

Sebastian S Steinlechner

List of Publications by Year in descending order

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Version: 2024-02-01

126
papers

46,259
citations

16451

64
h-index

15732

125
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128
all docs

128
docs citations

128
times ranked

17636
citing authors

#	ARTICLE	IF	CITATIONS
1	First joint observation by the underground gravitational-wave detector KAGRA with GEO 600. Progress of Theoretical and Experimental Physics, 2022, 2022, .	6.6	20
2	Squeezed light at 2128â€‰%â€‰nm for future gravitational-wave observatories. Optics Letters, 2021, 46, 5850.	3.3	4
3	Challenges and opportunities of gravitational-wave searches at MHz to GHz frequencies. Living Reviews in Relativity, 2021, 24, 1.	26.7	105
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	NQontrol: An open-source platform for digital control-loops in quantum-optical experiments. Review of Scientific Instruments, 2020, 91, 035114.	1.3	6
6	Demonstration of interferometer enhancement through Einsteinâ€‰Podolskyâ€‰Rosen entanglement. Nature Photonics, 2020, 14, 240-244.	31.4	30
7	Highly efficient generation of coherent light at 2128â€‰%â€‰nm via degenerate optical-parametric oscillation. Optics Letters, 2020, 45, 6194.	3.3	4
8	First Search for Nontensorial Gravitational Waves from Known Pulsars. Physical Review Letters, 2018, 120, 031104.	7.8	68
9	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
10	Quantum noise cancellation in asymmetric speed metres with balanced homodyne readout. New Journal of Physics, 2018, 20, 103040.	2.9	5
11	Mitigating Mode-Matching Loss in Nonclassical Laser Interferometry. Physical Review Letters, 2018, 121, 263602.	7.8	14
12	A new quantum speed-meter interferometer: measuring speed to search for intermediate mass black holes. Light: Science and Applications, 2018, 7, 11.	16.6	24
13	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. , 2018, 21, 1.		2
14	Exploring the sensitivity of next generation gravitational wave detectors. Classical and Quantum Gravity, 2017, 34, 044001.	4.0	735
15	All-sky search for short gravitational-wave bursts in the first Advanced LIGO run. Physical Review D, 2017, 95, .	4.7	69
16	Effects of waveform model systematics on the interpretation of GW150914. Classical and Quantum Gravity, 2017, 34, 104002.	4.0	98
17	Calibration of the Advanced LIGO detectors for the discovery of the binary black-hole merger GW150914. Physical Review D, 2017, 95, .	4.7	72
18	Upper Limits on the Stochastic Gravitational-Wave Background from Advanced LIGOâ€™s First Observing Run. Physical Review Letters, 2017, 118, 121101.	7.8	194

#	ARTICLE	IF	CITATIONS
19	Directional Limits on Persistent Gravitational Waves from Advanced LIGO's First Observing Run. <i>Physical Review Letters</i> , 2017, 118, 121102.	7.8	84
20	First Search for Gravitational Waves from Known Pulsars with Advanced LIGO. <i>Astrophysical Journal</i> , 2017, 839, 12.	4.5	131
21	The basic physics of the binary black hole merger GW150914. <i>Annalen Der Physik</i> , 2017, 529, 1600209.	2.4	69
22	GW170814: A Three-Detector Observation of Gravitational Waves from a Binary Black Hole Coalescence. <i>Physical Review Letters</i> , 2017, 119, 141101.	7.8	1,600
23	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
24	A gravitational-wave standard siren measurement of the Hubble constant. <i>Nature</i> , 2017, 551, 85-88.	27.8	674
25	GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral. <i>Physical Review Letters</i> , 2017, 119, 161101.	7.8	6,413
26	Multi-messenger Observations of a Binary Neutron Star Merger [*] . <i>Astrophysical Journal Letters</i> , 2017, 848, L12.	8.3	2,805
27	Gravitational Waves and Gamma-Rays from a Binary Neutron Star Merger: GW170817 and GRB 170817A. <i>Astrophysical Journal Letters</i> , 2017, 848, L13.	8.3	2,314
28	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
29	All-sky search for periodic gravitational waves in the O1 LIGO data. <i>Physical Review D</i> , 2017, 96, .	4.7	64
30	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, .	4.7	7
31	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
32	Search for high-energy neutrinos from gravitational wave event GW151226 and candidate LVT151012 with ANTARES and IceCube. <i>Physical Review D</i> , 2017, 96, .	4.7	40
33	Optical absorption of silicon nitride membranes at 1064Ånm and at 1550Ånm. <i>Physical Review D</i> , 2017, 96, .	4.7	17
34	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.	4.0	13
35	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
36	Estimating the Contribution of Dynamical Ejecta in the Kilonova Associated with GW170817. <i>Astrophysical Journal Letters</i> , 2017, 850, L39.	8.3	156

