Salvatore Vitale

List of Publications by Year
in descending order

94 papers	7,788 citations	57758 44 h-index	48315 88 g-index
94 all docs	94 docs citations	94 times ranked	5489 citing authors

#	Article	IF	Citations
1	Enhanced sensitivity of the LIGO gravitational wave detector by using squeezed states of light. Nature Photonics, 2013, 7, 613-619.	31.4	825
2	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. Living Reviews in Relativity, 2018, 21, 3.	26.7	808
3	Parameter estimation for compact binaries with ground-based gravitational-wave observations using the LALInference software library. Physical Review D, 2015, 91, .	4.7	674
4	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. Living Reviews in Relativity, 2020, 23, 3.	26.7	447
5	Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo. Living Reviews in Relativity, 2016, 19, 1.	26.7	427
6	Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914. Classical and Quantum Gravity, 2016, 33, 134001.	4.0	225
7	Demonstrating the Feasibility of Probing the Neutron-Star Equation of State with Second-Generation Gravitational-Wave Detectors. Physical Review Letters, 2013, 111, 071101.	7.8	201
8	Towards a generic test of the strong field dynamics of general relativity using compact binary coalescence. Physical Review D, 2012, 85, .	4.7	176
9	Status of the Virgo project. Classical and Quantum Gravity, 2011, 28, 114002.	4.0	171
10	THE FIRST TWO YEARS OF ELECTROMAGNETIC FOLLOW-UP WITH ADVANCED LIGO AND VIRGO. Astrophysical Journal, 2014, 795, 105.	4.5	159
11	Constraining the neutron star equation of state with gravitational wave signals from coalescing binary neutron stars. Physical Review D, 2015, 92, .	4.7	153
12	A Gravitational-wave Measurement of the Hubble Constant Following the Second Observing Run of Advanced LIGO and Virgo. Astrophysical Journal, 2021, 909, 218.	4.5	144
13	TIGER: A data analysis pipeline for testing the strong-field dynamics of general relativity with gravitational wave signals from coalescing compact binaries. Physical Review D, 2014, 89, .	4.7	130
14	Use of gravitational waves to probe the formation channels of compact binaries. Classical and Quantum Gravity, 2017, 34, 03LT01.	4.0	129
15	Prospects for doubling the range of Advanced LIGO. Physical Review D, 2015, 91, .	4.7	126
16	GOING THE DISTANCE: MAPPING HOST GALAXIES OF LIGO AND VIRGO SOURCES IN THREE DIMENSIONS USING LOCAL COSMOGRAPHY AND TARGETED FOLLOW-UP. Astrophysical Journal Letters, 2016, 829, L15.	8.3	126
17	PARAMETER ESTIMATION FOR BINARY NEUTRON-STAR COALESCENCES WITH REALISTIC NOISE DURING THE ADVANCED LIGO ERA. Astrophysical Journal, 2015, 804, 114.	4.5	117
18	Digging Deeper: Observing Primordial Gravitational Waves below the Binary-Black-Hole-Produced Stochastic Background. Physical Review Letters, 2017, 118, 151105.	7.8	106

#	Article	IF	Citations
19	Gravitational-wave physics and astronomy in the 2020s and 2030s. Nature Reviews Physics, 2021, 3, 344-366.	26.6	96
20	Measuring the Spin of Black Holes in Binary Systems Using Gravitational Waves. Physical Review Letters, 2014, 112, 251101.	7.8	95
21	On the properties of the massive binary black hole merger GW170729. Physical Review D, 2019, 100, .	4.7	82
22	Gravitational-wave astrophysics with effective-spin measurements: Asymmetries and selection biases. Physical Review D, 2018, 98, .	4.7	81
23	Measuring the Hubble Constant with Neutron Star Black Hole Mergers. Physical Review Letters, 2018, 121, 021303.	7.8	78
24	Information-theoretic approach to the gravitational-wave burst detection problem. Physical Review D, 2017, 95, .	4.7	77
25	Improving astrophysical parameter estimation via offline noise subtraction for Advanced LIGO. Physical Review D, 2019, 99, .	4.7	77
26	Mitigation of the instrumental noise transient in gravitational-wave data surrounding GW170817. Physical Review D, 2018, 98, .	4.7	75
27	Measuring the Star Formation Rate with Gravitational Waves from Binary Black Holes. Astrophysical Journal Letters, 2019, 886, L1.	8.3	75
28	Searching for a subpopulation of primordial black holes in LIGO-Virgo gravitational-wave data. Physical Review D, 2022, 105, .	4.7	74
29	Parameter estimation for binary black holes with networks of third-generation gravitational-wave detectors. Physical Review D, 2017, 95, .	4.7	70
30	Machine-learning nonstationary noise out of gravitational-wave detectors. Physical Review D, 2020, 101, .	4.7	70
31	PARAMETER ESTIMATION ON GRAVITATIONAL WAVES FROM NEUTRON-STAR BINARIES WITH SPINNING COMPONENTS. Astrophysical Journal, 2016, 825, 116.	4.5	68
32	Parameter estimation for heavy binary-black holes with networks of second-generation gravitational-wave detectors. Physical Review D, 2017, 95, .	4.7	66
33	Impact of Bayesian Priors on the Characterization of Binary Black Hole Coalescences. Physical Review Letters, 2017, 119, 251103.	7.8	66
34	Effect of calibration errors on Bayesian parameter estimation for gravitational wave signals from inspiral binary systems in the advanced detectors era. Physical Review D, 2012, 85, .	4.7	62
35	Distance measures in gravitational-wave astrophysics and cosmology. Classical and Quantum Gravity, 2021, 38, 055010.	4.0	62
36	Who Ordered That? Unequal-mass Binary Black Hole Mergers Have Larger Effective Spins. Astrophysical Journal Letters, 2021, 922, L5.	8.3	62

