

Lorenzo Aiello

List of Publications by Year in descending order

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Version: 2024-02-01

124
papers

51,887
citations

13099

68
h-index

15732

125
g-index

127
all docs

127
docs citations

127
times ranked

16520
citing authors

#	ARTICLE	IF	CITATIONS
1	Observation of Gravitational Waves from a Binary Black Hole Merger. Physical Review Letters, 2016, 116, 061102.	7.8	8,753
2	GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral. Physical Review Letters, 2017, 119, 161101.	7.8	6,413
3	Multi-messenger Observations of a Binary Neutron Star Merger [*] . Astrophysical Journal Letters, 2017, 848, L12.	8.3	2,805
4	GW151226: Observation of Gravitational Waves from a 22-Solar-Mass Binary Black Hole Coalescence. Physical Review Letters, 2016, 116, 241103.	7.8	2,701
5	Gravitational Waves and Gamma-Rays from a Binary Neutron Star Merger: GW170817 and GRB 170817A. Astrophysical Journal Letters, 2017, 848, L13.	8.3	2,314
6	GWTC-1: A Gravitational-Wave Transient Catalog of Compact Binary Mergers Observed by LIGO and Virgo during the First and Second Observing Runs. Physical Review X, 2019, 9, .	8.9	2,022
7	GW170104: Observation of a 50-Solar-Mass Binary Black Hole Coalescence at Redshift 0.2. Physical Review Letters, 2017, 118, 221101.	7.8	1,987
8	GW170814: A Three-Detector Observation of Gravitational Waves from a Binary Black Hole Coalescence. Physical Review Letters, 2017, 119, 141101.	7.8	1,600
9	GW170817: Measurements of Neutron Star Radii and Equation of State. Physical Review Letters, 2018, 121, 161101.	7.8	1,473
10	Tests of General Relativity with GW150914. Physical Review Letters, 2016, 116, 221101.	7.8	1,224
11	GWTC-2: Compact Binary Coalescences Observed by LIGO and Virgo during the First Half of the Third Observing Run. Physical Review X, 2021, 11, .	8.9	1,097
12	GW190814: Gravitational Waves from the Coalescence of a 23 Solar Mass Black Hole with a 2.6 Solar Mass Compact Object. Astrophysical Journal Letters, 2020, 896, L44.	8.3	1,090
13	GW190425: Observation of a Compact Binary Coalescence with Total Mass ¹ $3.4 M_{\odot}$. Astrophysical Journal Letters, 2020, 892, L3.	8.3	1,049
14	GW170608: Observation of a 19 Solar-mass Binary Black Hole Coalescence. Astrophysical Journal Letters, 2017, 851, L35.	8.3	968
15	Binary Black Hole Mergers in the First Advanced LIGO Observing Run. Physical Review X, 2016, 6, .	8.9	898
16	GW190521: A Binary Black Hole Merger with a Total Mass of $150 M_{\odot}$. Physical Review Letters, 2020, 125, 101102.	7.8	836
17	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
18	Properties of the Binary Neutron Star Merger GW170817. Physical Review X, 2019, 9, .	8.9	728

