Luis Herrera

List of Publications by Year
in descending order

96 papers	6,179 citations	76326 40 h-index	69250 77 g-index
97 all docs	97 docs citations	97 times ranked	591 citing authors

#	Article	IF	Citations
1	Local anisotropy in self-gravitating systems. Physics Reports, 1997, 286, 53-130.	25.6	851
2	Cracking of self-gravitating compact objects. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 165, 206-210.	2.1	626
3	All static spherically symmetric anisotropic solutions of Einsteinâ€™s equations. Physical Review D, 2008, 77, .	4.7	288
4	Structure and evolution of self-gravitating objects and the orthogonal splitting of the Riemann tensor. Physical Review D, 2009, 79, .	4.7	219
5	Some models of anisotropic spheres in general relativity. Journal of Mathematical Physics, 1981, 22, 118-125.	1.1	169
6	Isotropic and anisotropic charged spheres admitting a oneâ€parameter group of conformal motions. Journal of Mathematical Physics, 1985, 26, 2302-2307.	1.1	169
7	New definition of complexity for self-gravitating fluid distributions: The spherically symmetric, static case. Physical Review D, 2018, 97, .	4.7	167
8	General relativistic polytropes for anisotropic matter: The general formalism and applications. Physical Review D, 2013, 88, .	4.7	166
9	On the role of density inhomogeneity and local anisotropy in the fate of spherical collapse. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 237, 113-118.	2.1	152
10	Shearing expansion-free spherical anisotropic fluid evolution. Physical Review D, 2008, 78, .	4.7	144
11	Anisotropic fluids and conformal motions in general relativity. Journal of Mathematical Physics, 1984, 25, 3274-3278.	1.1	134
12	Role of electric charge and cosmological constant in structure scalars. Physical Review D, 2011, 84, .	4.7	121
13	Definition of complexity for dynamical spherically symmetric dissipative self-gravitating fluid distributions. Physical Review D, 2018, 98, .	4.7	118
14	On the stability of the shearâ€“free condition. General Relativity and Gravitation, 2010, 42, 1585-1599.	2.0	117
15	Stability of the isotropic pressure condition. Physical Review D, 2020, 101, .	4.7	109
16	Conformally flat anisotropic spheres in general relativity. Journal of Mathematical Physics, 2001, 42, 2129.	1.1	101
17	Newtonian polytropes for anisotropic matter: General framework and applications. Physical Review D, 2013, 87, .	4.7	96
18	Conformally flat polytropes for anisotropic matter. General Relativity and Gravitation, 2014, 46, 1.	2.0	92

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19	Tilted Lemaitre-Tolman-Bondi spacetimes: Hydrodynamic and thermodynamic properties. Physical Review D, 2011, 84, .	4.7	85
20	Anisotropic spheres admitting a oneâ€parameter group of conformal motions. Journal of Mathematical Physics, 1985, 26, 2018-2023.	1.1	84
21	PHYSICAL CAUSES OF ENERGY DENSITY INHOMOGENIZATION AND STABILITY OF ENERGY DENSITY HOMOGENEITY IN RELATIVISTIC SELF-GRAVITATING FLUIDS. International Journal of Modern Physics D, 2011, 20, 1689-1703.	2.1	83
22	Adiabatic contraction of anisotropic spheres in general relativity. Astrophysical Journal, 1979, 234, 1094.	4.5	82
23	Perfect fluid spheres admitting a oneâ€parameter group of conformal motions. Journal of Mathematical Physics, 1985, 26, 778-784.	1.1	74
24	Thermal evolution of compact objects and relaxation time. Monthly Notices of the Royal Astronomical Society, 1997, 287, 161-164.	4.4	74
25	SHEAR-FREE RADIATING COLLAPSE AND CONFORMAL FLATNESS. International Journal of Modern Physics D, 2004, 13, 583-592.	2.1	74
26	Dissipative collapse of axially symmetric, general relativistic sources: A general framework and some applications. Physical Review D, 2014, 89, .	4.7	73
27	Some analytical models of radiating collapsing spheres. Physical Review D, 2006, 74, .	4.7	72
28	Complexity factors for axially symmetric static sources. Physical Review D, 2019, 99, .	4.7	67
29	THE INERTIA OF HEAT AND ITS ROLE IN THE DYNAMICS OF DISSIPATIVE COLLAPSE. International Journal of Modern Physics D, 2006, 15, 2197-2202.	2.1	65
30	Lemaitre-Tolman-Bondi dust spacetimes: Symmetry properties and some extensions to the dissipative case. Physical Review D, 2010, 82, .	4.7	62
31	Hyperbolic theories of dissipation: Why and when do we need them?. Physica A: Statistical Mechanics and Its Applications, 2002, 307, 121-130.	2.6	60
32	Shear-free and homology conditions for self-gravitating dissipative fluids. Monthly Notices of the Royal Astronomical Society, 2003, 343, 1207-1212.	4.4	59
33	Thermal conduction in systems out of hydrostatic equilibrium. Classical and Quantum Gravity, 1997, 14, 2239-2247.	4.0	57
34	Quasi-homologous evolution of self-gravitating systems with vanishing complexity factor. European Physical Journal C, 2020, 80, 1.	3.9	56
35	Cavity evolution in relativistic self-gravitating fluids. Classical and Quantum Gravity, 2010, 27, 135017.	4.0	53
36	Axially symmetric static sources: A general framework and some analytical solutions. Physical Review D, 2013, 87, .	4.7	51