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37	Detecting stellar lensing of gravitational waves with ground-based observatories. Physical Review D, 2018, 98, .	4.7	56
38	Reconstructing the sky location of gravitational-wave detected compact binary systems: Methodology for testing and comparison. Physical Review D, 2014, 89, .	4.7	50
39	Probing Multiple Populations of Compact Binaries with Third-generation Gravitational-wave Detectors. Astrophysical Journal Letters, 2021, 913, L5.	8.3	49
40	You Canâ€™t Always Get What You Want: The Impact of Prior Assumptions on Interpreting GW190412. Astrophysical Journal Letters, 2020, 899, L17.	8.3	49
41	Constraints on Ultralight Scalar Bosons within Black Hole Spin Measurements from the LIGO-Virgo GWTC-2. Physical Review Letters, 2021, 126, 151102.	7.8	48
42	Frequency-dependent responses in third generation gravitational-wave detectors. Physical Review D, 2017, 96, .	4.7	47
43	Prospects for Detecting Gravitational Waves at 5Â Hz with Ground-Based Detectors. Physical Review Letters, 2018, 120, 141102.	7.8	47
44	Validating gravitational-wave detections: The Advanced LIGO hardware injection system. Physical Review D, 2017, 95, .	4.7	45
45	Towards a generic test of the strong field dynamics of general relativity using compact binary coalescence: Further investigations. Journal of Physics: Conference Series, 2012, 363, 012028.	0.4	42
46	SUPPLEMENT: â€œGOING THE DISTANCE: MAPPING HOST GALAXIES OF LIGO AND VIRGO SOURCES IN THREE DIMENSIONS USING LOCAL COSMOGRAPHY AND TARGETED FOLLOW-UPâ€•(2016, ApJL, 829, L15). Astrophysical Journal, Supplement Series, 2016, 226, 10.	7.7	41
47	Parametrized tests of the strong-field dynamics of general relativity using gravitational wave signals from coalescing binary black holes: Fast likelihood calculations and sensitivity of the method. Physical Review D, 2018, 97, .	4.7	40
48	Astrophysical Implications of GW190412 as a Remnant of a Previous Black-Hole Merger. Physical Review Letters, 2020, 125, 101103.	7.8	35
49	Application of asymptotic expansions for maximum likelihood estimatorsâ€™ errors to gravitational waves from inspiraling binary systems: The network case. Physical Review D, 2011, 84, .	4.7	31
50	Impact of the tidal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>p</mml:mi><mml:mtext>âˆ’</mml:mtext><mml:mi>g</mml:mi></mml:mrow></mml:math> instability on the gravitational wave signal from coalescing binary neutron stars. Physical Review D, 2016, 94, .	4.7	30
51	Multiband gravitational-wave searches for ultralight bosons. Physical Review D, 2020, 102, .	4.7	30
52	Measuring the Delay Time Distribution of Binary Neutron Stars. II. Using the Redshift Distribution from Third-generation Gravitational-wave Detectors Network. Astrophysical Journal Letters, 2019, 878, L13.	8.3	29
53	Searching for ultralight bosons within spin measurements of a population of binary black hole mergers. Physical Review D, 2021, 103, .	4.7	28
54	Quantifying the effect of power spectral density uncertainty on gravitational-wave parameter estimation for compact binary sources. Physical Review D, 2020, 102, .	4.7	28

