Neil Cornish

List of Publications by Year
in descending order

146 papers	9,745 citations	31976 53 h-index	39675 94 g-index
148 all docs	148 docs citations	148 times ranked	4207 citing authors

#	Article	IF	Citations
1	The International Pulsar Timing Array second data release: Search for an isotropic gravitational wave background. Monthly Notices of the Royal Astronomical Society, 2022, 510, 4873-4887.	4.4	174
2	Comparison of maximum-likelihood mapping methods for gravitational-wave backgrounds. Physical Review D, 2022, 105, .	4.7	7
3	Low latency detection of massive black hole binaries. Physical Review D, 2022, 105, .	4.7	6
4	Massive black hole binaries and where to find them with dual detector networks. Physical Review D, 2022, 105, .	4.7	14
5	First joint observation by the underground gravitational-wave detector KAGRA with GEO 600. Progress of Theoretical and Experimental Physics, 2022, 2022, .	6.6	20
6	Probing neutron stars with the full premerger and postmerger gravitational wave signal from binary coalescences. Physical Review D, 2022, 105, .	4.7	21
7	Fast Bayesian analysis of individual binaries in pulsar timing array data. Physical Review D, 2022, 105, .	4.7	9
8	Modeling compact binary signals and instrumental glitches in gravitational wave data. Physical Review D, 2021, 103, .	4.7	36
9	BayesWave analysis pipeline in the era of gravitational wave observations. Physical Review D, 2021, 103, .	4.7	65
10	Astrophysics Milestones for Pulsar Timing Array Gravitational-wave Detection. Astrophysical Journal Letters, 2021, 911, L34.	8.3	66
11	Bayesian search for gravitational wave bursts in pulsar timing array data. Classical and Quantum Gravity, 2021, 38, 095012.	4.0	6
12	Spectral separation of the stochastic gravitational-wave background for LISA: Observing both cosmological and astrophysical backgrounds. Physical Review D, 2021, 103, .	4.7	37
13	Rapid and robust parameter inference for binary mergers. Physical Review D, 2021, 103, .	4.7	21
14	The NANOGrav 11 yr Data Set: Limits on Supermassive Black Hole Binaries in Galaxies within 500 Mpc. Astrophysical Journal, 2021, 914, 121.	4.5	21
15	New binary pulsar constraints on Einstein-Ã¦ther theory after GW170817. Classical and Quantum Gravity, 2021, 38, 195003.	4.0	18
16	Characterization of the stochastic signal originating from compact binary populations as measured by LISA. Physical Review D, 2021, 104, .	4.7	45
17	Spectral separation of the stochastic gravitational-wave background for <i>LISA</i> in the context of a modulated Galactic foreground. Monthly Notices of the Royal Astronomical Society, 2021, 508, 803-826.	4.4	28
18	The NANOGrav 12.5 yr Data Set: Observations and Narrowband Timing of 47 Millisecond Pulsars. Astrophysical Journal, Supplement Series, 2021, 252, 4.	7.7	98