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37	Cracking of general relativistic anisotropic polytropes. Physical Review D, 2016, 93, .	4.7	46
38	Negative energy density and classical electron models. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 189, 11-14.	2.1	42
39	Non-spherical sources of static gravitational fields: Investigating the boundaries of the no-hair theorem. General Relativity and Gravitation, 2005, 37, 1371-1383.	2.0	40
40	Cylindrical collapse and gravitational waves. Classical and Quantum Gravity, 2005, 22, 2407-2413.	4.0	40
41	Shear-free axially symmetric dissipative fluids. Physical Review D, 2014, 89, .	4.7	39
42	Why does gravitational radiation produce vorticity?. Classical and Quantum Gravity, 2007, 24, 2645-2651.	4.0	36
43	Hyperbolically symmetric static fluids: A general study. Physical Review D, 2021, 103, .	4.7	34
44	An interior solution for the gamma metric. General Relativity and Gravitation, 1982, 14, 97-103.	2.0	33
45	Energy content of a slowly collapsing gravitating sphere. General Relativity and Gravitation, 1995, 27, 1071-1088.	2.0	33
46	The Gibbs Paradox, the Landauer Principle and the Irreversibility Associated with Tilted Observers. Entropy, 2017, 19, 110.	2.2	33
47	The complexification of a nonrotating sphere: An extension of the Newmanâ€“Janis algorithm. Journal of Mathematical Physics, 1982, 23, 2339-2345.	1.1	32
48	Complexity of the Bondi Metric. Physical Review D, 2019, 99, .	4.7	32
49	Frame dragging, vorticity and electromagnetic fields in axially symmetric stationary spacetimes. Classical and Quantum Gravity, 2006, 23, 2395-2408.	4.0	31
50	Heat waves and thermohaline instability in a fluid. Physics Letters, Section A: General, Atomic and Solid State Physics, 1995, 201, 33-37.	2.1	29
51	Pre-relaxation Processes in a Radiating Relativistic Sphere. General Relativity and Gravitation, 1997, 29, 1391-1405.	2.0	28
52	Frame dragging and superenergy. Physical Review D, 2007, 76, .	4.7	28
53	Vorticity and entropy production in tilted Szekeres spacetimes. Physical Review D, 2012, 86, .	4.7	28
54	Confined gravitational fields produced by anisotropic fluids. Journal of Mathematical Physics, 1985, 26, 2847-2849.	1.1	25

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55	Geodesics in a Quash-Spherical Spacetime: A Case of Gravitational Repulsion. Foundations of Physics Letters, 2005, 18, 21-36.	0.6	25
56	Axially symmetric static sources of gravitational field. Classical and Quantum Gravity, 2016, 33, 235005.	4.0	25
57	On the influence of gravitational radiation on a gyroscope. Classical and Quantum Gravity, 2000, 17, 3617-3625.	4.0	22
58	The general relativistic double polytrope for anisotropic matter. Physics of the Dark Universe, 2020, 30, 100632.	4.9	21
59	Geodesics in Lewis spaceâ€“time. Journal of Mathematical Physics, 1998, 39, 3817-3827.	1.1	19
60	Gravitational radiation, vorticity and the electric and magnetic part of Weyl tensor. Journal of Mathematical Physics, 2006, 47, 052502.	1.1	18
61	THE ISRAEL THEOREM: WHAT IS NATURE TRYING TO TELL US?. International Journal of Modern Physics D, 2008, 17, 557-561.	2.1	17
62	Interior solution for the Kerr metric. Physical Review D, 2017, 95, .	4.7	17
63	Geodesics of the hyperbolically symmetric black hole. Physical Review D, 2020, 101, .	4.7	17
64	The double polytrope for anisotropic matter: Newtonian case. Physics of the Dark Universe, 2020, 28, 100549.	4.9	17
65	Shearing and geodesic axially symmetric perfect fluids that do not produce gravitational radiation. Physical Review D, 2015, 91, .	4.7	16
66	Earliest stages of the nonequilibrium in axially symmetric, self-gravitating, dissipative fluids. Physical Review D, 2016, 94, .	4.7	16
67	An Alternative Approach to the Static Spherically Symmetric, Vacuum Global Solution to the Einstein Equations. Advances in High Energy Physics, 2018, 2018, 1-5.	1.1	16
68	Landauer Principle and General Relativity. Entropy, 2020, 22, 340.	2.2	15
69	Radiation and vorticity: the missing link. General Relativity and Gravitation, 2014, 46, 1.	2.0	14
70	Hyperbolically Symmetric Versions of Lemaitreâ€“Tolmanâ€“Bondi Spacetimes. Entropy, 2021, 23, 1219.	2.2	14
71	Conformally symmetric radiating spheres in general relativity. Journal of Mathematical Physics, 1986, 27, 2087-2096.	1.1	13
72	A source of a quasi-spherical spaceâ€“time: The case for the Mâ€“Q solution. General Relativity and Gravitation, 2005, 37, 873-890.	2.0	13

