Bernd BrÃ¼gmann

List of Publications by Year
in descending order

59 papers	4,559 citations	117625 34 h-index	149698 56 g-index
59 all docs	59 docs citations	59 times ranked	1574 citing authors

#	Article	IF	Citations
1	Training strategies for deep learning gravitational-wave searches. Physical Review D, 2022, 105, .	4.7	14
2	High-accuracy simulations of highly spinning binary neutron star systems. Physical Review D, 2022, 105, .	4.7	2
3	New pseudospectral code for the construction of initial data. Physical Review D, 2022, 105, .	4.7	4
4	Entropy-limited higher-order central scheme for neutron star merger simulations. Physical Review D, 2022, 106, .	4.7	3
5	Implementation of the dual foliation generalized harmonic gauge formulation with application to spherical black hole excision. Physical Review D, 2021, 103, .	4.7	5
6	Analytical and numerical treatment of perturbed black holes in horizon-penetrating coordinates. Physical Review D, 2020, 102, .	4.7	4
7	Gravitational waves and mass ejecta from binary neutron star mergers: Effect of the spin orientation. Physical Review D, 2020, 102, .	4.7	12
8	Increasing the accuracy of binary neutron star simulations with an improved vacuum treatment. Physical Review D, 2020, 102, .	4.7	9
9	Constructing binary neutron star initial data with high spins, high compactnesses, and high mass ratios. Physical Review D, 2019, 100, .	4.7	23
10	The evolution of hyperboloidal data with the dual foliation formalism: mathematical analysis and wave equation tests. Classical and Quantum Gravity, 2018, 35, 055003.	4.0	20
11	<tt>CoRe</tt> database of binary neutron star merger waveforms. Classical and Quantum Gravity, 2018, 35, 24LT01.	4.0	81
12	Gravitational waves and mass ejecta from binary neutron star mergers: Effect of large eccentricities. Physical Review D, 2018, 98, .	4.7	36
13	Hyperbolic relaxation method for elliptic equations. Physical Review D, 2018, 98, .	4.7	12
14	Relevance of tidal effects and post-merger dynamics for binary neutron star parameter estimation. Physical Review D, 2018, 98, .	4.7	46
15	Fundamentals of numerical relativity for gravitational wave sources. Science, 2018, 361, 366-371.	12.6	12
16	Numerical relativity simulations of precessing binary neutron star mergers. Physical Review D, 2018, 97, .	4.7	29
17	Gravitational waves and mass ejecta from binary neutron star mergers: Effect of the mass ratio. Physical Review D, 2017, 95, .	4.7	138
18	Evolutions of centered Brill waves with a pseudospectral method. Physical Review D, 2017, 96, .	4.7	19

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19	Solving 3D relativistic hydrodynamical problems with weighted essentially nonoscillatory discontinuous Galerkin methods. Physical Review D, 2016, 94, .	4.7	29
20	Pseudospectral method for gravitational wave collapse. Physical Review D, 2016, 93, .	4.7	32
21	Numerical relativity simulations of neutron star merger remnants using conservative mesh refinement. Physical Review D, 2015, 91, .	4.7	105
22	Binary neutron stars with generic spin, eccentricity, mass ratio, and compactness: Quasi-equilibrium sequences and first evolutions. Physical Review D, 2015, 92, .	4.7	85
23	Mergers of binary neutron stars with realistic spin. Physical Review D, 2014, 89, .	4.7	99
24	Initial data for binary neutron stars with adjustable eccentricity. Physical Review D, 2014, 90, .	4.7	31
25	Spinning black hole in the puncture method: Numerical experiments. Journal of Physics: Conference Series, 2014, 490, 012155.	0.4	7
26	A pseudospectral matrix method for time-dependent tensor fields on a spherical shell. Journal of Computational Physics, 2013, 235, 216-240.	3.8	107
27	Numerical solution of the 2 + 1 Teukolsky equation on a hyperboloidal and horizon penetrating foliation of Kerr and application to late-time decays. Classical and Quantum Gravity, 2013, 30, 115013.	4.0	41
28	Eccentric black hole mergers and zoom-whirl behavior from elliptic inspirals to hyperbolic encounters. Physical Review D, 2013, 88, .	4.7	38
29	Compact binary evolutions with the Z4c formulation. Physical Review D, 2013, 88, .	4.7	124
30	Tidal effects in binary neutron star coalescence. Physical Review D, 2012, 86, .	4.7	143
31	NON-OVERLAPPING MARGINALLY TRAPPED SURFACES. , 2012, , .		0
32	Characterization of the gravitational wave emission of three black holes. Physical Review D, 2011, 83, .	4.7	32
33	Trumpet solution from spherical gravitational collapse with puncture gauges. Physical Review D, 2011, 83, .	4.7	32
34	Numerical relativity simulations of binary neutron stars. Physical Review D, 2011, 84, .	4.7	106
35	Symplectic integration of post-Newtonian equations of motion with spin. Physical Review D, 2010, 81, .	4.7	42
36	Numerical evolution of multiple black holes with accurate initial data. Physical Review D, 2010, 82, .	4.7	31

