Harald LÃ¼ck

List of Publications by Year
in descending order

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160	12,167	31976	25787
papers	citations	53 h-index	108 g-index

163	163	163	6390
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The Einstein Telescope: a third-generation gravitational wave observatory. Classical and Quantum Gravity, 2010, 27, 194002.	4.0	1,211
2	LIGO: the Laser Interferometer Gravitational-Wave Observatory. Reports on Progress in Physics, 2009, 72, 076901.	20.1	971
3	Enhanced sensitivity of the LIGO gravitational wave detector by using squeezed states of light. Nature Photonics, 2013, 7, 613-619.	31.4	825
4	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
5	Sensitivity studies for third-generation gravitational wave observatories. Classical and Quantum Gravity, 2011, 28, 094013.	4.0	644
6	Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo. Living Reviews in Relativity, 2016, 19, 1.	26.7	427
7	Scientific objectives of Einstein Telescope. Classical and Quantum Gravity, 2012, 29, 124013.	4.0	355
8	The third generation of gravitational wave observatories and their science reach. Classical and Quantum Gravity, 2010, 27, 084007.	4.0	287
9	The GEO 600 gravitational wave detector. Classical and Quantum Gravity, 2002, 19, 1377-1387.	4.0	284
10	Detector description and performance for the first coincidence observations between LIGO and GEO. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2004, 517, 154-179.	1.6	259
11	Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914. Classical and Quantum Gravity, 2016, 33, 134001.	4.0	225
12	Setting upper limits on the strength of periodic gravitational waves from PSRJ1939+2134using the first science data from the GEO 600 and LIGO detectors. Physical Review D, 2004, 69, .	4.7	165
13	Beating the Spin-Down Limit on Gravitational Wave Emission from the Crab Pulsar. Astrophysical Journal, 2008, 683, L45-L49.	4.5	160
14	Implications for the Origin of GRB 070201 from LIGO Observations. Astrophysical Journal, 2008, 681, 1419-1430.	4.5	143
15	Pulsed dye laser diagnostics of vacuum arc cathode spots. IEEE Transactions on Plasma Science, 1992, 20, 466-472.	1.3	142
16	The GEO-HF project. Classical and Quantum Gravity, 2006, 23, S207-S214.	4.0	133
17	Limits on Gravitational-Wave Emission from Selected Pulsars Using LIGO Data. Physical Review Letters, 2005, 94, 181103.	7.8	130
18	Searches for periodic gravitational waves from unknown isolated sources and Scorpius X-1: Results from the second LIGO science run. Physical Review D, 2007, 76, .	4.7	128

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19	Search for gravitational waves from binary inspirals in S3 and S4 LIGO data. Physical Review D, 2008, 77, .	4.7	126
20	Status of the GEO600 detector. Classical and Quantum Gravity, 2006, 23, S71-S78.	4.0	123
21	Observation of a kilogram-scale oscillator near its quantum ground state. New Journal of Physics, 2009, 11, 073032.	2.9	123
22	Upper limits on gravitational wave emission from 78 radio pulsars. Physical Review D, 2007, 76, .	4.7	121
23	Searching for a Stochastic Background of Gravitational Waves with the Laser Interferometer Gravitational-Wave Observatory. Astrophysical Journal, 2007, 659, 918-930.	4.5	120
24	Search for gravitational waves from low mass binary coalescences in the first year of LIGOâ€™s S5 data. Physical Review D, 2009, 79, .	4.7	120
25	The GEO600 project. Classical and Quantum Gravity, 1997, 14, 1471-1476.	4.0	116
26	All-sky search for periodic gravitational waves in LIGO S4 data. Physical Review D, 2008, 77, .	4.7	110
27	First upper limits from LIGO on gravitational wave bursts. Physical Review D, 2004, 69, .	4.7	108
28	Search for gravitational waves from low mass compact binary coalescence in 186 days of LIGOâ€™s fifth science run. Physical Review D, 2009, 80, .	4.7	105
29	Analysis of first LIGO science data for stochastic gravitational waves. Physical Review D, 2004, 69, .	4.7	96
30	Gravitational-wave physics and astronomy in the 2020s and 2030s. Nature Reviews Physics, 2021, 3, 344-366.	26.6	96
31	Upper limit map of a background of gravitational waves. Physical Review D, 2007, 76, .	4.7	90
32	SEARCH FOR GRAVITATIONAL-WAVE INSPIRAL SIGNALS ASSOCIATED WITH SHORT GAMMA-RAY BURSTS DURING LIGO'S FIFTH AND VIRGO'S FIRST SCIENCE RUN. Astrophysical Journal, 2010, 715, 1453-1461.	4.5	90
33	Upper Limits on a Stochastic Background of Gravitational Waves. Physical Review Letters, 2005, 95, 221101.	7.8	89
34	GEO 600 and the GEO-HF upgrade program: successes and challenges. Classical and Quantum Gravity, 2016, 33, 075009.	4.0	86
35	Status of GEO 600. Classical and Quantum Gravity, 2004, 21, S417-S423.	4.0	85
36	All-Sky LIGO Search for Periodic Gravitational Waves in the Early Fifth-Science-Run Data. Physical Review Letters, 2009, 102, 111102.	7.8	83