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19	The NANOGrav 12.5 yr Data Set: Wideband Timing of 47 Millisecond Pulsars. Astrophysical Journal, Supplement Series, 2021, 252, 5.	7.7	64
20	Heterodyned likelihood for rapid gravitational wave parameter inference. Physical Review D, 2021, 104, .	4.7	27
21	Searching for Gravitational Waves from Cosmological Phase Transitions with the NANOGrav 12.5-Year Dataset. Physical Review Letters, 2021, 127, 251302.	7.8	62
22	The NANOGrav 12.5-year Data Set: Search for Non-Einsteinian Polarization Modes in the Gravitational-wave Background. Astrophysical Journal Letters, 2021, 923, L22.	8.3	30
23	Reconstructing gravitational wave signals from binary black hole mergers with minimal assumptions. Physical Review D, 2020, 102, .	4.7	19
24	Black hole hunting with LISA. Physical Review D, 2020, 101, .	4.7	22
25	Joint search for isolated sources and an unresolved confusion background in pulsar timing array data. Classical and Quantum Gravity, 2020, 37, 135011.	4.0	17
26	Global analysis of the gravitational wave signal from Galactic binaries. Physical Review D, 2020, 101, .	4.7	66
27	The NANOGrav 11 yr Data Set: Evolution of Gravitational-wave Background Statistics. Astrophysical Journal, 2020, 890, 108.	4.5	28
28	The NANOGrav 11 yr Data Set: Limits on Gravitational Wave Memory. Astrophysical Journal, 2020, 889, 38.	4.5	36
29	Modeling the Uncertainties of Solar System Ephemerides for Robust Gravitational-wave Searches with Pulsar-timing Arrays. Astrophysical Journal, 2020, 893, 112.	4.5	49
30	Time-frequency analysis of gravitational wave data. Physical Review D, 2020, 102, .	4.7	22
31	Multimessenger Gravitational-wave Searches with Pulsar Timing Arrays: Application to 3C 66B Using the NANOGrav 11-year Data Set. Astrophysical Journal, 2020, 900, 102.	4.5	30
32	The NANOGrav 12.5Âyr Data Set: Search for an Isotropic Stochastic Gravitational-wave Background. Astrophysical Journal Letters, 2020, 905, L34.	8.3	528
33	The NANOGrav 11 yr Data Set: Limits on Gravitational Waves from Individual Supermassive Black Hole Binaries. Astrophysical Journal, 2019, 880, 116.	4.5	102
34	Noise spectral estimation methods and their impact on gravitational wave measurement of compact binary mergers. Physical Review D, 2019, 100, .	4.7	54
35	Constraining alternative polarization states of gravitational waves from individual black hole binaries using pulsar timing arrays. Physical Review D, 2019, 99, .	4.7	11
36	The construction and use of LISA sensitivity curves. Classical and Quantum Gravity, 2019, 36, 105011.	4.0	412

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37	Detecting gravitational wave bursts with LISA in the presence of instrumental glitches. Physical Review D, 2019, 99, .	4.7	24
38	Prospects for Gravitational Wave Measurement of ZTF J1539+5027. Astrophysical Journal Letters, 2019, 881, L43.	8.3	21
39	Black Hole Merging and Gravitational Waves. Saas-Fee Advanced Course, 2019, , 1-92.	1.1	1
40	The NANOGrav 11-year Data Set: High-precision Timing of 45 Millisecond Pulsars. Astrophysical Journal, Supplement Series, 2018, 235, 37.	7.7	448
41	Constraining Alternative Theories of Gravity Using Pulsar Timing Arrays. Physical Review Letters, 2018, 120, 181101.	7.8	30
42	Listening for the Cosmic Hum of Black Holes. Physics Magazine, 2018, 11, .	0.1	0
43	Mitigation of the instrumental noise transient in gravitational-wave data surrounding GW170817. Physical Review D, 2018, 98, .	4.7	75
44	Detecting hierarchical stellar systems with LISA. Physical Review D, 2018, 98, .	4.7	48
45	The NANOGrav 11 Year Data Set: Pulsar-timing Constraints on the Stochastic Gravitational-wave Background. Astrophysical Journal, 2018, 859, 47.	4.5	331
46	Bayesian reconstruction of gravitational wave bursts using chirplets. Physical Review D, 2018, 97, .	4.7	20
47	Parameter Estimation for Gravitational-wave Bursts with the BayesWave Pipeline. Astrophysical Journal, 2017, 839, 15.	4.5	38
48	Detection methods for stochastic gravitational-wave backgrounds: a unified treatment. Living Reviews in Relativity, 2017, 20, 2.	26.7	296
49	Bounding the Speed of Gravity with Gravitational Wave Observations. Physical Review Letters, 2017, 119, 161102.	7.8	50
50	Constructing gravitational waves from generic spin-precessing compact binary inspirals. Physical Review D, 2017, 95, .	4.7	111
51	Impact of galactic foreground characterization on a global analysis for the LISA gravitational wave observatory. Classical and Quantum Gravity, 2017, 34, 244002.	4.0	29
52	Analytic Gravitational Waveforms for Generic Precessing Binary Inspirals. Physical Review Letters, 2017, 118, 051101.	7.8	34
53	Inferring the post-merger gravitational wave emission from binary neutron star coalescences. Physical Review D, 2017, 96, .	4.7	84
54	Galactic binary science with the new LISA design. Journal of Physics: Conference Series, 2017, 840, 012024.	0.4	78