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37	Simulations of black-hole binaries with unequal masses or nonprecessing spins: Accuracy, physical properties, and comparison with post-Newtonian results. Physical Review D, 2010, 82, .	4.7	59
38	Samurai project: Verifying the consistency of black-hole-binary waveforms for gravitational-wave detection. Physical Review D, 2009, 79, .	4.7	67
39	Testing gravitational-wave searches with numerical relativity waveforms: results from the first Numerical INJection Analysis (NINJA) project. Classical and Quantum Gravity, 2009, 26, 165008.	4.0	110
40	Schwarzschild black hole as moving puncture in isotropic coordinates. General Relativity and Gravitation, 2009, 41, 2131-2151.	2.0	27
41	Exploring black hole superkicks. Physical Review D, 2008, 77, .	4.7	118
42	High-spin binary black hole mergers. Physical Review D, 2008, 77, .	4.7	144
43	Accurate effective-one-body waveforms of inspiralling and coalescing black-hole binaries. Physical Review D, 2008, 78, .	4.7	124
44	Wormholes and trumpets: Schwarzschild spacetime for the moving-puncture generation. Physical Review D, 2008, 78, .	4.7	82
45	Calibration of moving puncture simulations. Physical Review D, 2008, 77, .	4.7	285
46	Comparison between numerical-relativity and post-Newtonian waveforms from spinning binaries: The orbital hang-up case. Physical Review D, 2008, 78, .	4.7	94
47	Where post-Newtonian and numerical-relativity waveforms meet. Physical Review D, 2008, 77, .	4.7	129
48	HEAD-ON COLLISIONS OF DIFFERENT INITIAL DATA. , 2008, , .		0
49	Binary black hole initial data from matched asymptotic expansions. Physical Review D, 2006, 74, .	4.7	52
50	A5: NUMERICAL RELATIVITY AND ALGEBRAIC COMPUTING. , 2005, , .		0
51	Dynamical evolution of quasicircular binary black hole data. Physical Review D, 2005, 72, .	4.7	46
52	Single-domain spectral method for black hole puncture data. Physical Review D, 2004, 70, .	4.7	279
53	Numerical Simulation of Orbiting Black Holes. Physical Review Letters, 2004, 92, 211101.	7.8	164
54	Gauge conditions for long-term numerical black hole evolutions without excision. Physical Review D, 2003, 67, .	4.7	427

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55	SYMMETRY WITHOUT SYMMETRY: NUMERICAL SIMULATION OF AXISYMMETRIC SYSTEMS USING CARTESIAN GRIDS. International Journal of Modern Physics D, 2001, 10, 273-289.	2.1	121
56	3D Grazing Collision of Two Black Holes. Physical Review Letters, 2001, 87, 271103.	7.8	72
57	Simple excision of a black hole in3+1numerical relativity. Physical Review D, 2001, 63, .	4.7	112
58	BINARY BLACK HOLE MERGERS IN 3d NUMERICAL RELATIVITY. International Journal of Modern Physics D, 1999, 08, 85-100.	2.1	96
59	A Simple Construction of Initial Data for Multiple Black Holes. Physical Review Letters, 1997, 78, 3606-3609.	7.8	398