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37	Einstein@Home search for periodic gravitational waves in LIGO S4 data. Physical Review D, 2009, 79, .	4.7	83
38	GEO 600 triple pendulum suspension system: Seismic isolation and control. Review of Scientific Instruments, 2000, 71, 2539-2545.	1.3	81
39	Frequency-domain interferometer simulation with higher-order spatial modes. Classical and Quantum Gravity, 2004, 21, S1067-S1074.	4.0	81
40	Search for gravitational waves from primordial black hole binary coalescences in the galactic halo. Physical Review D, 2005, 72, .	4.7	79
41	Search for gravitational-wave bursts in the first year of the fifth LIGO science run. Physical Review D, 2009, 80, .	4.7	79
42	The upgrade of GEO 600. Journal of Physics: Conference Series, 2010, 228, 012012.	0.4	79
43	Search for gravitational-wave bursts in LIGO data from the fourth science run. Classical and Quantum Gravity, 2007, 24, 5343-5369.	4.0	78
44	Einstein@Home search for periodic gravitational waves in early S5 LIGO data. Physical Review D, 2009, 80, .	4.7	78
45	Advanced techniques in GEO 600. Classical and Quantum Gravity, 2014, 31, 224002.	4.0	77
46	Search for gravitational waves from binary black hole inspirals in LIGO data. Physical Review D, 2006, 73, .	4.7	75
47	Search for gravitational waves associated with the gamma ray burst GRB030329 using the LIGO detectors. Physical Review D, 2005, 72, .	4.7	74
48	Search for Gravitational-Wave Bursts from Soft Gamma Repeaters. Physical Review Letters, 2008, 101, 211102.	7.8	69
49	The basic physics of the binary black hole merger GW150914. Annalen Der Physik, 2017, 529, 1600209.	2.4	69
50	DC-readout of a signal-recycled gravitational wave detector. Classical and Quantum Gravity, 2009, 26, 055012.	4.0	64
51	Frequency-Dependent Squeezed Vacuum Source for Broadband Quantum Noise Reduction in Advanced Gravitational-Wave Detectors. Physical Review Letters, 2020, 124, 171101.	7.8	63
52	Search for gravitational waves associated with 39 gamma-ray bursts using data from the second, third, and fourth LIGO runs. Physical Review D, 2008, 77, .	4.7	60
53	Upper limits on gravitational wave bursts in LIGOâ€™s second science run. Physical Review D, 2005, 72, .	4.7	57
54	Search of S3 LIGO data for gravitational wave signals from spinning black hole and neutron star binary inspirals. Physical Review D, 2008, 78, .	4.7	54

