

Sebastian S Steinlechner

List of Publications by Citations

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123
papers

33,484
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128
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128
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40,137
ext. citations

7.4
avg, IF

5.6
L-index

#	Paper	IF	Citations
123	Observation of Gravitational Waves from a Binary Black Hole Merger. <i>Physical Review Letters</i> , 2016 , 116, 061102	7.4	6108
122	GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral. <i>Physical Review Letters</i> , 2017 , 119, 161101	7.4	4272
121	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
120	Multi-messenger Observations of a Binary Neutron Star Merger. <i>Astrophysical Journal Letters</i> , 2017 , 848, L12	7.9	1935
119	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
118	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
117	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
116	Advanced LIGO. <i>Classical and Quantum Gravity</i> , 2015 , 32, 074001	3.3	1098
115	Tests of General Relativity with GW150914. <i>Physical Review Letters</i> , 2016 , 116, 221101	7.4	837
114	GW170608: Observation of a 19 Solar-mass Binary Black Hole Coalescence. <i>Astrophysical Journal Letters</i> , 2017 , 851, L35	7.9	809
113	Characterization of the LIGO detectors during their sixth science run. <i>Classical and Quantum Gravity</i> , 2015 , 32, 115012	3.3	790
112	Binary Black Hole Mergers in the First Advanced LIGO Observing Run. <i>Physical Review X</i> , 2016 , 6,	9.1	723
111	Enhanced sensitivity of the LIGO gravitational wave detector by using squeezed states of light. <i>Nature Photonics</i> , 2013 , 7, 613-619	33.9	572
110	A gravitational wave observatory operating beyond the quantum shot-noise limit. <i>Nature Physics</i> , 2011 , 7, 962-965	16.2	554
109	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
108	Properties of the Binary Black Hole Merger GW150914. <i>Physical Review Letters</i> , 2016 , 116, 241102	7.4	515
107	ASTROPHYSICAL IMPLICATIONS OF THE BINARY BLACK HOLE MERGER GW150914. <i>Astrophysical Journal Letters</i> , 2016 , 818, L22	7.9	512

106	Exploring the sensitivity of next generation gravitational wave detectors. <i>Classical and Quantum Gravity</i> , 2017 , 34, 044001	3.3	454
105	A gravitational-wave standard siren measurement of the Hubble constant. <i>Nature</i> , 2017 , 551, 85-88	50.4	413
104	Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo. <i>Living Reviews in Relativity</i> , 2016 , 19, 1	32.5	393
103	GW150914: The Advanced LIGO Detectors in the Era of First Discoveries. <i>Physical Review Letters</i> , 2016 , 116, 131103	7.4	328
102	GW150914: First results from the search for binary black hole coalescence with Advanced LIGO. <i>Physical Review D</i> , 2016 , 93,	4.9	253
101	Observation of one-way EinsteinPodolskyRosen steering. <i>Nature Photonics</i> , 2012 , 6, 596-599	33.9	228
100	Quantum enhancement of the zero-area Sagnac interferometer topology for gravitational wave detection. <i>Physical Review Letters</i> , 2010 , 104, 251102	7.4	219
99	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
98	GW150914: Implications for the Stochastic Gravitational-Wave Background from Binary Black Holes. <i>Physical Review Letters</i> , 2016 , 116, 131102	7.4	188
97	LOCALIZATION AND BROADBAND FOLLOW-UP OF THE GRAVITATIONAL-WAVE TRANSIENT GW150914. <i>Astrophysical Journal Letters</i> , 2016 , 826, L13	7.9	183
96	Search for gravitational waves from low mass compact binary coalescence in LIGO's sixth science run and Virgo's science runs 2 and 3. <i>Physical Review D</i> , 2012 , 85,	4.9	172
95	Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914. <i>Classical and Quantum Gravity</i> , 2016 , 33,	3.3	155
94	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
93	Squeezed light at 1550 nm with a quantum noise reduction of 12.3 dB. <i>Optics Express</i> , 2011 , 19, 25763-73	3.3	140
92	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
91	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
90	UPPER LIMITS ON THE RATES OF BINARY NEUTRON STAR AND NEUTRON STARBLACK HOLE MERGERS FROM ADVANCED LIGO'S FIRST OBSERVING RUN. <i>Astrophysical Journal Letters</i> , 2016 , 832, L21	7.9	130
89	Estimating the Contribution of Dynamical Ejecta in the Kilonova Associated with GW170817. <i>Astrophysical Journal Letters</i> , 2017 , 850, L39	7.9	127

