Torsten A Enßn

List of Publications by Year
in descending order

83 papers	2,016 citations	218677 26 h-index	254184 43 g-index
87 all docs	87 docs citations	87 times ranked	2301 citing authors

#	Article	IF	Citations
1	Variable structures in M87* from space, time and frequency resolved interferometry. Nature Astronomy, 2022, 6, 259-269.	10.1	34
2	Information Field Theory and Artificial Intelligence. Entropy, 2022, 24, 374.	2.2	4
3	Puzzling large-scale polarization in the galaxy cluster Abell 523. Monthly Notices of the Royal Astronomical Society, 2022, 514, 4969-4981.	4.4	2
4	Fast magnetic field amplification in distant galaxy clusters. Nature Astronomy, 2021, 5, 268-275.	10.1	31
5	Toward Bayesian Data Compression. Annalen Der Physik, 2021, 533, 2000508.	2.4	1
6	Comparison of classical and Bayesian imaging in radio interferometry. Astronomy and Astrophysics, 2021, 646, A84.	5.1	23
7	Efficient wide-field radio interferometry response. Astronomy and Astrophysics, 2021, 646, A58.	5.1	20
8	Field Dynamics Inference for Local and Causal Interactions. Annalen Der Physik, 2021, 533, 2000486.	2.4	4
9	Bayesian Reasoning with Trained Neural Networks. Entropy, 2021, 23, 693.	2.2	2
10	Bayesian decomposition of the Galactic multi-frequency sky using probabilistic autoencoders. Astronomy and Astrophysics, 2021, 650, A100.	5.1	2
11	Geometric Variational Inference. Entropy, 2021, 23, 853.	2.2	13
12	On the Three-dimensional Structure of Local Molecular Clouds. Astrophysical Journal, 2021, 919, 35.	4.5	33
13	The Per-Tau Shell: A Giant Star-forming Spherical Shell Revealed by 3D Dust Observations. Astrophysical Journal Letters, 2021, 919, L5.	8.3	31
14	Probabilistic Autoencoder Using Fisher Information. Entropy, 2021, 23, 1640.	2.2	1
15	Dynamical Field Inference and Supersymmetry. Entropy, 2021, 23, 1652.	2.2	2
16	The Galactic Faraday depth sky revisited. Astronomy and Astrophysics, 2020, 633, A150.	5.1	43
17	hammurabi X: Simulating Galactic Synchrotron Emission with Random Magnetic Fields. Astrophysical Journal, Supplement Series, 2020, 247, 18.	7.7	9
18	A Bayesian Model for Bivariate Causal Inference. Entropy, 2020, 22, 46.	2.2	3

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19	Probing Cosmic-Ray Transport with Radio Synchrotron Harps in the Galactic Center. Astrophysical Journal Letters, 2020, 890, L18.	8.3	34
20	hammurabi X: a C++ package for simulating Galactic emissions. Journal of Open Source Software, 2020, 5, 1889.	4.6	1
21	Jets, bubbles, and heat pumps in galaxy clusters. Monthly Notices of the Royal Astronomical Society, 2019, 489, 1939-1949.	4.4	9
22	Information Theory for Fields. Annalen Der Physik, 2019, 531, 1800127.	2.4	30
23	The Rationality of Irrationality in the Monty Hall Problem. Annalen Der Physik, 2019, 531, 1800128.	2.4	1
24	NIFT<scp>y</scp>Â3 â€" Numerical Information Field Theory: A Python Framework for Multicomponent Signal Inference on HPC Clusters. Annalen Der Physik, 2019, 531, 1800290.	2.4	13
25	IMAGINE: Modeling the Galactic Magnetic Field. Galaxies, 2019, 7, 17.	3.0	8
26	The Physics of Information. Annalen Der Physik, 2019, 531, 1900059.	2.4	1
27	Unified radio interferometric calibration and imaging with joint uncertainty quantification. Astronomy and Astrophysics, 2019, 627, A134.	5.1	29
28	Towards information-optimal simulation of partial differential equations. Physical Review E, 2018, 97, 033314.	2.1	4
29	Denoising, deconvolving, and decomposing multi-domain photon observations. Astronomy and Astrophysics, 2018, 619, A119.	5.1	4
30	Consistency and convergence of simulation schemes in information field dynamics. Physical Review E, 2018, 98, .	2.1	3
31	The primordial magnetic field in our cosmic backyard. Classical and Quantum Gravity, 2018, 35, 154001.	4.0	17
32	IMAGINE: a comprehensive view of the interstellar medium, Galactic magnetic fields and cosmic rays. Journal of Cosmology and Astroparticle Physics, 2018, 2018, 049-049.	5.4	49
33	Magnetic Fields in Galaxy Clusters and in the Large-Scale Structure of the Universe. Galaxies, 2018, 6, 142.	3.0	21
34	Cosmic expansion history from SNe Ia data via information field theory: the charm code. Astronomy and Astrophysics, 2017, 599, A92.	5.1	9
35	Gentle reenergization of electrons in merging galaxy clusters. Science Advances, 2017, 3, e1701634.	10.3	65
36	Noisy independent component analysis of autocorrelated components. Physical Review E, 2017, 96, 042114.	2.1	4