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55	Search for gravitational waves associated with the August 2006 timing glitch of the Vela pulsar. Physical Review D, 2011, 83, .	4.7	54
56	Search for Gravitational Waves Associated with Gamma-Ray Bursts during the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B. Astrophysical Journal, 2017, 841, 89.	4.5	52
57	Search for gravitational wave radiation associated with the pulsating tail of the SGR<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mn>1806</mml:mn><mml:mo>â^'</mml:mo><mml:mn>20</mml:mn></mml:math>hyperflare of 27 December 2004 using LIGO. Physical Review D, 2007, 76, .	4.7	51
58	First Demonstration of 6ÂdB Quantum Noise Reduction in a Kilometer Scale Gravitational Wave Observatory. Physical Review Letters, 2021, 126, 041102.	7.8	50
59	Upper limits from the LIGO and TAMA detectors on the rate of gravitational-wave bursts. Physical Review D, 2005, 72, .	4.7	49
60	First LIGO search for gravitational wave bursts from cosmic (super)strings. Physical Review D, 2009, 80, .	4.7	45
61	STACKED SEARCH FOR GRAVITATIONAL WAVES FROM THE 2006 SGR 1900+14 STORM. Astrophysical Journal, 2009, 701, L68-L74.	4.5	45
62	Direct limits for scalar field dark matter from a gravitational-wave detector. Nature, 2021, 600, 424-428.	27.8	43
63	Thermal correction of the radii of curvature of mirrors for GEO 600. Classical and Quantum Gravity, 2004, 21, S985-S989.	4.0	42
64	Joint LIGO and TAMA300 search for gravitational waves from inspiralling neutron star binaries. Physical Review D, 2006, 73, .	4.7	40
65	Search for gravitational-wave bursts in LIGO's third science run. Classical and Quantum Gravity, 2006, 23, S29-S39.	4.0	40
66	Search for gravitational wave ringdowns from perturbed black holes in LIGO S4 data. Physical Review D, 2009, 80, .	4.7	38
67	Correction of wavefront distortions by means of thermally adaptive optics. Optics Communications, 2000, 175, 275-287.	2.1	36
68	Dual recycling for GEO 600. Classical and Quantum Gravity, 2004, 21, S473-S480.	4.0	35
69	First cross-correlation analysis of interferometric and resonant-bar gravitational-wave data for stochastic backgrounds. Physical Review D, 2007, 76, .	4.7	35
70	Search for high frequency gravitational-wave bursts in the first calendar year of LIGOâ€™s fifth science run. Physical Review D, 2009, 80, .	4.7	32
71	Power recycling in the Garching 30 m prototype interferometer for gravitational-wave detection. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 225, 210-216.	2.1	30
72	Design of a speed meter interferometer proof-of-principle experiment. Classical and Quantum Gravity, 2014, 31, 215009.	4.0	29