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55	THE NANOGRAV NINE-YEAR DATA SET: LIMITS ON THE ISOTROPIC STOCHASTIC GRAVITATIONAL WAVE BACKGROUND. Astrophysical Journal, 2016, 821, 13.	4.5	227
56	Leveraging waveform complexity for confident detection of gravitational waves. Physical Review D, 2016, 93, .	4.7	42
57	Towards robust gravitational wave detection with pulsar timing arrays. Physical Review D, 2016, 93, .	4.7	34
58	Enabling high confidence detections of gravitational-wave bursts. Physical Review D, 2016, 94, .	4.7	36
59	Bayesian inference for spectral estimation of gravitational wave detector noise. Physical Review D, 2015, 91, .	4.7	172
60	Constraining the solution to the last parsec problem with pulsar timing. Physical Review D, 2015, 91, .	4.7	44
61	When is a gravitational-wave signal stochastic?. Physical Review D, 2015, 92, .	4.7	16
62	Phase-coherent mapping of gravitational-wave backgrounds using ground-based laser interferometers. Physical Review D, 2015, 92, .	4.7	25
63	Probing the internal composition of neutron stars with gravitational waves. Physical Review D, 2015, 92, .	4.7	51
64	Fisher versus Bayes: A comparison of parameter estimation techniques for massive black hole binaries to high redshifts with eLISA. Physical Review D, 2015, 91, .	4.7	15
65	NANOGrav CONSTRAINTS ON GRAVITATIONAL WAVE BURSTS WITH MEMORY. Astrophysical Journal, 2015, 810, 150.	4.5	54
66	THE NANOGRAV NINE-YEAR DATA SET: OBSERVATIONS, ARRIVAL TIME MEASUREMENTS, AND ANALYSIS OF 37 MILLISECOND PULSARS. Astrophysical Journal, 2015, 813, 65.	4.5	185
67	Bayeswave: Bayesian inference for gravitational wave bursts and instrument glitches. Classical and Quantum Gravity, 2015, 32, 135012.	4.0	295
68	SPIN-PRECESSION: BREAKING THE BLACK HOLE-NEUTRON STAR DEGENERACY. Astrophysical Journal Letters, 2015, 798, L17.	8.3	48
69	Projected constraints on scalarization with gravitational waves from neutron star binaries. Physical Review D, 2014, 90, .	4.7	76
70	Detection and parameter estimation of gravitational waves from compact binary inspirals with analytical double-precessing templates. Physical Review D, 2014, 89, .	4.7	36
71	Detecting a stochastic gravitational wave background in the presence of a galactic foreground and instrument noise. Physical Review D, 2014, 89, .	4.7	87
72	Summary of session C1: pulsar timing arrays. General Relativity and Gravitation, 2014, 46, 1.	2.0	0