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37	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.	8.3	135
38	GW170104: Observation of a 50-Solar-Mass Binary Black Hole Coalescence at Redshift 0.2. <i>Physical Review Letters</i> , 2017, 118, 221101.	7.8	1,987
39	Search for continuous gravitational waves from neutron stars in globular cluster NGC 6544. <i>Physical Review D</i> , 2017, 95, .	4.7	19
40	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
41	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
42	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
43	On the Progenitor of Binary Neutron Star Merger GW170817. <i>Astrophysical Journal Letters</i> , 2017, 850, L40.	8.3	73
44	GW170608: Observation of a 19 Solar-mass Binary Black Hole Coalescence. <i>Astrophysical Journal Letters</i> , 2017, 851, L35.	8.3	968
45	Demonstration of a switchable damping system to allow low-noise operation of high- Q low-mass suspension systems. <i>Physical Review D</i> , 2017, 96, .	4.7	0
46	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
47	Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo. <i>Living Reviews in Relativity</i> , 2016, 19, 1.	26.7	427
48	Improved Analysis of GW150914 Using a Fully Spin-Precessing Waveform Model. <i>Physical Review X</i> , 2016, 6, .	8.9	106
49	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
50	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
51	LOCALIZATION AND BROADBAND FOLLOW-UP OF THE GRAVITATIONAL-WAVE TRANSIENT GW150914. <i>Astrophysical Journal Letters</i> , 2016, 826, L13.	8.3	210
52	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
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, .	4.7	60
54	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

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55	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
56	All-sky search for long-duration gravitational wave transients with initial LIGO. <i>Physical Review D</i> , 2016, 93, .	4.7	29
57	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, .	4.7	17
58	First low frequency all-sky search for continuous gravitational wave signals. <i>Physical Review D</i> , 2016, 93, .	4.7	32
59	GW150914: First results from the search for binary black hole coalescence with Advanced LIGO. <i>Physical Review D</i> , 2016, 93, .	4.7	315
60	Search for transient gravitational waves in coincidence with short-duration radio transients during 2007–2013. <i>Physical Review D</i> , 2016, 93, .	4.7	14
61	High-energy neutrino follow-up search of gravitational wave event GW150914 with ANTARES and IceCube. <i>Physical Review D</i> , 2016, 93, .	4.7	92
62	GW150914: Implications for the Stochastic Gravitational-Wave Background from Binary Black Holes. <i>Physical Review Letters</i> , 2016, 116, 131102.	7.8	269
63	GW150914: The Advanced LIGO Detectors in the Era of First Discoveries. <i>Physical Review Letters</i> , 2016, 116, 131103.	7.8	466
64	Observing gravitational-wave transient GW150914 with minimal assumptions. <i>Physical Review D</i> , 2016, 93, .	4.7	119
65	Tests of General Relativity with GW150914. <i>Physical Review Letters</i> , 2016, 116, 221101.	7.8	1,224
66	Properties of the Binary Black Hole Merger GW150914. <i>Physical Review Letters</i> , 2016, 116, 241102.	7.8	673
67	GW151226: Observation of Gravitational Waves from a 22-Solar-Mass Binary Black Hole Coalescence. <i>Physical Review Letters</i> , 2016, 116, 241103.	7.8	2,701
68	Binary Black Hole Mergers in the First Advanced LIGO Observing Run. <i>Physical Review X</i> , 2016, 6, .	8.9	898
69	Reduction of Classical Measurement Noise via Quantum-Dense Metrology. <i>Physical Review Letters</i> , 2016, 117, 180801.	7.8	12
70	ASTROPHYSICAL IMPLICATIONS OF THE BINARY BLACK HOLE MERGER GW150914. <i>Astrophysical Journal Letters</i> , 2016, 818, L22.	8.3	633
71	Observation of Gravitational Waves from a Binary Black Hole Merger. <i>Physical Review Letters</i> , 2016, 116, 061102.	7.8	8,753
72	Local-oscillator noise coupling in balanced homodyne readout for advanced gravitational wave detectors. <i>Physical Review D</i> , 2015, 92, .	4.7	16

