

Lorenzo Aiello

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120 papers	34,167 citations	60 h-index	127 g-index
127 ext. papers	43,572 ext. citations	6.2 avg, IF	4.48 L-index

#	Paper	IF	Citations
120	Observation of Gravitational Waves from a Binary Black Hole Merger. <i>Physical Review Letters</i> , 2016 , 116, 061102	7.4	6108
119	GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral. <i>Physical Review Letters</i> , 2017 , 119, 161101	7.4	4272
118	GW151226: Observation of Gravitational Waves from a 22-Solar-Mass Binary Black Hole Coalescence. <i>Physical Review Letters</i> , 2016 , 116, 241103	7.4	2136
117	Multi-messenger Observations of a Binary Neutron Star Merger. <i>Astrophysical Journal Letters</i> , 2017 , 848, L12	7.9	1935
116	Gravitational Waves and Gamma-Rays from a Binary Neutron Star Merger: GW170817 and GRB 170817A. <i>Astrophysical Journal Letters</i> , 2017 , 848, L13	7.9	1614
115	GW170104: Observation of a 50-Solar-Mass Binary Black Hole Coalescence at Redshift 0.2. <i>Physical Review Letters</i> , 2017 , 118, 221101	7.4	1609
114	GW170814: A Three-Detector Observation of Gravitational Waves from a Binary Black Hole Coalescence. <i>Physical Review Letters</i> , 2017 , 119, 141101	7.4	1270
113	GWTC-1: A Gravitational-Wave Transient Catalog of Compact Binary Mergers Observed by LIGO and Virgo during the First and Second Observing Runs. <i>Physical Review X</i> , 2019 , 9,	9.1	1169
112	GW170817: Measurements of Neutron Star Radii and Equation of State. <i>Physical Review Letters</i> , 2018 , 121, 161101	7.4	867
111	Tests of General Relativity with GW150914. <i>Physical Review Letters</i> , 2016 , 116, 221101	7.4	837
110	GW170608: Observation of a 19 Solar-mass Binary Black Hole Coalescence. <i>Astrophysical Journal Letters</i> , 2017 , 851, L35	7.9	809
109	Binary Black Hole Mergers in the First Advanced LIGO Observing Run. <i>Physical Review X</i> , 2016 , 6,	9.1	723
108	GW190425: Observation of a Compact Binary Coalescence with Total Mass $\sim 3.4 M_{\odot}$. <i>Astrophysical Journal Letters</i> , 2020 , 892, L3	7.9	591
107	GW190814: Gravitational Waves from the Coalescence of a 23 Solar Mass Black Hole with a 2.6 Solar Mass Compact Object. <i>Astrophysical Journal Letters</i> , 2020 , 896, L44	7.9	571
106	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. <i>Living Reviews in Relativity</i> , 2018 , 21, 3	32.5	543
105	Properties of the Binary Black Hole Merger GW150914. <i>Physical Review Letters</i> , 2016 , 116, 241102	7.4	515
104	ASTROPHYSICAL IMPLICATIONS OF THE BINARY BLACK HOLE MERGER GW150914. <i>Astrophysical Journal Letters</i> , 2016 , 818, L22	7.9	512