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73	Prospects for observing ultracompact binaries with space-based gravitational wave interferometers and optical telescopes. Monthly Notices of the Royal Astronomical Society, 2013, 429, 2361-2365.	4.4	20
74	Pulsar timing array analysis for black hole backgrounds. Classical and Quantum Gravity, 2013, 30, 224005.	4.0	36
75	Rosetta stone for parametrized tests of gravity. Physical Review D, 2013, 88, .	4.7	23
76	Publisherâ€™s Note: Rosetta stone for parametrized tests of gravity [Phys. Rev. D88, 064056 (2013)]. Physical Review D, 2013, 88, .	4.7	12
77	Gravitational wave tests of strong field general relativity with binary inspirals: Realistic injections and optimal model selection. Physical Review D, 2013, 87, .	4.7	54
78	Gravitational waveforms for precessing, quasicircular compact binaries with multiple scale analysis: Small spin expansion. Physical Review D, 2013, 88, .	4.7	25
79	Gravitational waveforms for precessing, quasicircular binaries via multiple scale analysis and uniform asymptotics: The near spin alignment case. Physical Review D, 2013, 88, .	4.7	26
80	Towards a unified treatment of gravitational-wave data analysis. Physical Review D, 2013, 87, .	4.7	15
81	Gravitational wave astronomy: needle in a haystack. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20110540.	3.4	6
82	Astrophysical model selection in gravitational wave astronomy. Physical Review D, 2012, 86, .	4.7	34
83	Model-independent test of general relativity: An extended post-Einsteinian framework with complete polarization content. Physical Review D, 2012, 86, .	4.7	173
84	Constraints on the topology of the Universe: Extension to general geometries. Physical Review D, 2012, 86, .	4.7	31
85	Measuring parameters of massive black hole binaries with partially aligned spins. Physical Review D, 2011, 84, .	4.7	43
86	Detection strategies for extreme mass ratio inspirals. Classical and Quantum Gravity, 2011, 28, 094016.	4.0	21
87	Characterizing spinning black hole binaries in eccentric orbits with LISA. Physical Review D, 2011, 83, .	4.7	23
88	Gravitational wave tests of general relativity with the parameterized post-Einsteinian framework. Physical Review D, 2011, 84, .	4.7	160
89	Discriminating between a stochastic gravitational wave background and instrument noise. Physical Review D, 2010, 82, .	4.7	80
90	The Mock LISA Data Challenges: from challenge 3 to challenge 4. Classical and Quantum Gravity, 2010, 27, 084009.	4.0	83

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91	Separating gravitational wave signals from instrument artifacts. Physical Review D, 2010, 82, .	4.7	29
92	Gravitational wave astronomy. , 2009, , 213-228.		1
93	Semi-Classical Limit and Minimum Decoherence inÂtheÂConditional Probability Interpretation ofÂQuantum Mechanics. Foundations of Physics, 2009, 39, 474-485.	1.3	7
94	Characterizing the gravitational wave signature from cosmic string cusps. Physical Review D, 2009, 79, .	4.7	26
95	Bayesian approach to the detection problem in gravitational wave astronomy. Physical Review D, 2009, 80, .	4.7	61
96	Alternative derivation of the response of interferometric gravitational wave detectors. Physical Review D, 2009, 80, .	4.7	6
97	Effect of higher harmonic corrections on the detection of massive black hole binaries with LISA. Physical Review D, 2008, 78, .	4.7	52
98	The Mock LISA Data Challenges: from Challenge 1B to Challenge 3. Classical and Quantum Gravity, 2008, 25, 184026.	4.0	64
99	Extracting galactic binary signals from the first round of Mock LISA Data Challenges. Classical and Quantum Gravity, 2007, 24, S575-S585.	4.0	24
100	An overview of the second round of the Mock LISA Data Challenges. Classical and Quantum Gravity, 2007, 24, S551-S564.	4.0	48
101	The search for massive black hole binaries with LISA. Classical and Quantum Gravity, 2007, 24, 5729-5755.	4.0	50
102	Searching for massive black hole binaries in the first Mock LISA Data Challenge. Classical and Quantum Gravity, 2007, 24, S501-S511.	4.0	19
103	Report on the first round of the Mock LISA Data Challenges. Classical and Quantum Gravity, 2007, 24, S529-S539.	4.0	33
104	Catching supermassive black hole binaries without a net. Physical Review D, 2007, 75, .	4.7	36
105	Solution to the galactic foreground problem for LISA. Physical Review D, 2007, 75, .	4.7	71
106	Tests of Bayesian model selection techniques for gravitational wave astronomy. Physical Review D, 2007, 76, .	4.7	107
107	Characterizing the galactic gravitational wave background with LISA. Physical Review D, 2006, 73, .	4.7	95
108	Detecting the cosmic gravitational wave background with the Big Bang Observer. Classical and Quantum Gravity, 2006, 23, 2435-2446.	4.0	281

