

Harald P Pfeiffer

List of Publications by Year in descending order

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Version: 2024-02-01

110
papers

9,781
citations

34105

52
h-index

33894

99
g-index

110
all docs

110
docs citations

110
times ranked

4014
citing authors

#	ARTICLE	IF	CITATIONS
1	Unified discontinuous Galerkin scheme for a large class of elliptic equations. <i>Physical Review D</i> , 2022, 105, .	4.7	3
2	A scalable elliptic solver with task-based parallelism for the SpECTRE numerical relativity code. <i>Physical Review D</i> , 2022, 105, .	4.7	2
3	First joint observation by the underground gravitational-wave detector KAGRA with GEO 600. <i>Progress of Theoretical and Experimental Physics</i> , 2022, 2022, .	6.6	20
4	High precision ringdown modeling: Multimode fits and BMS frames. <i>Physical Review D</i> , 2022, 105, .	4.7	21
5	Adding gravitational memory to waveform catalogs using BMS balance laws. <i>Physical Review D</i> , 2021, 103, .	4.7	35
6	Extending gravitational wave extraction using Weyl characteristic fields. <i>Physical Review D</i> , 2021, 103, .	4.7	16
7	High-accuracy waveforms for black hole-neutron star systems with spinning black holes. <i>Physical Review D</i> , 2021, 103, .	4.7	10
8	A Gravitational-wave Measurement of the Hubble Constant Following the Second Observing Run of Advanced LIGO and Virgo. <i>Astrophysical Journal</i> , 2021, 909, 218.	4.5	144
9	Eccentric binary black hole surrogate models for the gravitational waveform and remnant properties: Comparable mass, nonspinning case. <i>Physical Review D</i> , 2021, 103, .	4.7	53
10	Up-down instability of binary black holes in numerical relativity. <i>Physical Review D</i> , 2021, 103, .	4.7	8
11	Comparing remnant properties from horizon data and asymptotic data in numerical relativity. <i>Physical Review D</i> , 2021, 103, .	4.7	13
12	Fixing the BMS frame of numerical relativity waveforms. <i>Physical Review D</i> , 2021, 104, .	4.7	15
13	Worldtube excision method for intermediate-mass-ratio inspirals: Scalar-field toy model. <i>Physical Review D</i> , 2021, 104, .	4.7	2
14	Aligned-spin neutron-star-black-hole waveform model based on the effective-one-body approach and numerical-relativity simulations. <i>Physical Review D</i> , 2020, 102, .	4.7	51
15	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. <i>Living Reviews in Relativity</i> , 2020, 23, 3.	26.7	447
16	Multipolar effective-one-body waveforms for precessing binary black holes: Construction and validation. <i>Physical Review D</i> , 2020, 102, .	4.7	182
17	Intermediate Mass-Ratio Black Hole Binaries: Applicability of Small Mass-Ratio Perturbation Theory. <i>Physical Review Letters</i> , 2020, 125, 181101.	7.8	33
18	Impact of subdominant modes on the interpretation of gravitational-wave signals from heavy binary black hole systems. <i>Physical Review D</i> , 2020, 101, .	4.7	28