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19	Properties of the Binary Black Hole Merger GW150914. <i>Physical Review Letters</i> , 2016, 116, 241102.	7.8	673
20	ASTROPHYSICAL IMPLICATIONS OF THE BINARY BLACK HOLE MERGER GW150914. <i>Astrophysical Journal Letters</i> , 2016, 818, L22.	8.3	633
21	Binary Black Hole Population Properties Inferred from the First and Second Observing Runs of Advanced LIGO and Advanced Virgo. <i>Astrophysical Journal Letters</i> , 2019, 882, L24.	8.3	566
22	Population Properties of Compact Objects from the Second LIGO–Virgo Gravitational-Wave Transient Catalog. <i>Astrophysical Journal Letters</i> , 2021, 913, L7.	8.3	514
23	Tests of general relativity with the binary black hole signals from the LIGO-Virgo catalog GWTC-1. <i>Physical Review D</i> , 2019, 100, .	4.7	470
24	GW150914: The Advanced LIGO Detectors in the Era of First Discoveries. <i>Physical Review Letters</i> , 2016, 116, 131103.	7.8	466
25	Observation of Gravitational Waves from Two Neutron Star–Black Hole Coalescences. <i>Astrophysical Journal Letters</i> , 2021, 915, L5.	8.3	453
26	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. <i>Living Reviews in Relativity</i> , 2020, 23, 3.	26.7	447
27	Properties and Astrophysical Implications of the $150 M_{\odot}$ Binary Black Hole Merger GW190521. <i>Astrophysical Journal Letters</i> , 2020, 900, L13.	8.3	406
28	GW190412: Observation of a binary-black-hole coalescence with asymmetric masses. <i>Physical Review D</i> , 2020, 102, .	4.7	394
29	Tests of General Relativity with GW170817. <i>Physical Review Letters</i> , 2019, 123, 011102.	7.8	370
30	Tests of general relativity with binary black holes from the second LIGO-Virgo gravitational-wave transient catalog. <i>Physical Review D</i> , 2021, 103, .	4.7	338
31	GW150914: First results from the search for binary black hole coalescence with Advanced LIGO. <i>Physical Review D</i> , 2016, 93, .	4.7	315
32	GW150914: Implications for the Stochastic Gravitational-Wave Background from Binary Black Holes. <i>Physical Review Letters</i> , 2016, 116, 131102.	7.8	269
33	Increasing the Astrophysical Reach of the Advanced Virgo Detector via the Application of Squeezed Vacuum States of Light. <i>Physical Review Letters</i> , 2019, 123, 231108.	7.8	254
34	THE RATE OF BINARY BLACK HOLE MERGERS INFERRED FROM ADVANCED LIGO OBSERVATIONS SURROUNDING GW150914. <i>Astrophysical Journal Letters</i> , 2016, 833, L1.	8.3	230
35	Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914. <i>Classical and Quantum Gravity</i> , 2016, 33, 134001.	4.0	225
36	LOCALIZATION AND BROADBAND FOLLOW-UP OF THE GRAVITATIONAL-WAVE TRANSIENT GW150914. <i>Astrophysical Journal Letters</i> , 2016, 826, L13.	8.3	210

#	ARTICLE	IF	CITATIONS
37	Search for the isotropic stochastic background using data from Advanced LIGO's second observing run. <i>Physical Review D</i> , 2019, 100, .	4.7	200
38	Upper Limits on the Stochastic Gravitational-Wave Background from Advanced LIGO's First Observing Run. <i>Physical Review Letters</i> , 2017, 118, 121101.	7.8	194
39	Upper limits on the isotropic gravitational-wave background from Advanced LIGO and Advanced Virgo's third observing run. <i>Physical Review D</i> , 2021, 104, .	4.7	192
40	Search for Post-merger Gravitational Waves from the Remnant of the Binary Neutron Star Merger GW170817. <i>Astrophysical Journal Letters</i> , 2017, 851, L16.	8.3	189
41	A guide to LIGO's Virgo detector noise and extraction of transient gravitational-wave signals. <i>Classical and Quantum Gravity</i> , 2020, 37, 055002.	4.0	188
42	First Measurement of the Hubble Constant from a Dark Standard Siren using the Dark Energy Survey Galaxies and the LIGO/Virgo Binary's Black-hole Merger GW170814. <i>Astrophysical Journal Letters</i> , 2019, 876, L7.	8.3	179
43	GW170817: Implications for the Stochastic Gravitational-Wave Background from Compact Binary Coalescences. <i>Physical Review Letters</i> , 2018, 120, 091101.	7.8	166
44	Estimating the Contribution of Dynamical Ejecta in the Kilonova Associated with GW170817. <i>Astrophysical Journal Letters</i> , 2017, 850, L39.	8.3	156
45	UPPER LIMITS ON THE RATES OF BINARY NEUTRON STAR AND NEUTRON STAR-BLACK HOLE MERGERS FROM ADVANCED LIGO'S FIRST OBSERVING RUN. <i>Astrophysical Journal Letters</i> , 2016, 832, L21.	8.3	146
46	A Standard Siren Measurement of the Hubble Constant from GW170817 without the Electromagnetic Counterpart. <i>Astrophysical Journal Letters</i> , 2019, 871, L13.	8.3	145
47	A Gravitational-wave Measurement of the Hubble Constant Following the Second Observing Run of Advanced LIGO and Virgo. <i>Astrophysical Journal</i> , 2021, 909, 218.	4.5	144
48	First Search for Gravitational Waves from Known Pulsars with Advanced LIGO. <i>Astrophysical Journal</i> , 2017, 839, 12.	4.5	131
49	Observing gravitational-wave transient GW150914 with minimal assumptions. <i>Physical Review D</i> , 2016, 93, .	4.7	119
50	Search for Substellar Mass Ultracompact Binaries in Advanced LIGO's Second Observing Run. <i>Physical Review Letters</i> , 2019, 123, 161102.	7.8	119
51	Model comparison from LIGO's Virgo data on GW170817's binary components and consequences for the merger remnant. <i>Classical and Quantum Gravity</i> , 2020, 37, 045006.	4.0	109
52	Improved Analysis of GW150914 Using a Fully Spin-Precessing Waveform Model. <i>Physical Review X</i> , 2016, 6, .	8.9	106
53	Directly comparing GW150914 with numerical solutions of Einstein's equations for binary black hole coalescence. <i>Physical Review D</i> , 2016, 94, .	4.7	102
54	All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO O2 data. <i>Physical Review D</i> , 2019, 100, .	4.7	102