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73	Vacuum arc cathode spot parameters from highâ€resolution luminosity measurements. Journal of Applied Physics, 1992, 71, 4763-4770.	2.5	28
74	Charge measurement and mitigation for the main test masses of the GEO 600 gravitational wave observatory. Classical and Quantum Gravity, 2007, 24, 6379-6391.	4.0	28
75	Mode-cleaning and injection optics of the gravitational-wave detector GEO600. Review of Scientific Instruments, 2003, 74, 3787-3795.	1.3	27
76	The status of GEO 600. Classical and Quantum Gravity, 2005, 22, S193-S198.	4.0	27
77	Measurement of a low-absorption sample of OH-reduced fused silica. Applied Optics, 2006, 45, 7269.	2.1	27
78	Demonstration and comparison of tuned and detuned signal recycling in a large-scale gravitational wave detector. Classical and Quantum Gravity, 2007, 24, 1513-1523.	4.0	27
79	Damping and tuning of the fibre violin modes in monolithic silica suspensions. Classical and Quantum Gravity, 2004, 21, S923-S933.	4.0	26
80	Astrophysically triggered searches for gravitational waves: status and prospects. Classical and Quantum Gravity, 2008, 25, 114051.	4.0	26
81	The AEI 10 m prototype interferometer. Classical and Quantum Gravity, 2010, 27, 084023.	4.0	25
82	High-resolution imaging of vacuum arc cathode spots. IEEE Transactions on Plasma Science, 1996, 24, 69-70.	1.3	24
83	Mechanical quality factor measurements of monolithically suspended fused silica test masses of the GEO 600 gravitational wave detector. Classical and Quantum Gravity, 2004, 21, S1091-S1098.	4.0	22
84	First joint search for gravitational-wave bursts in LIGO and GEO 600 data. Classical and Quantum Gravity, 2008, 25, 245008.	4.0	22
85	The modecleaner system and suspension aspects of GEO 600. Classical and Quantum Gravity, 2002, 19, 1835-1842.	4.0	21
86	Demonstration of detuned dual recycling at the Garching 30Âm laser interferometer. Physics Letters, Section A: General, Atomic and Solid State Physics, 2000, 277, 135-142.	2.1	20
87	Optimal time-domain combination of the two calibrated output quadratures of GEO 600. Classical and Quantum Gravity, 2005, 22, 4253-4261.	4.0	20
88	Linear projection of technical noise for interferometric gravitational-wave detectors. Classical and Quantum Gravity, 2006, 23, 527-537.	4.0	20
89	AIGO: a southern hemisphere detector for the worldwide array of ground-based interferometric gravitational wave detectors. Classical and Quantum Gravity, 2010, 27, 084005.	4.0	20
90	Alignment control of GEO 600. Classical and Quantum Gravity, 2004, 21, S441-S449.	4.0	19

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91	Small volume coaxial discharge as precision testbed for 0D-models of XeCl lasers. Applied Physics B, Photophysics and Laser Chemistry, 1992, 54, 295-302.	1.5	18
92	Seismic isolation and suspension systems for Advanced LIGO. , 2004, , .		18
93	Thickness uniformity measurements and damage threshold tests of large-area GaAs/AlGaAs crystalline coatings for precision interferometry. Optics Express, 2019, 27, 36731.	3.4	18
94	Silica research in Glasgow. Classical and Quantum Gravity, 2002, 19, 1655-1662.	4.0	17
95	A photon pressure calibrator for the GEO 600 gravitational wave detector. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 353, 1-3.	2.1	17
96	Building blocks for future detectors: Silicon test masses and 1550 nm laser light. Journal of Physics: Conference Series, 2010, 228, 012029.	0.4	17
97	Detuned Twin-Signal-Recycling for ultrahigh-precision interferometers. Optics Letters, 2007, 32, 985.	3.3	16
98	A joint search for gravitational wave bursts with AURIGA and LIGO. Classical and Quantum Gravity, 2008, 25, 095004.	4.0	16
99	Data acquisition and detector characterization of GEO600. Classical and Quantum Gravity, 2002, 19, 1399-1407.	4.0	15
100	Calibration of the dual-recycled GEO 600 detector for the S3 science run. Classical and Quantum Gravity, 2004, 21, S1711-S1722.	4.0	15
101	Commissioning, characterization and operation of the dual-recycled GEO 600. Classical and Quantum Gravity, 2004, 21, S1737-S1745.	4.0	15
102	Photon-pressure-induced test mass deformation in gravitational-wave detectors. Classical and Quantum Gravity, 2007, 24, 5681-5688.	4.0	15
103	The GEO 600 core optics. Optics Communications, 2007, 280, 492-499.	2.1	15
104	The automatic alignment system of GEO 600. Classical and Quantum Gravity, 2002, 19, 1849-1855.	4.0	14
105	Thermal noise of folding mirrors. Physical Review D, 2014, 90, .	4.7	14
106	High power and ultra-low-noise photodetector for squeezed-light enhanced gravitational wave detectors. Optics Express, 2016, 24, 20107.	3.4	14
107	Seismic attenuation system for the AEI 10 meter Prototype. Classical and Quantum Gravity, 2012, 29, 245007.	4.0	13
108	Design of the 10 m AEI prototype facility for interferometry studies. Applied Physics B: Lasers and Optics, 2012, 106, 551-557.	2.2	13