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19	Unequal mass binary neutron star simulations with neutrino transport: Ejecta and neutrino emission. <i>Physical Review D</i> , 2020, 101, .	4.7	38
20	Comparison of post-Newtonian mode amplitudes with numerical relativity simulations of binary black holes. <i>Classical and Quantum Gravity</i> , 2020, 37, 065006.	4.0	18
21	Constraining the parameters of GW150914 and GW170104 with numerical relativity surrogates. <i>Physical Review D</i> , 2019, 99, .	4.7	32
22	The SXS collaboration catalog of binary black hole simulations. <i>Classical and Quantum Gravity</i> , 2019, 36, 195006.	4.0	217
23	hp-adaptive discontinuous Galerkin solver for elliptic equations in numerical relativity. <i>Physical Review D</i> , 2019, 100, .	4.7	8
24	Gravitational waveforms for high spin and high mass-ratio binary black holes: A synergistic use of numerical-relativity codes. <i>Physical Review D</i> , 2019, 99, .	4.7	7
25	Systematic effects from black hole-neutron star waveform model uncertainties on the neutron star equation of state. <i>Physical Review D</i> , 2019, 99, .	4.7	8
26	Compact binary waveform center-of-mass corrections. <i>Physical Review D</i> , 2019, 100, .	4.7	17
27	Distinguishing the nature of comparable-mass neutron star binary systems with multimessenger observations: GW170817 case study. <i>Physical Review D</i> , 2019, 100, .	4.7	54
28	Surrogate model of hybridized numerical relativity binary black hole waveforms. <i>Physical Review D</i> , 2019, 99, .	4.7	153
29	Surrogate models for precessing binary black hole simulations with unequal masses. <i>Physical Review Research</i> , 2019, 1, .	3.6	213
30	Eccentric, nonspinning, inspiral, Gaussian-process merger approximant for the detection and characterization of eccentric binary black hole mergers. <i>Physical Review D</i> , 2018, 97, .	4.7	100
31	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. <i>Living Reviews in Relativity</i> , 2018, 21, 3.	26.7	808
32	GPU-accelerated simulations of isolated black holes. <i>Classical and Quantum Gravity</i> , 2018, 35, 095017.	4.0	5
33	Comparison of binary black hole initial data sets. <i>Physical Review D</i> , 2018, 98, .	4.7	15
34	Black hole-neutron star mergers using a survey of finite-temperature equations of state. <i>Physical Review D</i> , 2018, 98, .	4.7	22
35	Detection and characterization of spin-orbit resonances in the advanced gravitational wave detectors era. <i>Physical Review D</i> , 2018, 98, .	4.7	13
36	Evolution of the magnetized, neutrino-cooled accretion disk in the aftermath of a black hole-neutron star binary merger. <i>Physical Review D</i> , 2018, 97, .	4.7	27

#	ARTICLE	IF	CITATIONS
37	Measuring the properties of nearly extremal black holes with gravitational waves. <i>Physical Review D</i> , 2018, 98, .	4.7	16
38	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. , 2018, 21, 1.		2
39	Improved effective-one-body model of spinning, nonprecessing binary black holes for the era of gravitational-wave astrophysics with advanced detectors. <i>Physical Review D</i> , 2017, 95, .	4.7	401
40	Search for Gravitational Waves Associated with Gamma-Ray Bursts during the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B. <i>Astrophysical Journal</i> , 2017, 841, 89.	4.5	52
41	Numerical relativity waveform surrogate model for generically precessing binary black hole mergers. <i>Physical Review D</i> , 2017, 96, .	4.7	134
42	Complete waveform model for compact binaries on eccentric orbits. <i>Physical Review D</i> , 2017, 95, .	4.7	88
43	Measuring neutron star tidal deformability with Advanced LIGO: A Bayesian analysis of neutron star-black hole binary observations. <i>Physical Review D</i> , 2017, 95, .	4.7	25
44	Impact of an improved neutrino energy estimate on outflows in neutron star merger simulations. <i>Physical Review D</i> , 2016, 94, .	4.7	113
45	Low mass binary neutron star mergers: Gravitational waves and neutrino emission. <i>Physical Review D</i> , 2016, 93, .	4.7	157
46	Accuracy of binary black hole waveform models for aligned-spin binaries. <i>Physical Review D</i> , 2016, 93, .	4.7	37
47	Simulations of inspiraling and merging double neutron stars using the Spectral Einstein Code. <i>Physical Review D</i> , 2016, 93, .	4.7	39
48	Effects of Neutron-Star Dynamic Tides on Gravitational Waveforms within the Effective-One-Body Approach. <i>Physical Review Letters</i> , 2016, 116, 181101.	7.8	204
49	Modeling the source of GW150914 with targeted numerical-relativity simulations. <i>Classical and Quantum Gravity</i> , 2016, 33, 244002.	4.0	67
50	Initial data for black hole–neutron star binaries, with rotating stars. <i>Classical and Quantum Gravity</i> , 2016, 33, 225012.	4.0	10
51	Redshift Factor and the First Law of Binary Black Hole Mechanics in Numerical Simulations. <i>Physical Review Letters</i> , 2016, 117, 191101.	7.8	26
52	Post-merger evolution of a neutron star-black hole binary with neutrino transport. <i>Physical Review D</i> , 2015, 91, .	4.7	124
53	Stability of exact force-free electrodynamic solutions and scattering from spacetime curvature. <i>Physical Review D</i> , 2015, 92, .	4.7	14
54	Comparing post-Newtonian and numerical relativity precession dynamics. <i>Physical Review D</i> , 2015, 92, .	4.7	37