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73	Narrow-band search of continuous gravitational-wave signals from Crab and Vela pulsars in Virgo VSR4 data. <i>Physical Review D</i> , 2015, 91, .	4.7	37
74	Searching for stochastic gravitational waves using data from the two colocated LIGO Hanford detectors. <i>Physical Review D</i> , 2015, 91, .	4.7	39
75	Quantum noise of non-ideal Sagnac speed meter interferometer with asymmetries. <i>New Journal of Physics</i> , 2015, 17, 043031.	2.9	21
76	Directed search for gravitational waves from Scorpius X-1 with initial LIGO data. <i>Physical Review D</i> , 2015, 91, .	4.7	47
77	Mapping the optical absorption of a substrate-transferred crystalline AlGaAs coating at 1.5 μ m. <i>Classical and Quantum Gravity</i> , 2015, 32, 105008.	4.0	12
78	Characterization of the LIGO detectors during their sixth science run. <i>Classical and Quantum Gravity</i> , 2015, 32, 115012.	4.0	1,029
79	Advanced LIGO. <i>Classical and Quantum Gravity</i> , 2015, 32, 074001.	4.0	1,929
80	SEARCHES FOR CONTINUOUS GRAVITATIONAL WAVES FROM NINE YOUNG SUPERNOVA REMNANTS. <i>Astrophysical Journal</i> , 2015, 813, 39.	4.5	66
81	FIRST SEARCHES FOR OPTICAL COUNTERPARTS TO GRAVITATIONAL-WAVE CANDIDATE EVENTS. <i>Astrophysical Journal, Supplement Series</i> , 2014, 211, 7.	7.7	57
82	First all-sky search for continuous gravitational waves from unknown sources in binary systems. <i>Physical Review D</i> , 2014, 90, .	4.7	60
83	Constraints on Cosmic Strings from the LIGO-Virgo Gravitational-Wave Detectors. <i>Physical Review Letters</i> , 2014, 112, 131101.	7.8	68
84	Improved Upper Limits on the Stochastic Gravitational-Wave Background from 2009–2010 LIGO and Virgo Data. <i>Physical Review Letters</i> , 2014, 113, 231101.	7.8	86
85	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, .	4.7	29
86	Design of a speed meter interferometer proof-of-principle experiment. <i>Classical and Quantum Gravity</i> , 2014, 31, 215009.	4.0	29
87	Implementation of an F -statistic all-sky search for continuous gravitational waves in Virgo VSR1 data. <i>Classical and Quantum Gravity</i> , 2014, 31, 165014.	4.0	34
88	GRAVITATIONAL WAVES FROM KNOWN PULSARS: RESULTS FROM THE INITIAL DETECTOR ERA. <i>Astrophysical Journal</i> , 2014, 785, 119.	4.5	125
89	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.	4.0	21
90	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.	4.0	42

