Masaru Shibata

List of Publications by Year
in descending order

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125 papers	12,176 citations	16437 64 h-index	24961 109 g-index
126 all docs	126 docs citations	126 times ranked	4937 citing authors

#	Article	IF	Citations
1	Evolution of three-dimensional gravitational waves: Harmonic slicing case. Physical Review D, 1995, 52, 5428-5444.	1.6	952
2	PRODUCTION OF ALL THE r -PROCESS NUCLIDES IN THE DYNAMICAL EJECTA OF NEUTRON STAR MERGERS. Astrophysical Journal Letters, 2014, 789, L39.	3.0	491
3	Mass ejection from the merger of binary neutron stars. Physical Review D, 2013, 87, .	1.6	414
4	Modeling GW170817 based on numerical relativity and its implications. Physical Review D, 2017, 96, .	1.6	355
5	Coalescence of Black Hole-Neutron Star Binaries. Living Reviews in Relativity, 2011, 14, 6.	8.2	349
6	Measuring the neutron star equation of state with gravitational wave observations. Physical Review D, 2009, 79, .	1.6	303
7	Merger of binary neutron stars to a black hole: Disk mass, short gamma-ray bursts, and quasinormal mode ringing. Physical Review D, 2006, 73, .	1.6	288
8	Merger of binary neutron stars with realistic equations of state in full general relativity. Physical Review D, 2005, 71, .	1.6	279
9	Remnant massive neutron stars of binary neutron star mergers: Evolution process and gravitational waveform. Physical Review D, 2013, 88, .	1.6	246
10	Dynamical mass ejection from binary neutron star mergers: Radiation-hydrodynamics study in general relativity. Physical Review D, 2015, 91, .	1.6	243
11	Matter effects on binary neutron star waveforms. Physical Review D, 2013, 88, .	1.6	238
12	Binary neutron star mergers: Dependence on the nuclear equation of state. Physical Review D, 2011, 83, .	1.6	230
13	Gravitational Waves and Neutrino Emission from the Merger of Binary Neutron Stars. Physical Review Letters, 2011, 107, 051102.	2.9	225
14	Constraint on the maximum mass of neutron stars using GW170817 event. Physical Review D, 2019, 100, .	1.6	219
15	Dynamical mass ejection from the merger of asymmetric binary neutron stars: Radiation-hydrodynamics study in general relativity. Physical Review D, 2016, 93, .	1.6	218
16	Effects of Neutron-Star Dynamic Tides on Gravitational Waveforms within the Effective-One-Body Approach. Physical Review Letters, 2016, 116, 181101.	2.9	204
17	Mass Ejection from the Remnant of a Binary Neutron Star Merger: Viscous-radiation Hydrodynamics Study. Astrophysical Journal, 2018, 860, 64.	1.6	183
18	Truncated Moment Formalism for Radiation Hydrodynamics in Numerical Relativity. Progress of Theoretical Physics, 2011, 125, 1255-1287.	2.0	171