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55	Effects of waveform model systematics on the interpretation of GW150914. <i>Classical and Quantum Gravity</i> , 2017, 34, 104002.	4.0	98
56	Search for Gravitational Waves from a Long-lived Remnant of the Binary Neutron Star Merger GW170817. <i>Astrophysical Journal</i> , 2019, 875, 160.	4.5	97
57	Effects of data quality vetoes on a search for compact binary coalescences in Advanced LIGO's first observing run. <i>Classical and Quantum Gravity</i> , 2018, 35, 065010.	4.0	94
58	Constraints on cosmic strings using data from the first Advanced LIGO observing run. <i>Physical Review D</i> , 2018, 97, .	4.7	88
59	Searches for Gravitational Waves from Known Pulsars at Two Harmonics in 2015–2017 LIGO Data. <i>Astrophysical Journal</i> , 2019, 879, 10.	4.5	88
60	Constraints on Cosmic Strings Using Data from the Third Advanced LIGO–Virgo Observing Run. <i>Physical Review Letters</i> , 2021, 126, 241102.	7.8	87
61	Search for Tensor, Vector, and Scalar Polarizations in the Stochastic Gravitational-Wave Background. <i>Physical Review Letters</i> , 2018, 120, 201102.	7.8	85
62	Directional Limits on Persistent Gravitational Waves from Advanced LIGO's First Observing Run. <i>Physical Review Letters</i> , 2017, 118, 121102.	7.8	84
63	Search for Substellar-Mass Ultracompact Binaries in Advanced LIGO's First Observing Run. <i>Physical Review Letters</i> , 2018, 121, 231103.	7.8	77
64	Search for intermediate mass black hole binaries in the first observing run of Advanced LIGO. <i>Physical Review D</i> , 2017, 96, .	4.7	73
65	On the Progenitor of Binary Neutron Star Merger GW170817. <i>Astrophysical Journal Letters</i> , 2017, 850, L40.	8.3	73
66	Search for Eccentric Binary Black Hole Mergers with Advanced LIGO and Advanced Virgo during Their First and Second Observing Runs. <i>Astrophysical Journal</i> , 2019, 883, 149.	4.5	72
67	Low-latency Gravitational-wave Alerts for Multimessenger Astronomy during the Second Advanced LIGO and Virgo Observing Run. <i>Astrophysical Journal</i> , 2019, 875, 161.	4.5	71
68	All-sky search for short gravitational-wave bursts in the first Advanced LIGO run. <i>Physical Review D</i> , 2017, 95, .	4.7	69
69	The basic physics of the binary black hole merger GW150914. <i>Annalen Der Physik</i> , 2017, 529, 1600209.	2.4	69
70	Optically targeted search for gravitational waves emitted by core-collapse supernovae during the first and second observing runs of advanced LIGO and advanced Virgo. <i>Physical Review D</i> , 2020, 101, .	4.7	69
71	First Search for Nontensorial Gravitational Waves from Known Pulsars. <i>Physical Review Letters</i> , 2018, 120, 031104.	7.8	68
72	Gravitational-wave Constraints on the Equatorial Ellipticity of Millisecond Pulsars. <i>Astrophysical Journal Letters</i> , 2020, 902, L21.	8.3	65

