Carlos Palenzuela

List of Publications by Year
in descending order

88 papers	6,049 citations	61945 43 h-index	69214 77 g-index
89 all docs	89 docs citations	89 times ranked	3000 citing authors

#	Article	IF	Citations
1	Black holes, gravitational waves and fundamental physics: a roadmap. Classical and Quantum Gravity, 2019, 36, 143001.	1.5	451
2	Dynamical Boson Stars. Living Reviews in Relativity, 2012, 15, 6.	8.2	395
3	Gravitational-wave signatures of exotic compact objects and of quantum corrections at the horizon scale. Physical Review D, 2016, 94, .	1.6	347
4	Neutron-star mergers in scalar-tensor theories of gravity. Physical Review D, 2013, 87, .	1.6	195
5	Dynamical boson stars. Living Reviews in Relativity, 2017, 20, 5.	8.2	187
6	Conformal and covariant formulation of the Z4 system with constraint-violation damping. Physical Review D, 2012, 85, .	1.6	186
7	Beyond ideal MHD: towards a more realistic modelling of relativistic astrophysical plasmas. Monthly Notices of the Royal Astronomical Society, 2009, 394, 1727-1740.	1.6	167
8	Effects of the microphysical equation of state in the mergers of magnetized neutron stars with neutrino cooling. Physical Review D, 2015, 92, .	1.6	164
9	Dual Jets from Binary Black Holes. Science, 2010, 329, 927-930.	6.0	156
10	Magnetized Neutron-Star Mergers and Gravitational-Wave Signals. Physical Review Letters, 2008, 100, 191101.	2.9	151
11	Dynamical scalarization of neutron stars in scalar-tensor gravity theories. Physical Review D, 2014, 89, .	1.6	144
12	Unequal mass binary neutron star mergers and multimessenger signals. Classical and Quantum Gravity, 2016, 33, 184002.	1.5	141
13	General-covariant evolution formalism for numerical relativity. Physical Review D, 2003, 67, .	1.6	135
14	Simulating binary neutron stars: Dynamics and gravitational waves. Physical Review D, 2008, 77, .	1.6	127
15	Head-on collisions of boson stars. Physical Review D, 2007, 75, .	1.6	125
16	General-relativistic resistive magnetohydrodynamics in three dimensions: Formulation and tests. Physical Review D, 2013, 88, .	1.6	119
17	Electromagnetic and Gravitational Outputs from Binary-Neutron-Star Coalescence. Physical Review Letters, 2013, 111, 061105.	2.9	112
18	Gravitational wave signatures of highly compact boson star binaries. Physical Review D, 2017, 96, .	1.6	109

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19	Magnetospheres of black hole systems in force-free plasma. Physical Review D, 2010, 82, .	1.6	106
20	Magnetized neutron stars with realistic equations of state and neutrino cooling. Physical Review D, 2014, 89, .	1.6	92
21	Orbital dynamics of binary boson star systems. Physical Review D, 2008, 77, .	1.6	89
22	Multistate boson stars. Physical Review D, 2010, 81, .	1.6	85
23	Final fate of compact boson star mergers. Physical Review D, 2017, 95, .	1.6	84
24	Anisotropic stars as ultracompact objects in general relativity. Physical Review D, 2019, 99, .	1.6	84
25	Intense electromagnetic outbursts from collapsing hypermassive neutron stars. Physical Review D, 2012, 86, .	1.6	78
26	Projected constraints on scalarization with gravitational waves from neutron star binaries. Physical Review D, 2014, 90, .	1.6	76
27	Interaction between bosonic dark matter and stars. Physical Review D, 2016, 93, .	1.6	76
28	Coherence resonance in chaotic systems. Europhysics Letters, 2001, 56, 347-353.	0.7	74
29	Symmetry-breaking mechanism for the Z4 general-covariant evolution system. Physical Review D, 2004, 69, .	1.6	73
30	Understanding possible electromagnetic counterparts to loud gravitational wave events: Binary black hole effects on electromagnetic fields. Physical Review D, 2010, 81, .	1.6	72
31	Binary Black Holesâ€™ Effects on Electromagnetic Fields. Physical Review Letters, 2009, 103, 081101.	2.9	69
32	Electromagnetic counterparts of recoiling black holes: general relativistic simulations of non-Keplerian discs. Astronomy and Astrophysics, 2010, 523, A8.	2.1	66
33	Vacuum electromagnetic counterparts of binary black-hole mergers. Physical Review D, 2010, 81, .	1.6	66
34	ON THE DETECTABILITY OF DUAL JETS FROM BINARY BLACK HOLES. Astrophysical Journal Letters, 2012, 749, L32.	3.0	62
35	Neutron star mergers as a probe of modifications of general relativity with finite-range scalar forces. Physical Review D, 2018, 97, .	1.6	61
36	Black hole dynamics in Einstein-Maxwell-dilaton theory. Physical Review D, 2018, 97, .	1.6	59