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19	High resolution numerical relativity simulations for the merger of binary magnetized neutron stars. Physical Review D, 2014, 90, .	1.6	167
20	Efficient magnetic-field amplification due to the Kelvin-Helmholtz instability in binary neutron star mergers. Physical Review D, 2015, 92, .	1.6	165
21	Merger and Mass Ejection of Neutron Star Binaries. Annual Review of Nuclear and Particle Science, 2019, 69, 41-64.	3.5	165
22	Collapse of a Rotating Supermassive Star to a Supermassive Black Hole: Fully Relativistic Simulations. Astrophysical Journal, 2002, 572, L39-L43.	1.6	164
23	JET COLLIMATION IN THE EJECTA OF DOUBLE NEUTRON STAR MERGERS: A NEW CANONICAL PICTURE OF SHORT GAMMA-RAY BURSTS. Astrophysical Journal Letters, 2014, 784, L28.	3.0	159
24	Simulating coalescing compact binaries by a new code (SACRA). Physical Review D, 2008, 78, .	1.6	152
25	Current status of space gravitational wave antenna DECIGO and B-DECIGO. Progress of Theoretical and Experimental Physics, 2021, 2021, .	1.8	150
26	Evolution of magnetized, differentially rotating neutron stars: Simulations in full general relativity. Physical Review D, 2006, 73, .	1.6	140
27	Long-term general relativistic simulation of binary neutron stars collapsing to a black hole. Physical Review D, 2009, 80, .	1.6	140
28	Dynamical mass ejection from black hole-neutron star binaries. Physical Review D, 2015, 92, .	1.6	140
29	MODELS OF KILONOVA/MACRONOVA EMISSION FROM BLACK HOLEâ€“NEUTRON STAR MERGERS. Astrophysical Journal, 2016, 825, 52.	1.6	140
30	Coalescence of binary neutron stars in a scalar-tensor theory of gravity. Physical Review D, 2014, 89, .	1.6	136
31	Global simulations of strongly magnetized remnant massive neutron stars formed in binary neutron star mergers. Physical Review D, 2018, 97, .	1.6	135
32	Extracting equation of state parameters from black hole-neutron star mergers: Nonspinning black holes. Physical Review D, 2012, 85, .	1.6	131
33	High resolution magnetohydrodynamic simulation of black hole-neutron star merger: Mass ejection and short gamma ray bursts. Physical Review D, 2015, 92, .	1.6	120
34	Radiative Transfer Simulation for the Optical and Near-infrared Electromagnetic Counterparts to GW170817. Astrophysical Journal Letters, 2018, 865, L21.	3.0	117
35	RADIOACTIVELY POWERED EMISSION FROM BLACK HOLE-NEUTRON STAR MERGERS. Astrophysical Journal, 2014, 780, 31.	1.6	116
36	Magnetorotational collapse of massive stellar cores to neutron stars: Simulations in full general relativity. Physical Review D, 2006, 74, .	1.6	114

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37	Extracting equation of state parameters from black hole-neutron star mergers: Aligned-spin black holes and a preliminary waveform model. Physical Review D, 2014, 89, .	1.6	114
38	Collapse of Magnetized Hypermassive Neutron Stars in General Relativity. Physical Review Letters, 2006, 96, 031101.	2.9	112
39	Revisiting the Lower Bound on Tidal Deformability Derived by AT 2017gfo. Astrophysical Journal Letters, 2019, 876, L31.	3.0	109
40	Anisotropic mass ejection from black hole-neutron star binaries: Diversity of electromagnetic counterparts. Physical Review D, 2013, 88, .	1.6	105
41	Gravitational waves from black hole-neutron star binaries: Classification of waveforms. Physical Review D, 2009, 79, .	1.6	104
42	Three-dimensional simulations of stellar core collapse in full general relativity: Nonaxisymmetric dynamical instabilities. Physical Review D, 2005, 71, .	1.6	103
43	Gravitational waves from nonspinning black hole-neutron star binaries: Dependence on equations of state. Physical Review D, 2010, 82, .	1.6	101
44	Merger of black hole and neutron star in general relativity: Tidal disruption, torus mass, and gravitational waves. Physical Review D, 2008, 77, .	1.6	99
45	Short GRB 160821B: A Reverse Shock, a Refreshed Shock, and a Well-sampled Kilonova. Astrophysical Journal, 2019, 883, 48.	1.6	96
46	Axisymmetric general relativistic hydrodynamics: Long-term evolution of neutron stars and stellar collapse to neutron stars and black holes. Physical Review D, 2003, 67, .	1.6	92
47	Magnetized Hypermassive Neutron-Star Collapse: A Central Engine for Short Gamma-Ray Bursts. Physical Review Letters, 2006, 96, 031102.	2.9	92
48	Properties of Neutrino-driven Ejecta from the Remnant of a Binary Neutron Star Merger: Pure Radiation Hydrodynamics Case. Astrophysical Journal, 2017, 846, 114.	1.6	92
49	Synchrotron Radiation from the Fast Tail of Dynamical Ejecta of Neutron Star Mergers. Astrophysical Journal, 2018, 867, 95.	1.6	92
50	Black hole-neutron star binary merger: Dependence on black hole spin orientation and equation of state. Physical Review D, 2015, 92, .	1.6	91
51	Diversity of Kilonova Light Curves. Astrophysical Journal, 2020, 889, 171.	1.6	91
52	Magnetohydrodynamics in full general relativity: Formulation and tests. Physical Review D, 2005, 72, .	1.6	87
53	Measurability of the tidal deformability by gravitational waves from coalescing binary neutron stars. Physical Review D, 2016, 93, .	1.6	83
54	Mass ejection from disks surrounding a low-mass black hole: Viscous neutrino-radiation hydrodynamics simulation in full general relativity. Physical Review D, 2020, 101, .	1.6	77

