Katrin Heitmann

List of Publications by Year
in descending order

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53	3,588	136950	189892
papers	citations	32 h-index	50 g-index

53	53	53	2414
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	THE COYOTE UNIVERSE. I. PRECISION DETERMINATION OF THE NONLINEAR MATTER POWER SPECTRUM. Astrophysical Journal, 2010, 715, 104-121.	4.5	261
2	THE COYOTE UNIVERSE. II. COSMOLOGICAL MODELS AND PRECISION EMULATION OF THE NONLINEAR MATTER POWER SPECTRUM. Astrophysical Journal, 2009, 705, 156-174.	4.5	211
3	THE COYOTE UNIVERSE EXTENDED: PRECISION EMULATION OF THE MATTER POWER SPECTRUM. Astrophysical Journal, 2014, 780, 111.	4.5	206
4	DARK MATTER HALO PROFILES OF MASSIVE CLUSTERS: THEORY VERSUS OBSERVATIONS. Astrophysical Journal, 2013, 766, 32.	4.5	185
5	The Halo Mass Function: Highâ€Redshift Evolution and Universality. Astrophysical Journal, 2007, 671, 1160-1181.	4.5	184
6	THE COYOTE UNIVERSE. III. SIMULATION SUITE AND PRECISION EMULATOR FOR THE NONLINEAR MATTER POWER SPECTRUM. Astrophysical Journal, 2010, 713, 1322-1331.	4.5	179
7	HACC: Simulating sky surveys on state-of-the-art supercomputing architectures. New Astronomy, 2016, 42, 49-65.	1.8	166
8	MASS FUNCTION PREDICTIONS BEYOND Î›CDM. Astrophysical Journal, 2011, 732, 122.	4.5	164
9	The clustering of the SDSS-IV extended Baryon Oscillation Spectroscopic Survey DR14 quasar sample: structure growth rate measurement from the anisotropic quasar power spectrum in the redshift range 0.8Â<ÂzÂ<Â2.2. Monthly Notices of the Royal Astronomical Society, 2018, 477, 1604-1638.	4.4	118
10	The clustering of the SDSS-IV extended Baryon Oscillation Spectroscopic Survey DR14 quasar sample: measurement of the growth rate of structure from the anisotropic correlation function between redshift 0.8 and 2.2. Monthly Notices of the Royal Astronomical Society, 2018, 477, 1639-1663.	4.4	109
11	Robustness of Cosmological Simulations. I. Largeâ€Scale Structure. Astrophysical Journal, Supplement Series, 2005, 160, 28-58.	7.7	108
12	Cosmic web, multistream flows, and tessellations. Physical Review D, 2012, 85, .	4.7	104
13	THE MIRAâ€“TITAN UNIVERSE: PRECISION PREDICTIONS FOR DARK ENERGY SURVEYS. Astrophysical Journal, 2016, 820, 108.	4.5	100
14	The cosmic code comparison project. Computational Science & Discovery, 2008, 1, 015003.	1.5	99
15	The Mira-Titan Universe. II. Matter Power Spectrum Emulation. Astrophysical Journal, 2017, 847, 50.	4.5	98
16	Cosmic calibration: Constraints from the matter power spectrum and the cosmic microwave background. Physical Review D, 2007, 76, .	4.7	92
17	Halo Profiles and the Concentrationâ€“Mass Relation for a Î›CDM Universe. Astrophysical Journal, 2018, 859, 55.	4.5	83
18	THE STRUCTURE OF HALOS: IMPLICATIONS FOR GROUP AND CLUSTER COSMOLOGY. Astrophysical Journal, 2009, 692, 217-228.	4.5	82