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73	Tilted shear-free axially symmetric fluids. Physical Review D, 2018, 97, .	4.7	13
74	Dynamics of Hyperbolically Symmetric Fluids. Symmetry, 2021, 13, 1568.	2.2	13
75	Secular stability behaviour of nuclear burning before relaxation. Astrophysics and Space Science, 1995, 229, 105-115.	1.4	12
76	POSSIBLE WAY OUT OF THE HAWKING PARADOX: ERASING THE INFORMATION AT THE HORIZON. International Journal of Modern Physics D, 2008, 17, 2507-2514.	2.1	11
77	THE MASS OF A BIT OF INFORMATION AND THE BRILLOUIN'S PRINCIPLE. Fluctuation and Noise Letters, 2014, 13, 1450002.	1.5	11
78	Causal Heat Conduction Contravening the Fading Memory Paradigm. Entropy, 2019, 21, 950.	2.2	11
79	Non-Static Fluid Spheres Admitting a Conformal Killing Vector: Exact Solutions. Universe, 2022, 8, 296.	2.5	11
80	Reversible dissipative processes, conformal motions and Landau damping. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 899-900.	2.1	10
81	The Theory of Gravitation: A Tale of Many Questions and Few Answers. Journal of Physics: Conference Series, 2017, 831, 012001.	0.4	10
82	Complexity of Self-Gravitating Systems. Entropy, 2021, 23, 802.	2.2	10
83	Energetics of the Einsteinâ€“Rosen Spacetime. International Journal of Theoretical Physics, 2008, 47, 380-392.	1.2	9
84	Electromagnetic radiation produces frame dragging. Physical Review D, 2012, 86, .	4.7	9
85	The space-time outside a source of gravitational radiation: the axially symmetric null fluid. European Physical Journal C, 2016, 76, 1.	3.9	9
86	Self-similar scalar soliton stars in the thin-wall approximation. Physical Review D, 1991, 44, 2286-2294.	4.7	8
87	Physical infeasibility of geodesic dissipative dust as a source of gravitational radiation. Physical Review D, 2015, 91, .	4.7	8
88	Self-similarity in static axially symmetric relativistic fluids. International Journal of Modern Physics D, 2018, 27, 1750176.	2.1	7
89	The Bondi metric and conformal motions. Journal of Mathematical Physics, 1987, 28, 2692-2696.	1.1	5
90	Time evolution of self-similar scalar soliton stars: A general study. Physical Review D, 1992, 46, 2723-2725.	4.7	5

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91	The transition of a gravitationally radiating, dissipative fluid to equilibrium. Canadian Journal of Physics, 2018, 96, 1010-1015.	1.1	4
92	Gravitational Radiation, Vorticity And Superâ€“Energy: A Conspicuous Threesome. Universe, 2019, 5, 164.	2.5	3
93	Physical properties of a source of the Kerr metric: Bound on the surface gravitational potential and conditions for the fragmentation. Physical Review D, 2017, 96, .	4.7	3
94	Deconstructing Frame-Dragging. Universe, 2021, 7, 27.	2.5	2
95	Maxwellâ€™s Demon and the Problem of Observers in General Relativity. Entropy, 2018, 20, 391.	2.2	1
96	Maxwellâ€™s Demon and Comoving Observers in General Relativity: What Do They Have in Common?. Proceedings (mdpi), 2017, 2, .	0.2	0