88	Parameter estimation for compact binary coalescence signals with the first generation gravitational-wave detector network. <i>Physical Review D</i> , 2013 , 88,	4.9	122
87	GRAVITATIONAL WAVES FROM KNOWN PULSARS: RESULTS FROM THE INITIAL DETECTOR ERA. <i>Astrophysical Journal</i> , 2014 , 785, 119	4.7	109
86	First Search for Gravitational Waves from Known Pulsars with Advanced LIGO. <i>Astrophysical Journal</i> , 2017 , 839, 12	4.7	107
85	Search for High-energy Neutrinos from Binary Neutron Star Merger GW170817 with ANTARES, IceCube, and the Pierre Auger Observatory. <i>Astrophysical Journal Letters</i> , 2017 , 850, L35	7.9	104
84	Search for gravitational waves from compact binary coalescence in LIGO and Virgo data from S5 and VSR1. <i>Physical Review D</i> , 2010 , 82,	4.9	100
83	All-sky search for gravitational-wave bursts in the second joint LIGO-Virgo run. <i>Physical Review D</i> , 2012 , 85,	4.9	96
82	Observing gravitational-wave transient GW150914 with minimal assumptions. <i>Physical Review D</i> , 2016 , 93,	4.9	94
81	Search for gravitational waves from binary black hole inspiral, merger, and ringdown in LIGO-Virgo data from 2009–2010. <i>Physical Review D</i> , 2013 , 87,	4.9	91
80	Improved Analysis of GW150914 Using a Fully Spin-Precessing Waveform Model. <i>Physical Review X</i> , 2016 , 6,	9.1	89
79	Einstein@Home all-sky search for periodic gravitational waves in LIGO S5 data. <i>Physical Review D</i> , 2013 , 87,	4.9	84
78	High-energy neutrino follow-up search of gravitational wave event GW150914 with ANTARES and IceCube. <i>Physical Review D</i> , 2016 , 93,	4.9	80
77	Search for gravitational waves from binary black hole inspiral, merger, and ringdown. <i>Physical Review D</i> , 2011 , 83,	4.9	77
76	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
75	Effects of waveform model systematics on the interpretation of GW150914. <i>Classical and Quantum Gravity</i> , 2017 , 34, 104002	3.3	74
74	Improved upper limits on the stochastic gravitational-wave background from 2009-2010 LIGO and Virgo data. <i>Physical Review Letters</i> , 2014 , 113, 231101	7.4	74
73	Directional Limits on Persistent Gravitational Waves from Advanced LIGO's First Observing Run. <i>Physical Review Letters</i> , 2017 , 118, 121102	7.4	65
72	Quantum-dense metrology. <i>Nature Photonics</i> , 2013 , 7, 626-630	33.9	65
71	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

70	Strong Einstein-Podolsky-Rosen steering with unconditional entangled states. <i>Physical Review A</i> , 2013 , 87,	2.6	62
69	All-sky search for periodic gravitational waves in the full S5 LIGO data. <i>Physical Review D</i> , 2012 , 85,	4.9	61
68	Calibration of the Advanced LIGO detectors for the discovery of the binary black-hole merger GW150914. <i>Physical Review D</i> , 2017 , 95,	4.9	60
67	Constraints on cosmic strings from the LIGO-Virgo gravitational-wave detectors. <i>Physical Review Letters</i> , 2014 , 112, 131101	7.4	59
66	SEARCHES FOR CONTINUOUS GRAVITATIONAL WAVES FROM NINE YOUNG SUPERNOVA REMNANTS. <i>Astrophysical Journal</i> , 2015 , 813, 39	4.7	58
65	Directed search for continuous gravitational waves from the Galactic center. <i>Physical Review D</i> , 2013 , 88,	4.9	57
64	All-sky search for short gravitational-wave bursts in the first Advanced LIGO run. <i>Physical Review D</i> , 2017 , 95,	4.9	54
63	All-sky search for periodic gravitational waves in the O1 LIGO data. <i>Physical Review D</i> , 2017 , 96,	4.9	54
62	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
61	First all-sky search for continuous gravitational waves from unknown sources in binary systems. <i>Physical Review D</i> , 2014 , 90,	4.9	54
60	FIRST SEARCHES FOR OPTICAL COUNTERPARTS TO GRAVITATIONAL-WAVE CANDIDATE EVENTS. <i>Astrophysical Journal, Supplement Series</i> , 2014 , 211, 7	8	51
59	First Search for Nontensorial Gravitational Waves from Known Pulsars. <i>Physical Review Letters</i> , 2018 , 120, 031104	7.4	50
58	On the Progenitor of Binary Neutron Star Merger GW170817. <i>Astrophysical Journal Letters</i> , 2017 , 850, L40	7.9	50
57	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
56	SEARCH FOR GRAVITATIONAL WAVE BURSTS FROM SIX MAGNETARS. <i>Astrophysical Journal Letters</i> , 2011 , 734, L35	7.9	47
55	Search for gravitational waves from intermediate mass binary black holes. <i>Physical Review D</i> , 2012 , 85,	4.9	46
54	The basic physics of the binary black hole merger GW150914. <i>Annalen Der Physik</i> , 2017 , 529, 1600209	2.6	45
53	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