#	Article	IF	Citations
19	COSMIC EMULATION: FAST PREDICTIONS FOR THE GALAXY POWER SPECTRUM. Astrophysical Journal, 2015, 810, 35.	4.5	74
20	Cosmic Calibration. Astrophysical Journal, 2006, 646, L1-L4.	4.5	73
21	Nonparametric reconstruction of the dark energy equation of state from diverse data sets. Physical Review D, 2011, 84, .	4.7	67
22	The Outer Rim Simulation: A Path to Many-core Supercomputers. Astrophysical Journal, Supplement Series, 2019, 245, 16.	7.7	67
23	CosmoDC2: A Synthetic Sky Catalog for Dark Energy Science with LSST. Astrophysical Journal, Supplement Series, 2019, 245, 26.	7.7	67
24	The clustering of the SDSS-IV extended Baryon Oscillation Spectroscopic Survey DR14 quasar sample: anisotropic clustering analysis in configuration space. Monthly Notices of the Royal Astronomical Society, 2018, 480, 2521-2534.	4.4	61
25	The Mira-Titan Universe. III. Emulation of the Halo Mass Function. Astrophysical Journal, 2020, 901, 5.	4.5	58
26	COSMIC EMULATION: THE CONCENTRATION-MASS RELATION FORwCDM UNIVERSES. Astrophysical Journal, 2013, 768, 123.	4.5	44
27	Capturing Halos at High Redshifts. Astrophysical Journal, 2006, 642, L85-L88.	4.5	42
28	THE Q CONTINUUM SIMULATION: HARNESSING THE POWER OF GPU ACCELERATED SUPERCOMPUTERS. Astrophysical Journal, Supplement Series, 2015, 219, 34.	7.7	41
29	The completed SDSS-IV extended Baryon Oscillation Spectroscopic Survey: N-body mock challenge for the quasar sample. Monthly Notices of the Royal Astronomical Society, 2020, 499, 269-291.	4.4	41
30	Large-scale structure formation with massive neutrinos and dynamical dark energy. Physical Review D, 2014, 89, .	4.7	36
31	Hybrid petacomputing meets cosmology: The Roadrunner Universe project. Journal of Physics: Conference Series, 2009, 180, 012019.	0.4	33
32	SIMULATIONS OF THE PAIRWISE KINEMATIC SUNYAEVâ€“ZELâ€™DOVICH SIGNAL. Astrophysical Journal, 2016, 823, 98.	4.5	32
33	The LSST DESC DC2 Simulated Sky Survey. Astrophysical Journal, Supplement Series, 2021, 253, 31.	7.7	32
34	Redshift-space distortions in massive neutrino and evolving dark energy cosmologies. Physical Review D, 2016, 93, .	4.7	25
35	Simulations and cosmological inference: A statistical model for power spectra means and covariances. Physical Review D, 2008, 78, .	4.7	24
36	PICS: SIMULATIONS OF STRONG GRAVITATIONAL LENSING IN GALAXY CLUSTERS. Astrophysical Journal, 2016, 828, 54.	4.5	22

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37	The completed SDSS-IV extended Baryon Oscillation Spectroscopic Survey: N-body mock challenge for the eBOSS emission line galaxy sample. Monthly Notices of the Royal Astronomical Society, 2021, 504, 4667-4686.	4.4	22
38	The Accelerated Universe. Computing in Science and Engineering, 2010, 12, 17-25.	1.2	21
39	ANALYZING AND VISUALIZING COSMOLOGICAL SIMULATIONS WITH ParaView. Astrophysical Journal, Supplement Series, 2011, 195, 11.	7.7	21
40	Matter power spectrum emulator for <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>f</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mi>R</mml:mi><mml:mo stretchy="false">)</mml:mo></mml:math> modified gravity cosmologies. Physical Review D, 2021, 103, .	4.7	19
41	The Completed SDSS-IV Extended Baryon Oscillation Spectroscopic Survey: N-body Mock Challenge for Galaxy Clustering Measurements. Monthly Notices of the Royal Astronomical Society, 0, , .	4.4	19
42	DESCQA: An Automated Validation Framework for Synthetic Sky Catalogs. Astrophysical Journal, Supplement Series, 2018, 234, 36.	7.7	18
43	HACC Cosmological Simulations: First Data Release. Astrophysical Journal, Supplement Series, 2019, 244, 17.	7.7	17
44	The Borg Cube Simulation: Cosmological Hydrodynamics with CRK-SPH. Astrophysical Journal, 2019, 877, 85.	4.5	14
45	The Last Journey. I. An Extreme-scale Simulation on the Mira Supercomputer. Astrophysical Journal, Supplement Series, 2021, 252, 19.	7.7	12
46	Farpoint: A High-resolution Cosmology Simulation at the Gigaparsec Scale. Astrophysical Journal, Supplement Series, 2022, 259, 15.	7.7	9
47	The Importance of Secondary Halos for Strong Lensing in Massive Galaxy Clusters across Redshift. Astrophysical Journal, 2019, 878, 122.	4.5	8
48	Why are we still using 3D masses for cluster cosmology?. Monthly Notices of the Royal Astronomical Society, 2022, 515, 3383-3405.	4.4	6
49	Visualization of multivariate dark matter halos in cosmology simulations. , 2013, , .		4
50	Machine learning synthetic spectra for probabilistic redshift estimation: SYTH-Z. Monthly Notices of the Royal Astronomical Society, 2022, 515, 1927-1941.	4.4	4
51	Building Halo Merger Trees from the Q Continuum Simulation. , 2017, , .		2
52	On the possibility of baryon acoustic oscillation measurements at redshift z > 7.6 with the Roman space telescope. Monthly Notices of the Royal Astronomical Society, 2020, 498, 4955-4970.	4.4	2
53	The Last Journey. II. SMACCâ€"Subhalo Mass-loss Analysis Using Core Catalogs. Astrophysical Journal, 2021, 913, 109.	4.5	2