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55	Binary neutron stars with arbitrary spins in numerical relativity. <i>Physical Review D</i> , 2015, 92, .	4.7	41
56	Approaching the Post-Newtonian Regime with Numerical Relativity: A Compact-Object Binary Simulation Spanning 350 Gravitational-Wave Cycles. <i>Physical Review Letters</i> , 2015, 115, 031102.	7.8	68
57	Improvements to the construction of binary black hole initial data. <i>Classical and Quantum Gravity</i> , 2015, 32, 245010.	4.0	28
58	Nearly extremal apparent horizons in simulations of merging black holes. <i>Classical and Quantum Gravity</i> , 2015, 32, 065007.	4.0	33
59	Accretion disks around binary black holes of unequal mass: General relativistic MHD simulations of postdecoupling and merger. <i>Physical Review D</i> , 2014, 90, .	4.7	64
60	Stability of nonspinning effective-one-body model in approximating two-body dynamics and gravitational-wave emission. <i>Physical Review D</i> , 2014, 89, .	4.7	27
61	Effective-one-body model for black-hole binaries with generic mass ratios and spins. <i>Physical Review D</i> , 2014, 89, .	4.7	360
62	Inspiral-merger-ringdown waveforms of spinning, precessing black-hole binaries in the effective-one-body formalism. <i>Physical Review D</i> , 2014, 89, .	4.7	265
63	Template banks for binary black hole searches with numerical relativity waveforms. <i>Physical Review D</i> , 2014, 89, .	4.7	16
64	Neutron star-black hole mergers with a nuclear equation of state and neutrino cooling: Dependence in the binary parameters. <i>Physical Review D</i> , 2014, 90, .	4.7	132
65	Periastron advance in spinning black hole binaries: comparing effective-one-body and numerical relativity. <i>Physical Review D</i> , 2013, 88, .	4.7	50
66	Catalog of 174 Binary Black Hole Simulations for Gravitational Wave Astronomy. <i>Physical Review Letters</i> , 2013, 111, 241104.	7.8	325
67	Interpolation in waveform space: Enhancing the accuracy of gravitational waveform families using numerical relativity. <i>Physical Review D</i> , 2013, 87, .	4.7	19
68	Suitability of hybrid gravitational waveforms for unequal-mass binaries. <i>Physical Review D</i> , 2013, 87, .	4.7	39
69	Precession-tracking coordinates for simulations of compact-object binaries. <i>Physical Review D</i> , 2013, 88, .	4.7	25
70	First direct comparison of nondisrupting neutron star-black hole and binary black hole merger simulations. <i>Physical Review D</i> , 2013, 88, .	4.7	56
71	Periastron advance in spinning black hole binaries: Gravitational self-force from numerical relativity. <i>Physical Review D</i> , 2013, 88, .	4.7	54
72	Black-hole–neutron-star mergers at realistic mass ratios: Equation of state and spin orientation effects. <i>Physical Review D</i> , 2013, 87, .	4.7	134