52	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
51	Upper limits on a stochastic gravitational-wave background using LIGO and Virgo interferometers at 600–1000 Hz. <i>Physical Review D</i> , 2012 , 85,	4.9	40
50	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
49	Directed search for gravitational waves from Scorpius X-1 with initial LIGO data. <i>Physical Review D</i> , 2015 , 91,	4.9	38
48	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
47	High-efficiency frequency doubling of continuous-wave laser light. <i>Optics Letters</i> , 2011 , 36, 3467-9	3	35
46	The NINJA-2 project: detecting and characterizing gravitational waveforms modelled using numerical binary black hole simulations. <i>Classical and Quantum Gravity</i> , 2014 , 31, 115004	3.3	34
45	Search for gravitational radiation from intermediate mass black hole binaries in data from the second LIGO-Virgo joint science run. <i>Physical Review D</i> , 2014 , 89,	4.9	32
44	Search for high-energy neutrinos from gravitational wave event GW151226 and candidate LVT151012 with ANTARES and IceCube. <i>Physical Review D</i> , 2017 , 96,	4.9	32
43	Narrow-band search of continuous gravitational-wave signals from Crab and Vela pulsars in Virgo VSR4 data. <i>Physical Review D</i> , 2015 , 91,	4.9	32
42	Search for gravitational waves associated with γ bursts detected by the interplanetary network. <i>Physical Review Letters</i> , 2014 , 113, 011102	7.4	30
41	Search for long-lived gravitational-wave transients coincident with long gamma-ray bursts. <i>Physical Review D</i> , 2013 , 88,	4.9	30
40	First low frequency all-sky search for continuous gravitational wave signals. <i>Physical Review D</i> , 2016 , 93,	4.9	29
39	A first search for coincident gravitational waves and high energy neutrinos using LIGO, Virgo and ANTARES data from 2007. <i>Journal of Cosmology and Astroparticle Physics</i> , 2013 , 2013, 008-008	6.4	29
38	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
37	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
36	All-sky search for long-duration gravitational wave transients with initial LIGO. <i>Physical Review D</i> , 2016 , 93,	4.9	27
35	Implementation of an \mathcal{F} -statistic all-sky search for continuous gravitational waves in Virgo VSR1 data. <i>Classical and Quantum Gravity</i> , 2014 , 31, 165014	3.3	27