103	Properties of the Binary Neutron Star Merger GW170817. <i>Physical Review X</i> , 2019 , 9,	9.1	423
102	GW190521: A Binary Black Hole Merger with a Total Mass of $150 M_{\odot}$. <i>Physical Review Letters</i> , 2020 , 125, 101102	7.4	420
101	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	7.9	381
100	GW150914: The Advanced LIGO Detectors in the Era of First Discoveries. <i>Physical Review Letters</i> , 2016 , 116, 131103	7.4	328
99	GWTC-2: Compact Binary Coalescences Observed by LIGO and Virgo during the First Half of the Third Observing Run. <i>Physical Review X</i> , 2021 , 11,	9.1	311
98	Tests of general relativity with the binary black hole signals from the LIGO-Virgo catalog GWTC-1. <i>Physical Review D</i> , 2019 , 100,	4.9	258
97	GW150914: First results from the search for binary black hole coalescence with Advanced LIGO. <i>Physical Review D</i> , 2016 , 93,	4.9	253
96	GW190412: Observation of a binary-black-hole coalescence with asymmetric masses. <i>Physical Review D</i> , 2020 , 102,	4.9	212
95	THE RATE OF BINARY BLACK HOLE MERGERS INFERRED FROM ADVANCED LIGO OBSERVATIONS SURROUNDING GW150914. <i>Astrophysical Journal Letters</i> , 2016 , 833, L1	7.9	209
94	Properties and Astrophysical Implications of the $150 M_{\odot}$ Binary Black Hole Merger GW190521. <i>Astrophysical Journal Letters</i> , 2020 , 900, L13	7.9	207
93	Tests of General Relativity with GW170817. <i>Physical Review Letters</i> , 2019 , 123, 011102	7.4	204
92	Population Properties of Compact Objects from the Second LIGO-Virgo Gravitational-Wave Transient Catalog. <i>Astrophysical Journal Letters</i> , 2021 , 913, L7	7.9	194
91	GW150914: Implications for the Stochastic Gravitational-Wave Background from Binary Black Holes. <i>Physical Review Letters</i> , 2016 , 116, 131102	7.4	188
90	LOCALIZATION AND BROADBAND FOLLOW-UP OF THE GRAVITATIONAL-WAVE TRANSIENT GW150914. <i>Astrophysical Journal Letters</i> , 2016 , 826, L13	7.9	183
89	Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914. <i>Classical and Quantum Gravity</i> , 2016 , 33,	3.3	155
88	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. <i>Living Reviews in Relativity</i> , 2020 , 23, 3	32.5	144
87	Observation of Gravitational Waves from Two Neutron Star-Black Hole Coalescences. <i>Astrophysical Journal Letters</i> , 2021 , 915, L5	7.9	142
86	Upper Limits on the Stochastic Gravitational-Wave Background from Advanced LIGO's First Observing Run. <i>Physical Review Letters</i> , 2017 , 118, 121101	7.4	137

85	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	7.4	134
84	Search for Post-merger Gravitational Waves from the Remnant of the Binary Neutron Star Merger GW170817. <i>Astrophysical Journal Letters</i> , 2017 , 851, L16	7.9	133
83	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	7.9	130
82	Estimating the Contribution of Dynamical Ejecta in the Kilonova Associated with GW170817. <i>Astrophysical Journal Letters</i> , 2017 , 850, L39	7.9	127
81	GW170817: Implications for the Stochastic Gravitational-Wave Background from Compact Binary Coalescences. <i>Physical Review Letters</i> , 2018 , 120, 091101	7.4	120
80	Search for the isotropic stochastic background using data from Advanced LIGO's second observing run. <i>Physical Review D</i> , 2019 , 100,	4.9	117
79	First Search for Gravitational Waves from Known Pulsars with Advanced LIGO. <i>Astrophysical Journal</i> , 2017 , 839, 12	4.7	107
78	Observing gravitational-wave transient GW150914 with minimal assumptions. <i>Physical Review D</i> , 2016 , 93,	4.9	94
77	First Measurement of the Hubble Constant from a Dark Standard Siren using the Dark Energy Survey Galaxies and the LIGO/Virgo Binary Black-hole Merger GW170814. <i>Astrophysical Journal Letters</i> , 2019 , 876, L7	7.9	91
76	Improved Analysis of GW150914 Using a Fully Spin-Precessing Waveform Model. <i>Physical Review X</i> , 2016 , 6,	9.1	89
75	All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO O2 data. <i>Physical Review D</i> , 2019 , 100,	4.9	81
74	Tests of general relativity with binary black holes from the second LIGO-Virgo gravitational-wave transient catalog. <i>Physical Review D</i> , 2021 , 103,	4.9	81
73	A guide to LIGO-Virgo detector noise and extraction of transient gravitational-wave signals. <i>Classical and Quantum Gravity</i> , 2020 , 37, 055002	3.3	78
72	A Standard Siren Measurement of the Hubble Constant from GW170817 without the Electromagnetic Counterpart. <i>Astrophysical Journal Letters</i> , 2019 , 871, L13	7.9	77
71	Directly comparing GW150914 with numerical solutions of Einstein's equations for binary black hole coalescence. <i>Physical Review D</i> , 2016 , 94,	4.9	76
70	Effects of waveform model systematics on the interpretation of GW150914. <i>Classical and Quantum Gravity</i> , 2017 , 34, 104002	3.3	74
69	Model comparison from LIGO-Virgo data on GW170817's binary components and consequences for the merger remnant. <i>Classical and Quantum Gravity</i> , 2020 , 37, 045006	3.3	69
68	Search for Substellar Mass Ultracompact Binaries in Advanced LIGO's Second Observing Run. <i>Physical Review Letters</i> , 2019 , 123, 161102	7.4	68