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109	MCMC exploration of supermassive black hole binary inspirals. Classical and Quantum Gravity, 2006, 23, S761-S767.	4.0	40
110	Slice & Dice: Identifying and Removing Bright Galactic Binaries from LISA Data. AIP Conference Proceedings, 2006, , .	0.4	3
111	An Overview of the Mock LISA Data Challenges. AIP Conference Proceedings, 2006, , .	0.4	31
112	LISA data analysis using genetic algorithms. Physical Review D, 2006, 73, .	4.7	31
113	Beyond LISA: Exploring future gravitational wave missions. Physical Review D, 2005, 72, .	4.7	393
114	LISA data analysis using Markov chain Monte Carlo methods. Physical Review D, 2005, 72, .	4.7	94
115	Forward modeling of space-borne gravitational wave detectors. Physical Review D, 2004, 69, .	4.7	104
116	LISA source confusion. Physical Review D, 2004, 70, .	4.7	22
117	GRAVITATIONAL WAVE ASTRONOMY. Annual Review of Nuclear and Particle Science, 2004, 54, 525-577.	10.2	26
118	Constraining the Topology of the Universe. Physical Review Letters, 2004, 92, 201302.	7.8	164
119	Lyapunov timescales and black hole binaries. Classical and Quantum Gravity, 2003, 20, 1649-1660.	4.0	61
120	LISA response function. Physical Review D, 2003, 67, .	4.7	104
121	LISA data analysis: Source identification and subtraction. Physical Review D, 2003, 67, .	4.7	63
122	Chaos and damping in the post-Newtonian description of spinning compact binaries. Physical Review D, 2003, 68, .	4.7	50
123	Comment on â€œRuling Out Chaos in Compact Binary Systemsâ€• Physical Review Letters, 2002, 89, 179001.	7.8	45
124	Making maps with LISA. Classical and Quantum Gravity, 2002, 19, 1279-1283.	4.0	16
125	Mapping the gravitational-wave background. Classical and Quantum Gravity, 2001, 18, 4277-4291.	4.0	70
126	Space missions to detect the cosmic gravitational-wave background. Classical and Quantum Gravity, 2001, 18, 3473-3495.	4.0	67

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127	Detecting a stochastic gravitational wave background with the Laser Interferometer Space Antenna. Physical Review D, 2001, 65, .	4.7	70
128	Chaos and gravitational waves. Physical Review D, 2001, 64, .	4.7	39
129	Comment on â€œGravity Waves, Chaos, and Spinning Compact Binariesâ€• Physical Review Letters, 2000, 85, 3980-3980.	7.8	12
130	Using the acoustic peak to measure cosmological parameters. Physical Review D, 2000, 63, .	4.7	7
131	A small universe after all?. Physical Review D, 2000, 62, .	4.7	21
132	Ringing the eigenmodes from compact manifolds. Classical and Quantum Gravity, 1998, 15, 2699-2710.	4.0	11
133	Circles in the sky: finding topology with the microwave background radiation. Classical and Quantum Gravity, 1998, 15, 2657-2670.	4.0	192
134	Chaos in Quantum Cosmology. Physical Review Letters, 1998, 81, 3571-3574.	7.8	52
135	Can COBE see the shape of the universe?. Physical Review D, 1998, 57, 5982-5996.	4.7	51
136	A tale of two centres. Classical and Quantum Gravity, 1997, 14, 1865-1881.	4.0	33
137	The black hole and the pea. Physical Review D, 1997, 56, 1903-1907.	4.7	22
138	The Mixmaster Universe is Chaotic. Physical Review Letters, 1997, 78, 998-1001.	7.8	113
139	Mixmaster universe: A chaotic Farey tale. Physical Review D, 1997, 55, 7489-7510.	4.7	112
140	Chaos in special relativistic dynamics. Physical Review E, 1996, 53, 1351-1361.	2.1	17
141	Chaos, fractals, and inflation. Physical Review D, 1996, 53, 3022-3032.	4.7	56
142	Does Chaotic Mixing FacilitateÎ©<1Inflation?. Physical Review Letters, 1996, 77, 215-218.	7.8	84
143	ANALYSIS OF THE NONSINGULAR WYMAN-SCHWARZSCHILD METRIC. Modern Physics Letters A, 1994, 09, 3629-3640.	1.2	2
144	Fractal basins and chaotic trajectories in multi-black-hole spacetimes. Physical Review D, 1994, 50, R618-R621.	4.7	79

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145	A non-singular theory of gravity?. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1994, 336, 337-342.	4.1	14
146	Nonsingular gravity without black holes. Journal of Mathematical Physics, 1994, 35, 6628-6643.	1.1	12