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55	Exploring tidal effects of coalescing binary neutron stars in numerical relativity. Physical Review D, 2013, 87, .	1.6	75
56	General relativistic viscous hydrodynamics of differentially rotating neutron stars. Physical Review D, 2017, 95, .	1.6	75
57	On the minimum mass of neutron stars. Monthly Notices of the Royal Astronomical Society, 2018, 481, 3305-3312.	1.6	74
58	Gravitational Waves from the Papaloizou-Pringle Instability in Black-Hole-Torus Systems. Physical Review Letters, 2011, 106, 251102.	2.9	73
59	Neutrino-driven explosions of ultra-stripped Type Ic supernovae generating binary neutron stars. Monthly Notices of the Royal Astronomical Society, 2015, 454, 3073-3081.	1.6	73
60	Space gravitational-wave antennas DECIGO and B-DECIGO. International Journal of Modern Physics D, 2019, 28, 1845001.	0.9	73
61	Sub-radian-accuracy gravitational waveforms of coalescing binary neutron stars in numerical relativity. Physical Review D, 2017, 96, .	1.6	72
62	FORMATION OF BLACK HOLE AND ACCRETION DISK IN A MASSIVE HIGH-ENTROPY STELLAR CORE COLLAPSE. Astrophysical Journal, 2011, 737, 6.	1.6	67
63	Postmerger Mass Ejection of Low-mass Binary Neutron Stars. Astrophysical Journal, 2020, 901, 122.	1.6	66
64	Gravitational waves from remnant massive neutron stars of binary neutron star merger: Viscous hydrodynamics effects. Physical Review D, 2017, 95, .	1.6	65
65	Rotating black hole surrounded by self-gravitating torus in the puncture framework. Physical Review D, 2007, 76, .	1.6	61
66	Exploring Binary-Neutron-Star-Merger Scenario of Short-Gamma-Ray Bursts by Gravitational-Wave Observation. Physical Review Letters, 2010, 104, 141101.	2.9	60
67	Collapse of Rotating Supramassive Neutron Stars to Black Holes: Fully General Relativistic Simulations. Astrophysical Journal, 2003, 595, 992-999.	1.6	58
68	Neutrino transport in black hole-neutron star binaries: Neutrino emission and dynamical mass ejection. Physical Review D, 2018, 97, .	1.6	57
69	Exploring tidal effects of coalescing binary neutron stars in numerical relativity. II. Long-term simulations. Physical Review D, 2015, 91, .	1.6	56
70	Three-dimensional evolution of differentially rotating magnetized neutron stars. Physical Review D, 2012, 86, .	1.6	53
71	Reducing orbital eccentricity in initial data of binary neutron stars. Physical Review D, 2014, 90, .	1.6	53
72	On the Possibility of GW190425 Being a Black Holeâ€“Neutron Star Binary Merger. Astrophysical Journal Letters, 2020, 890, L4.	3.0	53