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37	Modelling magnetized neutron stars using resistive magnetohydrodynamics. Monthly Notices of the Royal Astronomical Society, 2013, 431, 1853-1865.	1.6	58
38	Linking electromagnetic and gravitational radiation in coalescing binary neutron stars. Physical Review D, 2013, 88, .	1.6	51
39	Electromagnetic luminosity of the coalescence of charged black hole binaries. Physical Review D, 2016, 94, .	1.6	49
40	Constraint-preserving boundary conditions in the Z4 numerical relativity formalism. Classical and Quantum Gravity, 2005, 22, 2615-2633.	1.5	48
41	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>m</mml:mi><mml:mo>=</mml:mo><mml:mn>1</mml:mn></mml:math>instability and gravitational wave signal in binary neutron star mergers. Physical Review D, 2016, 94, .	1.6	47
42	Gravitational waves from dark boson star binary mergers. Classical and Quantum Gravity, 2018, 35, 234002.	1.5	46
43	Boosting jet power in black hole spacetimes. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 12641-12646.	3.3	44
44	3+1 covariant suite of numerical relativity evolution systems. Physical Review D, 2002, 66, .	1.6	42
45	Dynamical evolution of fermion-boson stars. Physical Review D, 2013, 87, .	1.6	41
46	Constraining scalar-tensor theories of gravity from the most massive neutron stars. Physical Review D, 2016, 93, .	1.6	40
47	Robustness of the Blandfordâ€“Znajek mechanism. Classical and Quantum Gravity, 2011, 28, 134007.	1.5	39
48	Interaction of misaligned magnetospheres in the coalescence of binary neutron stars. Physical Review D, 2014, 90, .	1.6	38
49	Gravitational wave signatures of dark matter cores in binary neutron star mergers by using numerical simulations. Physical Review D, 2019, 100, .	1.6	34
50	Evolutions of magnetized and rotating neutron stars. Physical Review D, 2010, 81, .	1.6	32
51	Triggering magnetar outbursts in 3D force-free simulations. Monthly Notices of the Royal Astronomical Society: Letters, 2019, 484, L124-L129.	1.2	32
52	How far away is far enough for extracting numerical waveforms, and how much do they depend on the extraction method?. Classical and Quantum Gravity, 2007, 24, S341-S368.	1.5	31
53	Gravitational waves and kicks from the merger of unequal mass, highly compact boson stars. Physical Review D, 2022, 105, .	1.6	31
54	Dynamical shift conditions for the Z4 and BSSN formalisms. Physical Review D, 2004, 69, .	1.6	30