34	Searching for stochastic gravitational waves using data from the two colocated LIGO Hanford detectors. <i>Physical Review D</i> , 2015 , 91,	4.9	26
33	Search for gravitational wave ringdowns from perturbed intermediate mass black holes in LIGO-Virgo data from 2005–2010. <i>Physical Review D</i> , 2014 , 89,	4.9	26
32	Design of a speed meter interferometer proof-of-principle experiment. <i>Classical and Quantum Gravity</i> , 2014 , 31, 215009	3.3	26
31	Demonstration of a quantum-enhanced fiber Sagnac interferometer. <i>Optics Letters</i> , 2010 , 35, 1665-7	3	26
30	Methods and results of a search for gravitational waves associated with gamma-ray bursts using the GEO 600, LIGO, and Virgo detectors. <i>Physical Review D</i> , 2014 , 89,	4.9	25
29	Multimessenger search for sources of gravitational waves and high-energy neutrinos: Initial results for LIGO-Virgo and IceCube. <i>Physical Review D</i> , 2014 , 90,	4.9	25
28	A new quantum speed-meter interferometer: measuring speed to search for intermediate mass black holes. <i>Light: Science and Applications</i> , 2018 , 7, 11	16.7	22
27	Observation of cw squeezed light at 1550 nm. <i>Optics Letters</i> , 2009 , 34, 1060-2	3	21
26	Quantum noise of non-ideal Sagnac speed meter interferometer with asymmetries. <i>New Journal of Physics</i> , 2015 , 17, 043031	2.9	18
25	Application of a Hough search for continuous gravitational waves on data from the fifth LIGO science run. <i>Classical and Quantum Gravity</i> , 2014 , 31, 085014	3.3	18
24	Demonstration of interferometer enhancement through EPR entanglement. <i>Nature Photonics</i> , 2020 , 14, 240-244	33.9	17
23	Building blocks for future detectors: Silicon test masses and 1550 nm laser light. <i>Journal of Physics: Conference Series</i> , 2010 , 228, 012029	0.3	15
22	Search of the Orion spur for continuous gravitational waves using a loosely coherent algorithm on data from LIGO interferometers. <i>Physical Review D</i> , 2016 , 93,	4.9	14
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	Local-oscillator noise coupling in balanced homodyne readout for advanced gravitational wave detectors. <i>Physical Review D</i> , 2015 , 92,	4.9	13
19	Measuring small absorptions by exploiting photothermal self-phase modulation. <i>Applied Optics</i> , 2010 , 49, 5391-8	0.2	12
18	Continuous-wave nonclassical light with gigahertz squeezing bandwidth. <i>Optics Letters</i> , 2012 , 37, 2367-93		12
17	Challenges and opportunities of gravitational-wave searches at MHz to GHz frequencies. <i>Living Reviews in Relativity</i> , 2021 , 24, 1	32.5	12

16	Candidates for a possible third-generation gravitational wave detector: comparison of ring-Sagnac and sloshing-Sagnac speedmeter interferometers. <i>Classical and Quantum Gravity</i> , 2017 , 34, 024001	3.3	11
15	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
14	Reduction of Classical Measurement Noise via Quantum-Dense Metrology. <i>Physical Review Letters</i> , 2016 , 117, 180801	7.4	10
13	Optical absorption of silicon nitride membranes at 1064 nm and at 1550 nm. <i>Physical Review D</i> , 2017 , 96,	4.9	10
12	Mitigating Mode-Matching Loss in Nonclassical Laser Interferometry. <i>Physical Review Letters</i> , 2018 , 121, 263602	7.4	10
11	Mapping the optical absorption of a substrate-transferred crystalline AlGaAs coating at 1.5 μm . <i>Classical and Quantum Gravity</i> , 2015 , 32, 105008	3.3	9
10	Photothermal self-phase-modulation technique for absorption measurements on high-reflective coatings. <i>Applied Optics</i> , 2012 , 51, 1156-61	1.7	9
9	Effects of static and dynamic higher-order optical modes in balanced homodyne readout for future gravitational waves detectors. <i>Physical Review D</i> , 2017 , 95,	4.9	6
8	Optical absorption measurements on crystalline silicon test masses at 1550 nm. <i>Classical and Quantum Gravity</i> , 2013 , 30, 095007	3.3	5
7	NQontrol: An open-source platform for digital control-loops in quantum-optical experiments. <i>Review of Scientific Instruments</i> , 2020 , 91, 035114	1.7	4
6	Highly efficient generation of coherent light at 2128 nm via degenerate optical-parametric oscillation. <i>Optics Letters</i> , 2020 , 45, 6194-6197	3	4
5	Quantum noise cancellation in asymmetric speed metres with balanced homodyne readout. <i>New Journal of Physics</i> , 2018 , 20, 103040	2.9	4
4	Concepts and research for future detectors. <i>General Relativity and Gravitation</i> , 2014 , 46, 1	2.3	2
3	Publisher's Note: Search for gravitational waves from compact binary coalescence in LIGO and Virgo data from S5 and VSR1 [Phys. Rev. D 82, 102001 (2010)]. <i>Physical Review D</i> , 2012 , 85,	4.9	2
2	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA 2018 , 21, 1		2
1	Squeezed light at 2128 nm for future gravitational-wave observatories. <i>Optics Letters</i> , 2021 , 46, 5850-5853		1