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73	All-sky search for periodic gravitational waves in the O1 LIGO data. <i>Physical Review D</i> , 2017, 96, .	4.7	64
74	SUPPLEMENT: “THE RATE OF BINARY BLACK HOLE MERGERS INFERRED FROM ADVANCED LIGO OBSERVATIONS SURROUNDING GW150914” (2016, <i>ApJL</i> , 833, L1). <i>Astrophysical Journal</i> , Supplement Series, 2016, 227, 14.	7.7	63
75	Search for anisotropic gravitational-wave backgrounds using data from Advanced LIGO and Advanced Virgo’s first three observing runs. <i>Physical Review D</i> , 2021, 104, .	4.7	62
76	Searches for Continuous Gravitational Waves from 15 Supernova Remnants and Fomalhaut b with Advanced LIGO. <i>Astrophysical Journal</i> , 2019, 875, 122.	4.5	61
77	First targeted search for gravitational-wave bursts from core-collapse supernovae in data of first-generation laser interferometer detectors. <i>Physical Review D</i> , 2016, 94, .	4.7	60
78	First low-frequency Einstein@Home all-sky search for continuous gravitational waves in Advanced LIGO data. <i>Physical Review D</i> , 2017, 96, .	4.7	60
79	Narrow-band search for gravitational waves from known pulsars using the second LIGO observing run. <i>Physical Review D</i> , 2019, 99, .	4.7	60
80	Search for gravitational waves from Scorpius X-1 in the first Advanced LIGO observing run with a hidden Markov model. <i>Physical Review D</i> , 2017, 95, .	4.7	59
81	Search for Lensing Signatures in the Gravitational-Wave Observations from the First Half of LIGO’s “Virgo” Third Observing Run. <i>Astrophysical Journal</i> , 2021, 923, 14.	4.5	59
82	All-sky search for short gravitational-wave bursts in the second Advanced LIGO and Advanced Virgo run. <i>Physical Review D</i> , 2019, 100, .	4.7	54
83	Search for Gravitational Waves Associated with Gamma-Ray Bursts during the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B. <i>Astrophysical Journal</i> , 2017, 841, 89.	4.5	52
84	Search for intermediate mass black hole binaries in the first and second observing runs of the Advanced LIGO and Virgo network. <i>Physical Review D</i> , 2019, 100, .	4.7	52
85	Directional limits on persistent gravitational waves using data from Advanced LIGO’s first two observing runs. <i>Physical Review D</i> , 2019, 100, .	4.7	52
86	First narrow-band search for continuous gravitational waves from known pulsars in advanced detector data. <i>Physical Review D</i> , 2017, 96, .	4.7	47
87	Upper Limits on Gravitational Waves from Scorpius X-1 from a Model-based Cross-correlation Search in Advanced LIGO Data. <i>Astrophysical Journal</i> , 2017, 847, 47.	4.5	46
88	Full band all-sky search for periodic gravitational waves in the O1 LIGO data. <i>Physical Review D</i> , 2018, 97, .	4.7	46
89	Search for gravitational waves from Scorpius X-1 in the second Advanced LIGO observing run with an improved hidden Markov model. <i>Physical Review D</i> , 2019, 100, .	4.7	46
90	SUPPLEMENT: “LOCALIZATION AND BROADBAND FOLLOW-UP OF THE GRAVITATIONAL-WAVE TRANSIENT GW150914” (2016, <i>ApJL</i> , 826, L13). <i>Astrophysical Journal</i> , Supplement Series, 2016, 225, 8.	7.7	44