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91	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, .	4.7	28
92	Search for Gravitational Waves Associated with γ -ray Bursts Detected by the Interplanetary Network. <i>Physical Review Letters</i> , 2014, 113, 011102.	7.8	32
93	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, .	4.7	35
94	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, .	4.7	29
95	Concepts and research for future detectors. <i>General Relativity and Gravitation</i> , 2014, 46, 1.	2.0	2
96	Quantum-dense metrology. <i>Nature Photonics</i> , 2013, 7, 626-630.	31.4	83
97	Strong Einstein-Podolsky-Rosen steering with unconditional entangled states. <i>Physical Review A</i> , 2013, 87, .	2.5	70
98	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, .	4.7	92
99	Search for long-lived gravitational-wave transients coincident with long gamma-ray bursts. <i>Physical Review D</i> , 2013, 88, .	4.7	31
100	Enhanced sensitivity of the LIGO gravitational wave detector by using squeezed states of light. <i>Nature Photonics</i> , 2013, 7, 613-619.	31.4	825
101	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.	5.4	32
102	Einstein@Home all-sky search for periodic gravitational waves in LIGO S5 data. <i>Physical Review D</i> , 2013, 87, .	4.7	91
103	Parameter estimation for compact binary coalescence signals with the first generation gravitational-wave detector network. <i>Physical Review D</i> , 2013, 88, .	4.7	132
104	Directed search for continuous gravitational waves from the Galactic center. <i>Physical Review D</i> , 2013, 88, .	4.7	65
105	Optical absorption measurements on crystalline silicon test masses at 1550 nm. <i>Classical and Quantum Gravity</i> , 2013, 30, 095007.	4.0	6
106	Photothermal self-phase-modulation technique for absorption measurements on high-reflective coatings. <i>Applied Optics</i> , 2012, 51, 1156.	1.8	10
107	Continuous-wave nonclassical light with gigahertz squeezing bandwidth. <i>Optics Letters</i> , 2012, 37, 2367.	3.3	17
108	All-sky search for gravitational-wave bursts in the second joint LIGO-Virgo run. <i>Physical Review D</i> , 2012, 85, .	4.7	107

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109	Search for gravitational waves from intermediate mass binary black holes. <i>Physical Review D</i> , 2012, 85, .	4.7	48
110	Upper limits on a stochastic gravitational-wave background using LIGO and Virgo interferometers at 600–1000 Hz. <i>Physical Review D</i> , 2012, 85, .	4.7	43
111	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, .	4.7	185
112	All-sky search for periodic gravitational waves in the full S5 LIGO data. <i>Physical Review D</i> , 2012, 85, .	4.7	66
113	Publisher's Note: Search for gravitational waves from binary black hole inspiral, merger, and ringdown [Phys. Rev. D83, 122005 (2011)]. <i>Physical Review D</i> , 2012, 85, .	4.7	0
114	Publisher's Note: Search for gravitational waves from compact binary coalescence in LIGO and Virgo data from S5 and VSR1 [Phys. Rev. D82, 102001 (2010)]. <i>Physical Review D</i> , 2012, 85, .	4.7	2
115	Observation of one-way Einstein-Podolsky-Rosen steering. <i>Nature Photonics</i> , 2012, 6, 596-599.	31.4	308
116	Search for gravitational waves from binary black hole inspiral, merger, and ringdown. <i>Physical Review D</i> , 2011, 83, .	4.7	85
117	Squeezed light at 1550 nm with a quantum noise reduction of 123 dB. <i>Optics Express</i> , 2011, 19, 25763.	3.4	171
118	High-efficiency frequency doubling of continuous-wave laser light. <i>Optics Letters</i> , 2011, 36, 3467.	3.3	42
119	SEARCH FOR GRAVITATIONAL WAVE BURSTS FROM SIX MAGNETARS. <i>Astrophysical Journal Letters</i> , 2011, 734, L35.	8.3	55
120	A gravitational wave observatory operating beyond the quantum shot-noise limit. <i>Nature Physics</i> , 2011, 7, 962-965.	16.7	716
121	Building blocks for future detectors: Silicon test masses and 1550 nm laser light. <i>Journal of Physics: Conference Series</i> , 2010, 228, 012029.	0.4	17
122	Search for gravitational waves from compact binary coalescence in LIGO and Virgo data from S5 and VSR1. <i>Physical Review D</i> , 2010, 82, .	4.7	111
123	Measuring small absorptions by exploiting photothermal self-phase modulation. <i>Applied Optics</i> , 2010, 49, 5391.	2.1	14
124	Demonstration of a quantum-enhanced fiber Sagnac interferometer. <i>Optics Letters</i> , 2010, 35, 1665.	3.3	34
125	Quantum Enhancement of the Zero-Area Sagnac Interferometer Topology for Gravitational Wave Detection. <i>Physical Review Letters</i> , 2010, 104, 251102.	7.8	250
126	Observation of cw squeezed light at 1550 nm. <i>Optics Letters</i> , 2009, 34, 1060.	3.3	24