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55	Turbulent magnetic-field amplification in the first 10Âmilliseconds after a binary neutron star merger: Comparing high-resolution and large-eddy simulations. Physical Review D, 2020, 102, .	1.6	28
56	No Evidence of Kinetic Screening in Simulations of Merging Binary Neutron Stars beyond General Relativity. Physical Review Letters, 2022, 128, 091103.	2.9	27
57	A Simflowny-based finite-difference code for high-performance computing in numerical relativity. Classical and Quantum Gravity, 2018, 35, 185007.	1.5	26
58	Kinetic screening in nonlinear stellar oscillations and gravitational collapse. Physical Review D, 2021, 104, .	1.6	26
59	Turbulent magnetic field amplification in binary neutron star mergers. Physical Review D, 2022, 106, .	1.6	26
60	The role of the ergosphere in the Blandford-Znajek process. Monthly Notices of the Royal Astronomical Society, 2012, 423, 1300-1308.	1.6	24
61	General relativistic MHD large eddy simulations with gradient subgrid-scale model. Physical Review D, 2020, 101, .	1.6	24
62	Gradient subgrid-scale model for relativistic MHD large-eddy simulations. Physical Review D, 2020, 101, .	1.6	24
63	Dynamics of Screening in Modified Gravity. Physical Review Letters, 2021, 126, 091102.	2.9	23
64	Simflowny 2: An upgraded platform for scientific modelling and simulation. Computer Physics Communications, 2018, 229, 170-181.	3.0	22
65	Effects of high density phase transitions on neutron star dynamics. Classical and Quantum Gravity, 2021, 38, 115007.	1.5	22
66	Electromagnetic outflows in a class of scalar-tensor theories: Binary neutron star coalescence. Physical Review D, 2015, 91, .	1.6	21
67	A Simflowny-based high-performance 3D code for the generalized induction equation. Computer Physics Communications, 2019, 237, 168-183.	3.0	21
68	K-dynamics: well-posed 1+1 evolutions in K-essence. Journal of Cosmology and Astroparticle Physics, 2021, 2021, 072.	1.9	20
69	Universality of the Turbulent Magnetic Field in Hypermassive Neutron Stars Produced by Binary Mergers. Astrophysical Journal Letters, 2022, 926, L31.	3.0	20
70	Pulsar magnetospheres in general relativity. Physical Review D, 2018, 98, .	1.6	18
71	Extension of the subgrid-scale gradient model for compressible magnetohydrodynamics turbulent instabilities. Physics of Fluids, 2019, 31, .	1.6	18
72	Multimessenger Signals from Black Holeâ€“Neutron Star Mergers without Significant Tidal Disruption. Astrophysical Journal Letters, 2021, 912, L18.	3.0	15

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73	Geometrically motivated hyperbolic coordinate conditions for numerical relativity: Analysis, issues and implementations. Physical Review D, 2005, 72, .	1.6	14
74	Action principle for numerical-relativity evolution systems. Physical Review D, 2010, 82, .	1.6	14
75	Almost-stationary motions and gauge conditions in general relativity. Physical Review D, 2005, 72, .	1.6	13
76	Introduction to Numerical Relativity. Frontiers in Astronomy and Space Sciences, 2020, 7, .	1.1	12
77	A method for estimating timeâ€“frequency characteristics of compact binary mergers to improve searches for inspiral, merger and ring-down phases separately. Classical and Quantum Gravity, 2009, 26, 015009.	1.5	11
78	Signatures of the sources in the gravitational waves of a perturbed Schwarzschild black hole. General Relativity and Gravitation, 2010, 42, 1287-1310.	0.7	11
79	Complete solution of 2D superfield supergravity from graded Poisson-sigma models, and the super point particle. Physical Review D, 2003, 68, .	1.6	10
80	Large eddy simulations of magnetized mergers of neutron stars with neutrinos. Physical Review D, 2022, 105, .	1.6	10
81	One dimensional description of the gravitational perturbation in a Kerr background. Physical Review D, 2010, 81, .	1.6	7
82	Toward fidelity and scalability in non-vacuum mergers. Classical and Quantum Gravity, 2020, 37, 135006.	1.5	7
83	Almost-Killing conserved currents: A general mass function. Physical Review D, 2014, 89, .	1.6	6
84	Simflowny 3: An upgraded platform for scientific modeling and simulation. Computer Physics Communications, 2021, 259, 107675.	3.0	6
85	Galactic dark matter halo made of spin-zero bosons. , 2010, , .		3
86	Gravitational radiation degrees of freedom in hyperbolic systems for numerical relativity. Physical Review D, 2002, 66, .	1.6	1
87	Dynamical Boson Stars. , 2012, 15, 1.		1
88	Evolution of boson-fermion stars. , 2012, , .		0