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37	The Galaxy in circular polarization: All-sky radio prediction, detection strategy, and the charge of the leptonic cosmic rays. Physical Review D, 2017, 96, .	4.7	9
38	Field dynamics inference via spectral density estimation. Physical Review E, 2017, 96, 052104.	2.1	5
39	Bayesian weak lensing tomography: Reconstructing the 3D large-scale distribution of matter with a lognormal prior. Physical Review D, 2017, 96, .	4.7	13
40	Faraday tomography of the local interstellar medium with LOFAR: Galactic foregrounds towards IC 342. Astronomy and Astrophysics, 2017, 597, A98.	5.1	55
41	Optimal Belief Approximation. Entropy, 2017, 19, 402.	2.2	14
42	Galactic dark matter search via phenomenological astrophysics modeling. Journal of Cosmology and Astroparticle Physics, 2016, 2016, 030-030.	5.4	35
43	Dynamic system classifier. Physical Review E, 2016, 94, 012132.	2.1	4
44	Operator calculus for information field theory. Physical Review E, 2016, 94, 053306.	2.1	3
45	d2o: a distributed data object for parallel high-performance computing in Python. Journal of Big Data, 2016, 3, .	11.0	4
46	Stochastic determination of matrix determinants. Physical Review E, 2015, 92, 013302.	2.1	4
47	Turbulence via information field dynamics. Proceedings of the International Astronomical Union, 2015, 11, 730-730.	0.0	0
48	All-sky reconstruction of the primordial scalar potential & implications. Proceedings of the International Astronomical Union, 2015, 11, 49-49.	0.0	0
49	The denoised, deconvolved, and decomposed *Fermi* *γ*-ray sky. Astronomy and Astrophysics, 2015, 581, A126.	5.1	54
50	All-sky reconstruction of the primordial scalar potential from WMAP temperature data. Journal of Cosmology and Astroparticle Physics, 2015, 2015, 041-041.	5.4	3
51	Signal inference with unknown response: Calibration-uncertainty renormalized estimator. Physical Review E, 2015, 91, 013311.	2.1	4
52	Denoising, deconvolving, and decomposing photon observations. Astronomy and Astrophysics, 2015, 574, A74.	5.1	21
53	Generic inference of inflation models by non-Gaussianity and primordial power spectrum reconstruction. Journal of Cosmology and Astroparticle Physics, 2014, 2014, 048-048.	5.4	11
54	New method for analyzing dark matter direct detection data. Physical Review D, 2014, 89, .	4.7	3