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73	AFTERGLOW OF A BINARY NEUTRON STAR MERGER. Astrophysical Journal Letters, 2011, 734, L36.	3.0	52
74	Frequency-domain gravitational waveform models for inspiraling binary neutron stars. Physical Review D, 2018, 97, .	1.6	51
75	Binary neutron-star mergers with Whisky and SACRA: First quantitative comparison of results from independent general-relativistic hydrodynamics codes. Physical Review D, 2010, 82, .	1.6	46
76	Quasiequilibrium sequences of binary neutron stars undergoing dynamical scalarization. Physical Review D, 2015, 91, .	1.6	43
77	Is super-Planckian physics visible? Scattering of black holes in 5 dimensions. Physical Review D, 2011, 83, .	1.6	42
78	Nonconformally flat initial data for binary compact objects. Physical Review D, 2009, 80, .	1.6	41
79	Aligned spin neutron star-black hole mergers: A gravitational waveform amplitude model. Physical Review D, 2015, 92, .	1.6	40
80	A Low-mass Binary Neutron Star: Long-term Ejecta Evolution and Kilonovae with Weak Blue Emission. Astrophysical Journal, 2021, 913, 100.	1.6	40
81	General-relativistic neutrino-radiation magnetohydrodynamic simulation of seconds-long black hole-neutron star mergers. Physical Review D, 2022, 106, .	1.6	40
82	Gravitational-wave cutoff frequencies of tidally disruptive neutron star-black hole binary mergers. Physical Review D, 2015, 92, .	1.6	37
83	Viscous evolution of a massive disk surrounding stellar-mass black holes in full general relativity. Physical Review D, 2020, 102, .	1.6	35
84	Sub-radian-accuracy gravitational waves from coalescing binary neutron stars in numerical relativity. II. Systematic study on the equation of state, binary mass, and mass ratio. Physical Review D, 2020, 101, .	1.6	31
85	Conservative form of Boltzmannâ€™s equation in general relativity. Physical Review D, 2014, 89, .	1.6	30
86	Gravitational waves from supermassive stars collapsing to a supermassive black hole. Physical Review D, 2016, 94, .	1.6	29
87	Gravitational collapse of rotating supermassive stars including nuclear burning effects. Physical Review D, 2017, 96, .	1.6	29
88	Coalescence of black holeâ€“neutron star binaries. Living Reviews in Relativity, 2021, 24, 1.	8.2	29
89	Long-term evolution of neutron-star merger remnants in general relativistic resistive magnetohydrodynamics with a mean-field dynamo term. Physical Review D, 2021, 104, .	1.6	28
90	Nonspinning black hole-neutron star mergers: A model for the amplitude of gravitational waveforms. Physical Review D, 2013, 88, .	1.6	27