67	Directional Limits on Persistent Gravitational Waves from Advanced LIGO's First Observing Run. <i>Physical Review Letters</i> , 2017 , 118, 121102	7.4	65
66	Search for intermediate mass black hole binaries in the first observing run of Advanced LIGO. <i>Physical Review D</i> , 2017 , 96,	4.9	64
65	Searches for Gravitational Waves from Known Pulsars at Two Harmonics in 2015–2017 LIGO Data. <i>Astrophysical Journal</i> , 2019 , 879, 10	4.7	63
64	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	3.3	62
63	Search for Gravitational Waves from a Long-lived Remnant of the Binary Neutron Star Merger GW170817. <i>Astrophysical Journal</i> , 2019 , 875, 160	4.7	60
62	Constraints on cosmic strings using data from the first Advanced LIGO observing run. <i>Physical Review D</i> , 2018 , 97,	4.9	60
61	Search for Tensor, Vector, and Scalar Polarizations in the Stochastic Gravitational-Wave Background. <i>Physical Review Letters</i> , 2018 , 120, 201102	7.4	60
60	All-sky search for short gravitational-wave bursts in the first Advanced LIGO run. <i>Physical Review D</i> , 2017 , 95,	4.9	54
59	All-sky search for periodic gravitational waves in the O1 LIGO data. <i>Physical Review D</i> , 2017 , 96,	4.9	54
58	First low-frequency Einstein@Home all-sky search for continuous gravitational waves in Advanced LIGO data. <i>Physical Review D</i> , 2017 , 96,	4.9	54
57	SUPPLEMENT: THE RATE OF BINARY BLACK HOLE MERGERS INFERRED FROM ADVANCED LIGO OBSERVATIONS SURROUNDING GW150914 (2016, ApJL, 833, L1). <i>Astrophysical Journal, Supplement Series</i> , 2016 , 227, 14	8	52
56	First Search for Nontensorial Gravitational Waves from Known Pulsars. <i>Physical Review Letters</i> , 2018 , 120, 031104	7.4	50
55	On the Progenitor of Binary Neutron Star Merger GW170817. <i>Astrophysical Journal Letters</i> , 2017 , 850, L40	7.9	50
54	Low-latency Gravitational-wave Alerts for Multimessenger Astronomy during the Second Advanced LIGO and Virgo Observing Run. <i>Astrophysical Journal</i> , 2019 , 875, 161	4.7	49
53	Search for Substellar-Mass Ultracompact Binaries in Advanced LIGO's First Observing Run. <i>Physical Review Letters</i> , 2018 , 121, 231103	7.4	49
52	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,	4.9	47
51	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	4.7	46
50	The basic physics of the binary black hole merger GW150914. <i>Annalen Der Physik</i> , 2017 , 529, 1600209	2.6	45

49	Searches for Continuous Gravitational Waves from 15 Supernova Remnants and Fomalhaut b with Advanced LIGO. <i>Astrophysical Journal</i> , 2019 , 875, 122	4.7	45
48	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,	4.9	43
47	Narrow-band search for gravitational waves from known pulsars using the second LIGO observing run. <i>Physical Review D</i> , 2019 , 99,	4.9	43
46	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	4.7	42
45	All-sky search for short gravitational-wave bursts in the second Advanced LIGO and Advanced Virgo run. <i>Physical Review D</i> , 2019 , 100,	4.9	39
44	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,	4.9	39
43	First narrow-band search for continuous gravitational waves from known pulsars in advanced detector data. <i>Physical Review D</i> , 2017 , 96,	4.9	39
42	SUPPLEMENT: LOCALIZATION AND BROADBAND FOLLOW-UP OF THE GRAVITATIONAL-WAVE TRANSIENT GW150914[(2016, ApJL, 826, L13). <i>Astrophysical Journal, Supplement Series</i> , 2016 , 225, 8	8	38
41	Full band all-sky search for periodic gravitational waves in the O1 LIGO data. <i>Physical Review D</i> , 2018 , 97,	4.9	37
40	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	4.7	36
39	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,	4.9	36
38	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	4.7	35
37	Calibration of advanced Virgo and reconstruction of the gravitational wave signal $h(t)$ during the observing run O2. <i>Classical and Quantum Gravity</i> , 2018 , 35, 205004	3.3	35
36	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,	4.9	33
35	Gravitational-wave Constraints on the Equatorial Ellipticity of Millisecond Pulsars. <i>Astrophysical Journal Letters</i> , 2020 , 902, L21	7.9	32
34	Directional limits on persistent gravitational waves using data from Advanced LIGO's first two observing runs. <i>Physical Review D</i> , 2019 , 100,	4.9	31
33	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,	4.9	31
32	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,	4.9	29