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91	All-sky search in early O3 LIGO data for continuous gravitational-wave signals from unknown neutron stars in binary systems. <i>Physical Review D</i> , 2021, 103, .	4.7	43
92	All-sky search for continuous gravitational waves from isolated neutron stars in the early O3 LIGO data. <i>Physical Review D</i> , 2021, 104, .	4.7	42
93	Calibration of advanced Virgo and reconstruction of the gravitational wave signal $h(t)$ (t) T_j E_{TQq1} 1 0.784314 rg_{BT} / $Over$	4.0	41
94	Constraining the $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \rangle \langle \text{mml:mi} \rangle \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -Mode \hat{a} $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \rangle \langle \text{mml:mi} \rangle \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -Mode Tidal Instability with GW170817. <i>Physical Review Letters</i> , 2019, 122, 061104.	7.8	36
95	Comprehensive all-sky search for periodic gravitational waves in the sixth science run LIGO data. <i>Physical Review D</i> , 2016, 94, .	4.7	35
96	Quantum Backaction on Kg-Scale Mirrors: Observation of Radiation Pressure Noise in the Advanced Virgo Detector. <i>Physical Review Letters</i> , 2020, 125, 131101.	7.8	35
97	All-sky search for short gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run. <i>Physical Review D</i> , 2021, 104, .	4.7	33
98	Narrowband Searches for Continuous and Long-duration Transient Gravitational Waves from Known Pulsars in the LIGO-Virgo Third Observing Run. <i>Astrophysical Journal</i> , 2022, 932, 133.	4.5	33
99	Search for intermediate-mass black hole binaries in the third observing run of Advanced LIGO and Advanced Virgo. <i>Astronomy and Astrophysics</i> , 2022, 659, A84.	5.1	32
100	Results of the deepest all-sky survey for continuous gravitational waves on LIGO S6 data running on the Einstein@Home volunteer distributed computing project. <i>Physical Review D</i> , 2016, 94, .	4.7	31
101	A Fermi Gamma-Ray Burst Monitor Search for Electromagnetic Signals Coincident with Gravitational-wave Candidates in Advanced LIGO's First Observing Run. <i>Astrophysical Journal</i> , 2019, 871, 90.	4.5	30
102	Search for Gravitational-wave Signals Associated with Gamma-Ray Bursts during the Second Observing Run of Advanced LIGO and Advanced Virgo. <i>Astrophysical Journal</i> , 2019, 886, 75.	4.5	29
103	An experiment for observing quantum gravity phenomena using twin table-top 3D interferometers. <i>Classical and Quantum Gravity</i> , 2021, 38, 085008.	4.0	27
104	Constraints on dark photon dark matter using data from LIGO's and Virgo's third observing run. <i>Physical Review D</i> , 2022, 105, .	4.7	27
105	Search for Transient Gravitational-wave Signals Associated with Magnetar Bursts during Advanced LIGO's Second Observing Run. <i>Astrophysical Journal</i> , 2019, 874, 163.	4.5	26
106	All-sky search for long-duration gravitational-wave transients in the second Advanced LIGO observing run. <i>Physical Review D</i> , 2019, 99, .	4.7	22
107	Search of the early O3 LIGO data for continuous gravitational waves from the Cassiopeia A and Vela Jr. supernova remnants. <i>Physical Review D</i> , 2022, 105, .	4.7	21
108	Search for Gravitational Waves Associated with Gamma-Ray Bursts Detected by Fermi and Swift during the LIGO's "Virgo Run O3a. <i>Astrophysical Journal</i> , 2021, 915, 86.	4.5	20

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109	First joint observation by the underground gravitational-wave detector KAGRA with GEO 600. Progress of Theoretical and Experimental Physics, 2022, 2022, .	6.6	20
110	Search for continuous gravitational waves from neutron stars in globular cluster NGC 6544. Physical Review D, 2017, 95, .	4.7	19
111	All-sky search for long-duration gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run. Physical Review D, 2021, 104, .	4.7	19
112	All-sky search for long-duration gravitational wave transients in the first Advanced LIGO observing run. Classical and Quantum Gravity, 2018, 35, 065009.	4.0	18
113	Constraints on Scalar Field Dark Matter from Colocated Michelson Interferometers. Physical Review Letters, 2022, 128, 121101.	7.8	18
114	All-sky, all-frequency directional search for persistent gravitational waves from Advanced LIGO™s and Advanced Virgo™s first three observing runs. Physical Review D, 2022, 105, .	4.7	18
115	Search for Gravitational Waves Associated with Gamma-Ray Bursts Detected by Fermi and Swift during the LIGO™ Virgo Run O3b. Astrophysical Journal, 2022, 928, 186.	4.5	15
116	Search for transient gravitational waves in coincidence with short-duration radio transients during 2007™2013. Physical Review D, 2016, 93, .	4.7	14
117	A Joint Fermi-GBM and LIGO/Virgo Analysis of Compact Binary Mergers from the First and Second Gravitational-wave Observing Runs. Astrophysical Journal, 2020, 893, 100.	4.5	12
118	Status of Advanced Virgo. EPJ Web of Conferences, 2018, 182, 02003.	0.3	9
119	The advanced Virgo longitudinal control system for the O2 observing run. Astroparticle Physics, 2020, 116, 102386.	4.3	9
120	Advanced Virgo Status. Journal of Physics: Conference Series, 2020, 1342, 012010.	0.4	9
121	Status of the Advanced Virgo gravitational wave detector. International Journal of Modern Physics A, 2017, 32, 1744003.	1.5	6
122	Thermal compensation system in advanced and third generation gravitational wave interferometric detectors. Journal of Physics: Conference Series, 2019, 1226, 012019.	0.4	4
123	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. , 2018, 21, 1.		2
124	Advanced Virgo Status. , 2017, , .		0