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91	Constraint on the Ejecta Mass for Black Holeâ€“Neutron Star Merger Event Candidate S190814bv. Astrophysical Journal, 2020, 893, 153.	1.6	26
92	Stably stratified magnetized stars in general relativity. Physical Review D, 2012, 86, .	1.6	25
93	Extreme mass ratio inspirals on the equatorial plane in the adiabatic order. Physical Review D, 2020, 102, .	1.6	23
94	Coalescence of Spinning Binary Neutron Stars of Equal Mass: 3D Numerical Simulations. Progress of Theoretical Physics, 1992, 88, 1079-1095.	2.0	22
95	Long-term evolution of a merger-remnant neutron star in general relativistic magnetohydrodynamics: Effect of magnetic winding. Physical Review D, 2021, 103, .	1.6	22
96	Magnetosphere of an orbiting neutron star. Physical Review D, 2020, 101, .	1.6	20
97	Differentially rotating strange star in general relativity. Physical Review D, 2019, 100, .	1.6	18
98	Ultra-delayed Neutrino-driven Explosion of Rotating Massive-star Collapse. Astrophysical Journal, 2021, 919, 80.	1.6	17
99	Reanalysis of the binary neutron star mergers GW170817 and GW190425 using numerical-relativity calibrated waveform models. Physical Review Research, 2020, 2, .	1.3	17
100	STABILITY OF RIGIDLY ROTATING SUPERMASSIVE STARS AGAINST GRAVITATIONAL COLLAPSE. Astrophysical Journal, 2016, 818, 157.	1.6	16
101	Alternative possibility of GW190521: Gravitational waves from high-mass black hole-disk systems. Physical Review D, 2021, 103, .	1.6	13
102	Magnetospheres of black hole-neutron star binaries. Physical Review D, 2021, 104, .	1.6	13
103	Discrepancy in tidal deformability of GW170817 between the Advanced LIGO twin detectors. Physical Review Research, 2019, 1, .	1.3	13
104	Properties of the remnant disk and the dynamical ejecta produced in low-mass black hole-neutron star mergers. Physical Review D, 2021, 103, .	1.6	12
105	Coalescence of Spinning Binary Neutron Stars of Equal Mass. Progress of Theoretical Physics, 1992, 88, 1079-1095.	2.0	12
106	Electromagnetic Counterparts of Binary-neutron-star Mergers Leading to a Strongly Magnetized Long-lived Remnant Neutron Star. Astrophysical Journal, 2022, 933, 22.	1.6	12
107	Exploring Higher-Dimensional Black Holes in Numerical Relativity. Progress of Theoretical Physics Supplement, 2011, 190, 282-303.	0.2	11
108	Analysis of gravitational waves from binary neutron star merger by Hilbert-Huang transform. Physical Review D, 2016, 93, .	1.6	11

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109	Properties of Neutrino Transfer in a Deformed Remnant of a Neutron Star Merger. Astrophysical Journal, 2021, 907, 92.	1.6	11
110	Erratum and Addendum: Gravitational waves from black hole-neutron star binaries: Classification of waveforms. Physical Review D, 2012, 85, .	1.6	10
111	Higher dimensional numerical relativity: Code comparison. Physical Review D, 2014, 90, .	1.6	10
112	Coalescence of Spinning Binary Neutron Stars with Plunging Orbit. Progress of Theoretical Physics, 1993, 89, 809-819.	2.0	9
113	Systematic effects from black hole-neutron star waveform model uncertainties on the neutron star equation of state. Physical Review D, 2019, 99, .	1.6	8
114	Analytic properties of the electromagnetic field of binary compact stars and electromagnetic precursors to gravitational waves. Progress of Theoretical and Experimental Physics, 2020, 2020, .	1.8	8
115	Black Hole Formation and Explosion from Rapidly Rotating Very Massive Stars. Astrophysical Journal, 2019, 870, 98.	1.6	6
116	Maximal slicing ofD-dimensional spherically symmetric vacuum spacetime. Physical Review D, 2009, 80, .	1.6	5
117	Evolution of bare quark stars in full general relativity: Single star case. Physical Review D, 2021, 103, .	1.6	4
118	Constraining Nuclear-Matter Equations of State by Gravitational Waves from Black Hole-Neutron Star Binaries. Progress of Theoretical Physics Supplement, 2010, 186, 17-25.	0.2	3
119	Gravitational waves from very massive stars collapsing to a black hole. Physical Review D, 2019, 99, .	1.6	3
120	INFERRING THE NEUTRON STAR EQUATION OF STATE FROM BINARY INSPIRAL WAVEFORMS. , 2012, , .		3
121	Prospects for improving the sensitivity of KAGRA gravitational wave detector. , 2022, , .		3
122	Reducing orbital eccentricity in initial data of black holeâ€“neutron star binaries in the puncture framework. Physical Review D, 2021, 103, .	1.6	2
123	Nucleosynthesis in the ejecta of neutron star mergers. , 2014, , .		0
124	Extracting the orbital axis from gravitational waves of precessing binary systems. Physical Review D, 2018, 97, .	1.6	0
125	Nucleosynthesis in Neutron Star Mergers. , 2018, , .		0