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73	The NINJA-2 catalog of hybrid post-Newtonian/numerical-relativity waveforms for non-precessing black-hole binaries. <i>Classical and Quantum Gravity</i> , 2012, 29, 124001.	4.0	106
74	Prototype effective-one-body model for nonprecessing spinning inspiral-merger-ringdown waveforms. <i>Physical Review D</i> , 2012, 86, .	4.7	192
75	Simulations of unequal-mass black hole binaries with spectral methods. <i>Physical Review D</i> , 2012, 86, .	4.7	91
76	Reducing orbital eccentricity of precessing black-hole binaries. <i>Physical Review D</i> , 2011, 83, .	4.7	82
77	Horizon dynamics of distorted rotating black holes. <i>Physical Review D</i> , 2011, 83, .	4.7	22
78	Inspiral-merger-ringdown multipolar waveforms of nonspinning black-hole binaries using the effective-one-body formalism. <i>Physical Review D</i> , 2011, 84, .	4.7	209
79	Implicit-explicit evolution of single black holes. <i>Physical Review D</i> , 2011, 84, .	4.7	10
80	Periastron Advance in Black-Hole Binaries. <i>Physical Review Letters</i> , 2011, 107, 141101.	7.8	110
81	Suitability of post-Newtonian/numerical-relativity hybrid waveforms for gravitational wave detectors. <i>Classical and Quantum Gravity</i> , 2011, 28, 134002.	4.0	58
82	Geometric approach to the precession of compact binaries. <i>Physical Review D</i> , 2011, 84, .	4.7	89
83	Measuring orbital eccentricity and periastron advance in quasicircular black hole simulations. <i>Physical Review D</i> , 2010, 82, .	4.7	56
84	Effective-one-body waveforms calibrated to numerical relativity simulations: Coalescence of nonprecessing, spinning, equal-mass black holes. <i>Physical Review D</i> , 2010, 81, .	4.7	123
85	High-accuracy waveforms for binary black hole inspiral, merger, and ringdown. <i>Physical Review D</i> , 2009, 79, .	4.7	201
86	Samurai project: Verifying the consistency of black-hole-binary waveforms for gravitational-wave detection. <i>Physical Review D</i> , 2009, 79, .	4.7	67
87	High accuracy simulations of black hole binaries: Spins anti-aligned with the orbital angular momentum. <i>Physical Review D</i> , 2009, 80, .	4.7	59
88	Effective-one-body waveforms calibrated to numerical relativity simulations: Coalescence of nonspinning, equal-mass black holes. <i>Physical Review D</i> , 2009, 79, .	4.7	149
89	Black hole initial data on hyperboloidal slices. <i>Physical Review D</i> , 2009, 80, .	4.7	26
90	Evolving black hole-neutron star binaries in general relativity using pseudospectral and finite difference methods. <i>Physical Review D</i> , 2008, 78, .	4.7	133

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91	High-accuracy numerical simulation of black-hole binaries: Computation of the gravitational-wave energy flux and comparisons with post-Newtonian approximants. <i>Physical Review D</i> , 2008, 78, .	4.7	115
92	Initial data for black hole–neutron star binaries: A flexible, high-accuracy spectral method. <i>Physical Review D</i> , 2008, 77, .	4.7	77
93	Binary-black-hole initial data with nearly extremal spins. <i>Physical Review D</i> , 2008, 78, .	4.7	150
94	REDUCING ORBITAL ECCENTRICITY IN BINARY BLACK HOLE SIMULATIONS. , 2008, , .		0
95	Reducing orbital eccentricity in binary black hole simulations. <i>Classical and Quantum Gravity</i> , 2007, 24, S59-S81.	4.0	170
96	Testing the accuracy and stability of spectral methods in numerical relativity. <i>Physical Review D</i> , 2007, 75, .	4.7	34
97	High-accuracy comparison of numerical relativity simulations with post-Newtonian expansions. <i>Physical Review D</i> , 2007, 76, .	4.7	305
98	Einstein constraints: Uniqueness and nonuniqueness in the conformal thin sandwich approach. <i>Physical Review D</i> , 2007, 75, .	4.7	27
99	Mining for Observables: A New Challenge in Numerical Relativity. <i>AIP Conference Proceedings</i> , 2006, , .	0.4	0
100	Circular orbits and spin in black-hole initial data. <i>Physical Review D</i> , 2006, 74, .	4.7	107
101	Solving Einstein’s equations with dual coordinate frames. <i>Physical Review D</i> , 2006, 74, .	4.7	171
102	Uniqueness and Nonuniqueness in the Einstein Constraints. <i>Physical Review Letters</i> , 2005, 95, 091101.	7.8	45
103	Boundary conditions for the Einstein evolution system. <i>Physical Review D</i> , 2005, 71, .	4.7	59
104	THE INITIAL VALUE PROBLEM IN NUMERICAL RELATIVITY. <i>Journal of Hyperbolic Differential Equations</i> , 2005, 02, 497-520.	0.5	13
105	Initial data for Einstein's equations with superposed gravitational waves. <i>Physical Review D</i> , 2005, 71, .	4.7	16
106	Optimal constraint projection for hyperbolic evolution systems. <i>Physical Review D</i> , 2004, 70, .	4.7	49
107	Excision boundary conditions for black-hole initial data. <i>Physical Review D</i> , 2004, 70, .	4.7	145
108	Controlling the growth of constraints in hyperbolic evolution systems. <i>Physical Review D</i> , 2004, 69, .	4.7	31

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109	A multidomain spectral method for solving elliptic equations. Computer Physics Communications, 2003, 152, 253-273.	7.5	196
110	Extrinsic curvature and the Einstein constraints. Physical Review D, 2003, 67, .	4.7	168