .	4.7	11
95	MAPPING THE DARK MATTER WITH POLARIZED RADIO SURVEYS. Astrophysical Journal Letters, 2011, 735, L23.	8.3	11
96	Multiple-scales analysis of cosmological perturbations in brane-worlds. Physical Review D, 2004, 70, .	4.7	10
97	Removing beam asymmetry bias in precision CMB temperature and polarization experiments. Monthly Notices of the Royal Astronomical Society, 2014, 442, 1963-1979.	4.4	10
98	Cosmological gravity on all scales. Part II. Model independent modified gravity N-body simulations. Journal of Cosmology and Astroparticle Physics, 2021, 2021, 016.	5.4	10
99	Regularization of the Linearized Gravitational Self-Force for Branes. Physical Review Letters, 2004, 92, 201305.	7.8	9
100	Weak lensing using only galaxy position angles. Monthly Notices of the Royal Astronomical Society, 2014, 445, 1836-1857.	4.4	9
101	Reionization by active sources and its effects on the cosmic microwave background. Physical Review D, 1999, 60, .	4.7	8
102	Linearized self-forces for branes. Physical Review D, 2005, 71, .	4.7	8
103	SuperCLASS â€“ III. Weak lensing from radio and optical observations in Data Release 1. Monthly Notices of the Royal Astronomical Society, 2020, 495, 1737-1759.	4.4	8
104	Cosmic microwave background observations from the Cosmic Background Imager and Very Small Array: a comparison of coincident maps and parameter estimation methods. Monthly Notices of the Royal Astronomical Society, 2005, 363, 1125-1135.	4.4	7
105	Stability and the equation of state for kinky vortons. Physical Review D, 2009, 80, .	4.7	7
106	A new map-making algorithm for CMB polarization experiments. Monthly Notices of the Royal Astronomical Society, 2015, 453, 2058-2069.	4.4	7
107	Cosmological tensor perturbations in brane world models. Astrophysics and Space Science, 2003, 283, 633-638.	1.4	6
108	Polyhedral scattering of fundamental monopoles. Journal of Mathematical Physics, 2003, 44, 3532-3542.	1.1	6

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109	Optimizing the yield of Sunyaev-Zel'dovich cluster surveys. Monthly Notices of the Royal Astronomical Society, 2005, 362, 171-183.	4.4	6
110	Textures and semi-local strings in supersymmetric hybrid inflation. Journal of Cosmology and Astroparticle Physics, 2008, 2008, 020.	5.4	6
111	Statistics of the Sunyaev-Zel'dovich effect power spectrum. Monthly Notices of the Royal Astronomical Society, 2009, 397, 2189-2207.	4.4	6
112	Understanding matched filters for precision cosmology. Monthly Notices of the Royal Astronomical Society, 2021, 507, 4852-4863.	4.4	6
113	X-type and Y-type junction stability in domain wall networks. Physical Review D, 2011, 84, .	4.7	5
114	A detailed study of the stability of vortons. Journal of High Energy Physics, 2022, 2022, 1.	4.7	5
115	A demonstration of position angle-only weak lensing shear estimators on the GREAT3 simulations. Monthly Notices of the Royal Astronomical Society, 2015, 454, 2154-2165.	4.4	4
116	Photon interactions with superconducting topological defects. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2021, 823, 136730.	4.1	4
117	Measuring cosmic shear and birefringence using resolved radio sources. Monthly Notices of the Royal Astronomical Society, 2018, 474, 460-477.	4.4	3
118	SuperCLASS â€“ I. The super cluster assisted shear survey: Project overview and data release 1. Monthly Notices of the Royal Astronomical Society, 2020, 495, 1706-1723.	4.4	3
119	SuperCLASS â€“ II. Photometric redshifts and characteristics of spatially resolved $\hat{1}/4Jy$ radio sources. Monthly Notices of the Royal Astronomical Society, 2020, 495, 1724-1736.	4.4	2
120	Simulations of domain walls in Two Higgs Doublet Models. Journal of High Energy Physics, 2021, 2021, 1.	4.7	2
121	Testing cosmic microwave background polarization data using position angles. Monthly Notices of the Royal Astronomical Society, 2014, 444, 162-171.	4.4	1
122	Blind map level systematics cleaning: a quadratic estimator approach. Journal of Cosmology and Astroparticle Physics, 2021, 2021, 016.	5.4	1
123	GRAVITY AND COSMOLOGY ON A BRANE-WORLD. International Journal of Modern Physics A, 2002, 17, 2651-2654.	1.5	0
124	Classically Spinning Skyrmions. , 2011, , .		0
125	Classically spinning and isospinning solitons. , 2012, , .		0
126	The Dark Universe â€“ A mystery of 21 st century physics. Annalen Der Physik, 2014, 526, A61.	2.4	0

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127	Cosmology and the distant universe. <i>Astronomy and Geophysics</i> , 2016, 57, 3.40-3.42.	0.2	0
128	Baryon Acoustic Oscillations from Integrated Neutral Gas Observations: an instrument to observe the 21cm hydrogen line in the redshift range $0.13 < z < 0.45$ – status update. <i>Anais Da Academia Brasileira De Ciencias</i> , 2021, 93, e20201096.	0.8	0
129	Cosmological Tensor Perturbations in Brane World Models. , 2003, , 195-200.		0