31	Comprehensive all-sky search for periodic gravitational waves in the sixth science run LIGO data. <i>Physical Review D</i> , 2016 , 94,	4.9	28
30	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	4.7	22
29	Constraining the p-Mode-g-Mode Tidal Instability with GW170817. <i>Physical Review Letters</i> , 2019 , 122, 061104	7.4	22
28	Constraints on Cosmic Strings Using Data from the Third Advanced LIGO-Virgo Observing Run. <i>Physical Review Letters</i> , 2021 , 126, 241102	7.4	21
27	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	4.7	21
26	All-sky search for long-duration gravitational-wave transients in the second Advanced LIGO observing run. <i>Physical Review D</i> , 2019 , 99,	4.9	17
25	Search for Transient Gravitational-wave Signals Associated with Magnetar Bursts during Advanced LIGO's Second Observing Run. <i>Astrophysical Journal</i> , 2019 , 874, 163	4.7	17
24	Quantum Backaction on kg-Scale Mirrors: Observation of Radiation Pressure Noise in the Advanced Virgo Detector. <i>Physical Review Letters</i> , 2020 , 125, 131101	7.4	17
23	All-sky search for continuous gravitational waves from isolated neutron stars in the early O3 LIGO data. <i>Physical Review D</i> , 2021 , 104,	4.9	15
22	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,	4.9	15
21	Search for continuous gravitational waves from neutron stars in globular cluster NGC 6544. <i>Physical Review D</i> , 2017 , 95,	4.9	14
20	All-sky search for long-duration gravitational wave transients in the first Advanced LIGO observing run. <i>Classical and Quantum Gravity</i> , 2018 , 35, 065009	3.3	12
19	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,	4.9	12
18	Search for transient gravitational waves in coincidence with short-duration radio transients during 2007–2013. <i>Physical Review D</i> , 2016 , 93,	4.9	10
17	A Joint Fermi-GBM and LIGO/Virgo Analysis of Compact Binary Mergers from the First and Second Gravitational-wave Observing Runs. <i>Astrophysical Journal</i> , 2020 , 893, 100	4.7	9
16	Advanced Virgo Status. <i>Journal of Physics: Conference Series</i> , 2020 , 1342, 012010	0.3	8
15	The advanced Virgo longitudinal control system for the O2 observing run. <i>Astroparticle Physics</i> , 2020 , 116, 102386	2.4	7
14	An experiment for observing quantum gravity phenomena using twin table-top 3D interferometers. <i>Classical and Quantum Gravity</i> , 2021 , 38, 085008	3.3	6

13	Search for Gravitational Waves Associated with Gamma-Ray Bursts Detected by Fermi and Swift during the LIGO-Virgo Run O3a. <i>Astrophysical Journal</i> , 2021 , 915, 86	4.7	6
12	Status of the Advanced Virgo gravitational wave detector. <i>International Journal of Modern Physics A</i> , 2017 , 32, 1744003	1.2	5
11	All-sky search for short gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run. <i>Physical Review D</i> , 2021 , 104,	4.9	4
10	Search for intermediate-mass black hole binaries in the third observing run of Advanced LIGO and Advanced Virgo. <i>Astronomy and Astrophysics</i> ,	5.1	4
9	Status of Advanced Virgo. <i>EPJ Web of Conferences</i> , 2018 , 182, 02003	0.3	4
8	Search for Lensing Signatures in the Gravitational-Wave Observations from the First Half of LIGO-Virgo Third Observing Run. <i>Astrophysical Journal</i> , 2021 , 923, 14	4.7	4
7	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,	4.9	4
6	Thermal compensation system in advanced and third generation gravitational wave interferometric detectors. <i>Journal of Physics: Conference Series</i> , 2019 , 1226, 012019	0.3	2
5	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA 2018 , 21, 1		2
4	Constraints on dark photon dark matter using data from LIGO and Virgo third observing run. <i>Physical Review D</i> , 2022 , 105,	4.9	2
3	All-sky search for long-duration gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run. <i>Physical Review D</i> , 2021 , 104,	4.9	1
2	Search for Gravitational Waves Associated with Gamma-Ray Bursts Detected by Fermi and Swift during the LIGO-Virgo Run O3b. <i>Astrophysical Journal</i> , 2022 , 928, 186	4.7	1
1	Constraints on Scalar Field Dark Matter from Colocated Michelson Interferometers.. <i>Physical Review Letters</i> , 2022 , 128, 121101	7.4	0