Marco Bruni

List of Publications by Year
in descending order

71 papers	3,949 citations	136950 32 h-index	114465 63 g-index
72 all docs	72 docs citations	72 times ranked	1551 citing authors

#	Article	IF	Citations
1	Covariant and gauge-invariant approach to cosmological density fluctuations. Physical Review D, 1989, 40, 1804-1818.	4.7	434
2	Relativistic second-order perturbations of the Einsteinâ€“de Sitter universe. Physical Review D, 1998, 58, .	4.7	297
3	Perturbations of spacetime: gauge transformations and gauge invariance at second order and beyond. Classical and Quantum Gravity, 1997, 14, 2585-2606.	4.0	254
4	Indications of a Late-Time Interaction in the Dark Sector. Physical Review Letters, 2014, 113, 181301.	7.8	225
5	Cosmological perturbations and the physical meaning of gauge-invariant variables. Astrophysical Journal, 1992, 395, 34.	4.5	204
6	Density-gradient-vorticity relation in perfect-fluid Robertson-Walker perturbations. Physical Review D, 1990, 42, 1035-1046.	4.7	129
7	Gravitational Collapse on the Brane: A No-Go Theorem. Physical Review Letters, 2001, 87, 231302.	7.8	118
8	Rotating neutron stars: an invariant comparison of approximate and numerical space-time models. Monthly Notices of the Royal Astronomical Society, 2005, 358, 923-938.	4.4	115
9	Covariant and gauge-independent perfect-fluid Robertson-Walker perturbations. Physical Review D, 1989, 40, 1819-1826.	4.7	114
10	Covariant perturbations in a multifluid cosmological medium. Astrophysical Journal, 1992, 395, 54.	4.5	109
11	Disentangling non-Gaussianity, bias, and general relativistic effects in the galaxy distribution. Physical Review D, 2012, 85, .	4.7	106
12	Cosmological dynamics and dark energy with a nonlinear equation of state: A quadratic model. Physical Review D, 2006, 74, .	4.7	95
13	Gauge-invariant perturbations in a scalar field dominated universe. Classical and Quantum Gravity, 1992, 9, 921-945.	4.0	92
14	Effects of Nonlinear Inhomogeneity on the Cosmic Expansion with Numerical Relativity. Physical Review Letters, 2016, 116, 251302.	7.8	88
15	Constraints on the interacting vacuumâ€“geodesic CDM scenario. Monthly Notices of the Royal Astronomical Society, 2019, 488, 3423-3438.	4.4	82
16	Dynamics of silent universes. Astrophysical Journal, 1995, 445, 958.	4.5	81
17	The Einstein static universe in loop quantum cosmology. Classical and Quantum Gravity, 2007, 24, 6243-6253.	4.0	75
18	Computing general-relativistic effects from Newtonian N-body simulations: Frame dragging in the post-Friedmann approach. Physical Review D, 2014, 89, .	4.7	60

#	Article	IF	Citations
19	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î›</mml:mi><mml:mi>Î±</mml:mi><mml:mi>DM</mml:mi></mml:math>: Observational constraints on unified dark matter with constant speed of sound. Physical Review D, 2007, 76, .	4.7	52
20	Gauge Dependence in the Theory of Non-Linear Spacetime Perturbations. Communications in Mathematical Physics, 1998, 193, 209-218.	2.2	51
21	NON-GAUSSIAN INITIAL CONDITIONS IN Î›CDM: NEWTONIAN, RELATIVISTIC, AND PRIMORDIAL CONTRIBUTIONS. Astrophysical Journal, 2014, 785, 2.	4.5	51
22	A Local View of the Observable Universe. Physical Review Letters, 1995, 74, 1916-1919.	7.8	49
23	Affine equation of state from quintessence and k-essence fields. Classical and Quantum Gravity, 2007, 24, 5413-5425.	4.0	47
24	Missing link: A nonlinear post-Friedmann framework for small and large scales. Physical Review D, 2015, 92, .	4.7	44
25	Cosmological dynamics and dark energy with a quadratic equation of state: Anisotropic models, large-scale perturbations, and cosmological singularities. Physical Review D, 2006, 74, .	4.7	43
26	Late universe dynamics with scale-independent linear couplings in the dark sector. Physical Review D, 2008, 78, .	4.7	43
27	Observables and gauge invariance in the theory of nonlinear spacetime perturbations. Classical and Quantum Gravity, 1999, 16, L29-L36.	4.0	41
28	Unified Dark Matter models with fast transition. Journal of Cosmology and Astroparticle Physics, 2010, 2010, 014-014.	5.4	38
29	Coupling of radial and axial nonradial oscillations of compact stars: Gravitational waves from first-order differential rotation. Physical Review D, 2006, 73, .	4.7	37
30	Towards a wave-extraction method for numerical relativity. II.ÂThe quasi-Kinnersley frame. Physical Review D, 2005, 72, .	4.7	36
31	EINSTEIN'S SIGNATURE IN COSMOLOGICAL LARGE-SCALE STRUCTURE. Astrophysical Journal Letters, 2014, 794, L11.	8.3	36
32	Redshift and distances in a Î›CDM cosmology with non-linear inhomogeneities. Monthly Notices of the Royal Astronomical Society, 2012, 419, 1937-1950.	4.4	35
33	Towards a wave-extraction method for numerical relativity. I.ÂFoundations and initial-value formulation. Physical Review D, 2005, 72, .	4.7	33
34	Cosmic no-hair: nonlinear asymptotic stability of de Sitter universe. Classical and Quantum Gravity, 2002, 19, L23-L29.	4.0	32
35	NonlinearN-parameter spacetime perturbations: Gauge transformations. Physical Review D, 2004, 70, .	4.7	32
36	Magnetic field amplification in cold dark matter anisotropic collapse. Monthly Notices of the Royal Astronomical Society, 2003, 338, 785-789.	4.4	31