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55	Constraining black hole mimickers with gravitational wave observations. Physical Review D, 2020, 102, .	4.7	27
56	Physical approach to the marginalization of LIGO calibration uncertainties. Physical Review D, 2021, 103, .	4.7	27
57	Parameter estimation from gravitational waves generated by nonspinning binary black holes with laser interferometers: Beyond the Fisher information. Physical Review D, 2010, 82, .	4.7	26
58	Constraining High-redshift Stellar-mass Primordial Black Holes with Next-generation Ground-based Gravitational-wave Detectors. Astrophysical Journal Letters, 2022, 933, L41.	8.3	26
59	Application of asymptotic expansions for maximum likelihood estimators errors to gravitational waves from binary mergers: The single interferometer case. Physical Review D, 2010, 81, .	4.7	25
60	Viewing Angle of Binary Neutron Star Mergers. Physical Review X, 2019, 9, .	8.9	24
61	The Binary Black Hole Spin Distribution Likely Broadens with Redshift. Astrophysical Journal Letters, 2022, 932, L19.	8.3	24
62	New Spin on LIGO-Virgo Binary Black Holes. Physical Review Letters, 2021, 126, 171103.	7.8	23
63	Inferring the Properties of a Population of Compact Binaries in Presence of Selection Effects. , 2021, , 1-60.		22
64	Three observational differences for binary black holes detections with second- and third-generation gravitational-wave detectors. Physical Review D, 2016, 94, .	4.7	21
65	Bayesian Inference for Gravitational Waves from Binary Neutron Star Mergers in Third Generation Observatories. Physical Review Letters, 2021, 127, 081102.	7.8	21
66	Constraining Short Gamma-Ray Burst Jet Properties with Gravitational Waves and Gamma-Rays. Astrophysical Journal, 2020, 893, 38.	4.5	21
67	First joint observation by the underground gravitational-wave detector KAGRA with GEO 600. Progress of Theoretical and Experimental Physics, 2022, 2022, .	6.6	20
68	How serious can the stealth bias be in gravitational wave parameter estimation?. Physical Review D, 2014, 89, .	4.7	19
69	Enhancing confidence in the detection of gravitational waves from compact binaries using signal coherence. Physical Review D, 2018, 98, .	4.7	19
70	On the Single-event-based Identification of Primordial Black Hole Mergers at Cosmological Distances. Astrophysical Journal Letters, 2022, 931, L12.	8.3	19
71	The Reliability of the Low-latency Estimation of Binary Neutron Star Chirp Mass. Astrophysical Journal Letters, 2019, 884, L32.	8.3	18
72	Source properties of the lowest signal-to-noise-ratio binary black hole detections. Physical Review D, 2020, 102, .	4.7	18

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73	Measuring the spins of heavy binary black holes. Physical Review D, 2021, 104, .	4.7	18
74	OBSERVATIONAL SELECTION EFFECTS WITH GROUND-BASED GRAVITATIONAL WAVE DETECTORS. Astrophysical Journal, 2017, 835, 31.	4.5	17
75	Characterization of binary black holes by heterogeneous gravitational-wave networks. Physical Review D, 2018, 98, .	4.7	16
76	Measuring binary black hole orbital-plane spin orientations. Physical Review D, 2022, 105, .	4.7	14
77	A standard siren cosmological measurement from the potential GW190521 electromagnetic counterpart ZTF19abanrhr. Monthly Notices of the Royal Astronomical Society, 2022, 513, 2152-2157.	4.4	14
78	Hints of Spin-Orbit Resonances in the Binary Black Hole Population. Physical Review Letters, 2022, 128, 031101.	7.8	13
79	Statistical and systematic uncertainties in extracting the source properties of neutron star-black hole binaries with gravitational waves. Physical Review D, 2021, 103, .	4.7	12
80	Effect of squeezing on parameter estimation of gravitational waves emitted by compact binary systems. Physical Review D, 2015, 91, .	4.7	11
81	Characterization of low-significance gravitational-wave compact binary sources. Physical Review D, 2018, 98, .	4.7	10
82	The Relative Contribution to Heavy Metals Production from Binary Neutron Star Mergers and Neutron Starâ€“Black Hole Mergers. Astrophysical Journal Letters, 2021, 920, L3.	8.3	10
83	An Infrared Search for Kilonovae with the WINTER Telescope. I. Binary Neutron Star Mergers. Astrophysical Journal, 2022, 926, 152.	4.5	10
84	The first 5 years of gravitational-wave astrophysics. Science, 2021, 372, .	12.6	8
85	On similarity of binary black hole gravitational-wave skymaps: to observe or to wait?. Monthly Notices of the Royal Astronomical Society: Letters, 2017, 466, L78-L82.	3.3	7
86	Observational Implications of Lowering the LIGO-Virgo Alert Threshold. Astrophysical Journal Letters, 2018, 861, L24.	8.3	7
87	Early Advanced LIGO binary neutron-star sky localization and parameter estimation. Journal of Physics: Conference Series, 2016, 716, 012031.	0.4	5
88	The effect of spin mismodelling on gravitational-wave measurements of the binary neutron star mass distribution. Monthly Notices of the Royal Astronomical Society, 2022, 511, 4350-4359.	4.4	5
89	Reanalysis of LIGO black-hole coalescences with alternative prior assumptions. Proceedings of the International Astronomical Union, 2017, 13, 22-28.	0.0	2
90	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. , 2018, 21, 1.		2

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91	APPROXIMATE GRAVITATIONAL WAVES VIA DEFORMATIONS OF EMBEDDINGS. International Journal of Modern Physics A, 2009, 24, 1465-1472.	1.5	1
92	TESTING GENERAL RELATIVITY USING GRAVITATIONAL WAVES FROM BINARY NEUTRON STARS: EFFECT OF SPINS. , 2015, , .		1
93	Gravitational waves as deformations of embedded Einstein spaces. Classical and Quantum Gravity, 2009, 26, 235007.	4.0	0
94	Inferring the Properties of a Population of Compact Binaries in Presence of Selection Effects. , 2022, , 1709-1768.		0