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55	Improving self-calibration. Physical Review E, 2014, 90, 043301.	2.1	5
56	Generic inference of inflation models by local non-Gaussianity. Proceedings of the International Astronomical Union, 2014, 10, 51-53.	0.0	0
57	Bayesian CMB foreground separation with a correlated log-normal model. Proceedings of the International Astronomical Union, 2014, 10, 16-18.	0.0	0
58	Fast and precise way to calculate the posterior for the local non-Gaussianity parameter f_{nl} from cosmic microwave background observations. Physical Review D, 2013, 88, .	4.7	4
59	Simulation of stochastic network dynamics via entropic matching. Physical Review E, 2013, 87, 022719.	2.1	12
60	Diagnostics for insufficiencies of posterior calculations in Bayesian signal inference. Physical Review E, 2013, 88, 053303.	2.1	5
61	Planck misst Licht vom Anfang der Zeit. Physik in Unserer Zeit, 2013, 44, 162-164.	0.0	1
62	Reconstruction of Gaussian and log-normal fields with spectral smoothness. Physical Review E, 2013, 87, .	2.1	31
63	Information field dynamics for simulation scheme construction. Physical Review E, 2013, 87, 013308.	2.1	13
64	Improving stochastic estimates with inference methods: Calculating matrix diagonals. Physical Review E, 2012, 85, 021134.	2.1	9
65	Reconstruction of signals with unknown spectra in information field theory with parameter uncertainty. Physical Review D, 2011, 83, .	4.7	48
66	Reconstructing signals from noisy data with unknown signal and noise covariance. Physical Review E, 2011, 84, 041118.	2.1	22
67	Bayesian analysis of spatially distorted cosmic signals from Poissonian data. Monthly Notices of the Royal Astronomical Society, 2010, 409, 1393-1411.	4.4	3
68	Bayesian non-linear large-scale structure inference of the Sloan Digital Sky Survey Data Release 7. Monthly Notices of the Royal Astronomical Society, 2010, 409, 355-370.	4.4	75
69	Bayesian power-spectrum inference for large-scale structure data. Monthly Notices of the Royal Astronomical Society, 2010, 406, 60-85.	4.4	93
70	Inference with minimal Gibbs free energy in information field theory. Physical Review E, 2010, 82, 051112.	2.1	36
71	Cosmic cartography of the large-scale structure with Sloan Digital Sky Survey data release 6. Monthly Notices of the Royal Astronomical Society, 2009, 400, 183-203.	4.4	64
72	Information field theory for cosmological perturbation reconstruction and nonlinear signal analysis. Physical Review D, 2009, 80, .	4.7	104

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73	Simulating cosmic rays in clusters of galaxies â€" II. A unified scheme for radio haloes and relics with predictions of the Î³-ray emission. Monthly Notices of the Royal Astronomical Society, 2008, 385, 1211-1241.	4.4	133
74	Simulations of cosmic-ray feedback by active galactic nuclei in galaxy clusters. Monthly Notices of the Royal Astronomical Society, 2008, 387, 1403-1415.	4.4	92
75	Cosmic rays and the primordial gas. Monthly Notices of the Royal Astronomical Society, 2007, 380, 417-429.	4.4	30
76	Particle acceleration processes in the cosmic large-scale structure. Proceedings of the International Astronomical Union, 2006, 2, 372-373.	0.0	0
77	Magnetic field seeding by galactic winds. Monthly Notices of the Royal Astronomical Society, 2006, 370, 319-330.	4.4	104
78	Estimating galaxy cluster magnetic fields by the classical and hadronic minimum energy criterion. Monthly Notices of the Royal Astronomical Society, 2004, 352, 76-90.	4.4	56
79	Ultrahigh energy cosmic ray probes of large scale structure and magnetic fields. Physical Review D, 2004, 70, .	4.7	144
80	Evidence for shock acceleration and intergalactic magnetic fields in a large-scale filament of galaxies ZwCl 2341.1+0000. New Astronomy, 2002, 7, 249-277.	1.8	99
81	Isotropization of ultra-high energy cosmic ray arrival directions by radio ghosts. Astroparticle Physics, 2001, 16, 47-66.	4.3	16
82	Spectral study of the diffuse synchrotron source in the galaxy cluster Abell 523. Monthly Notices of the Royal Astronomical Society, 0, , .	4.4	4
83	A Reputation Game Simulation: Emergent Social Phenomena from Information Theory. Annalen Der Physik, 0, , 2100277.	2.4	4