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37	Exact nonlinear inhomogeneities inÎ›CDMcosmology. Physical Review D, 2011, 83, .	4.7	30
38	Unified Dark Matter scalar field models with fast transition. Journal of Cosmology and Astroparticle Physics, 2011, 2011, 018-018.	5.4	29
39	The fully non-linear post-Friedmann frame-dragging vector potential: magnitude and time evolution fromN-body simulations. Monthly Notices of the Royal Astronomical Society, 2015, 452, 1727-1742.	4.4	28
40	Gravitational waves from ultracompact stars: the optical geometry view of trapped modes. Classical and Quantum Gravity, 1997, 14, L189-L194.	4.0	27
41	Colliding plane gravitational waves: A class of nondiagonal soliton solutions. Physical Review D, 1987, 36, 1053-1064.	4.7	26
42	A solution to the anisotropy problem in bouncing cosmologies. Journal of Cosmology and Astroparticle Physics, 2009, 2009, 014-014.	5.4	26
43	A relativistic signature in large-scale structure. Physics of the Dark Universe, 2016, 13, 30-34.	4.9	26
44	Affine parametrization of the dark sector: Constraints from WMAP5 and SDSS. Physical Review D, 2008, 78, .	4.7	25
45	Galaxy bias and gauges at second order in general relativity. Classical and Quantum Gravity, 2015, 32, 175019.	4.0	25
46	Two-parameter nonlinear spacetime perturbations: gauge transformations and gauge invariance. Classical and Quantum Gravity, 2003, 20, 535-556.	4.0	24
47	Coupling of radial and nonradial oscillations of relativistic stars: Gauge-invariant formalism. Physical Review D, 2005, 71, .	4.7	23
48	Latest evidence for a late time vacuumâ€“geodesic CDM interaction. Physics of the Dark Universe, 2020, 29, 100583.	4.9	22
49	Are braneworlds born isotropic?. Physical Review D, 2004, 69, .	4.7	21
50	Towards a wave-extraction method for numerical relativity. IV. Testing the quasi-Kinnersley method in the Bondi-Sachs framework. Physical Review D, 2006, 73, .	4.7	19
51	Large-scale perturbations on the brane and the isotropy of the cosmological singularity. Physical Review D, 2004, 70, .	4.7	17
52	Phenomenological models for unified dark matter with fast transition. Monthly Notices of the Royal Astronomical Society, 2013, 431, 2907-2916.	4.4	17
53	Lagrangian theory for cosmic structure formation with vorticity: Newtonian and post-Friedmann approximations. Physical Review D, 2016, 94, .	4.7	17
54	Petrov classification of perturbed spacetimes: the Kasner example. Classical and Quantum Gravity, 2004, 21, 4833-4843.	4.0	16

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55	Covariant fluid dynamics: a long wavelength approximation. Classical and Quantum Gravity, 2003, 20, 5275-5290.	4.0	14
56	Peculiar velocity, cosmic perturbation theory and the cosmic microwave background anisotropy. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1994, 323, 118-123.	4.1	13
57	Numerical solutions to Einsteinâ€™s equations in a shearing-dust universe: a code comparison. Classical and Quantum Gravity, 2020, 37, 154001.	4.0	13
58	Singularities on the brane are not isotropic. Physical Review D, 2002, 66, .	4.7	11
59	Quasi-Isotropic Cycles and Nonsingular Bounces in a Mixmaster Cosmology. Physical Review Letters, 2019, 123, 201301.	7.8	10
60	The speciality index as invariant indicator in the BKL mixmaster dynamics. Classical and Quantum Gravity, 2005, 22, 1763-1768.	4.0	9
61	Stability of open universes. Physical Review D, 1993, 47, 738-742.	4.7	8
62	fNLâˆ’gNL mixing in the matter density field at higher orders. Journal of Cosmology and Astroparticle Physics, 2018, 2018, 016-016.	5.4	8
63	Full-sky weak lensing: a nonlinear post-Friedmann treatment. Journal of Cosmology and Astroparticle Physics, 2019, 2019, 045-045.	5.4	8
64	Dustâ€“radiation universes: stability analysis. Monthly Notices of the Royal Astronomical Society, 1994, 270, 630-640.	4.4	7
65	SECOND ORDER PERTURBATIONS OF FLAT DUST FLRW UNIVERSES WITH A COSMOLOGICAL CONSTANT. International Journal of Modern Physics A, 2002, 17, 4239-4244.	1.5	7
66	Colliding gravitational waves with noncollinear polarization: A class of soliton solutions. Physics Letters, Section A: General, Atomic and Solid State Physics, 1987, 122, 459-462.	2.1	4
67	Nonsingular cosmology from an interacting vacuum. Physical Review D, 2022, 105, .	4.7	4
68	Transverse Frames for Petrov Type I Spacetimes: A General Algebraic Procedure. General Relativity and Gravitation, 2003, 35, 1351-1363.	2.0	3
69	Shanâ€“Chen interacting vacuum cosmology. Monthly Notices of the Royal Astronomical Society, 2022, 511, 4430-4443.	4.4	3
70	Newman-Penrose quantities as valuable tools in astrophysical relativity. AIP Conference Proceedings, 2005, , .	0.4	0
71	Coupling of Radial and Non-Radial Oscillations of Neutron Stars. , 2005, , 83-86.		0