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109	Huddle test measurement of a near Johnson noise limited geophone. Review of Scientific Instruments, 2017, 88, 115008.	1.3	13
110	Performance of a 1200 m long suspended Fabryâ€“Perot cavity. Classical and Quantum Gravity, 2002, 19, 1389-1397.	4.0	12
111	Matrix heater in the gravitational wave observatory GEO 600. Optics Express, 2018, 26, 22687.	3.4	12
112	Signal based vetoes for the detection of gravitational waves from inspiralling compact binaries. Physical Review D, 2005, 72, .	4.7	11
113	The output mode cleaner of GEO 600. Classical and Quantum Gravity, 2012, 29, 055009.	4.0	11
114	Birefringence measurements on crystalline silicon. Classical and Quantum Gravity, 2016, 33, 015012.	4.0	11
115	Results from the first burst hardware injections performed on GEO 600. Classical and Quantum Gravity, 2005, 22, 3015-3028.	4.0	9
116	Optical layout for a 10 m Fabryâ€“Perot Michelson interferometer with tunable stability. Classical and Quantum Gravity, 2012, 29, 075003.	4.0	9
117	Status of the GEO 600 squeezed-light laser. Journal of Physics: Conference Series, 2012, 363, 012013.	0.4	8
118	Thermal correction of astigmatism in the gravitational wave observatory GEOâ€‰600. Classical and Quantum Gravity, 2014, 31, 065008.	4.0	8
119	Bilinear noise subtraction at the GEO 600 observatory. Physical Review D, 2020, 101, .	4.7	8
120	Opto-mechanical frequency shifting of scattered light. Journal of Optics, 2008, 10, 085004.	1.5	7
121	Toward a third generation of gravitational wave observatories. General Relativity and Gravitation, 2011, 43, 363-385.	2.0	6
122	Eigenmode changes in a misaligned triangular optical cavity. Journal of Optics (United Kingdom), 2011, 13, 055504.	2.2	6
123	Analysis of a four-mirror-cavity enhanced Michelson interferometer. Physical Review E, 2005, 72, 066615.	2.1	5
124	Control and automatic alignment of the output mode cleaner of GEO 600. Journal of Physics: Conference Series, 2010, 228, 012014.	0.4	5
125	Commissioning of the tuned DC readout at GEO 600. Journal of Physics: Conference Series, 2010, 228, 012013.	0.4	5
126	Rayleigh scattering in fused silica samples for gravitational wave detectors. Optics Communications, 2011, 284, 4732-4737.	2.1	5

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127	Indium joints for cryogenic gravitational wave detectors. Classical and Quantum Gravity, 2015, 32, 245013.	4.0	5
128	Towards measuring the off-resonant thermal noise of a pendulum mirror. Classical and Quantum Gravity, 2002, 19, 1717-1721.	4.0	4
129	The Hannover thermal noise experiment. Classical and Quantum Gravity, 2004, 21, S1127-S1131.	4.0	4
130	Upper limits on the strength of periodic gravitational waves from PSR J1939+2134. Classical and Quantum Gravity, 2004, 21, S671-S676.	4.0	4
131	Automatic beam alignment for the mode-cleaner cavities of GEO 600. Applied Optics, 2004, 43, 1938.	2.1	4
132	A new method for the absolute amplitude calibration of GEOâ€‰600. Classical and Quantum Gravity, 2012, 29, 065001.	4.0	4
133	Status of the AEI 10 m prototype. Classical and Quantum Gravity, 2012, 29, 145005.	4.0	4
134	Passive-performance, analysis, and upgrades of a 1-ton seismic attenuation system. Classical and Quantum Gravity, 2017, 34, 065002.	4.0	4
135	Measurement and simulation of laser power noise in GEO 600. Classical and Quantum Gravity, 2008, 25, 035003.	4.0	3
136	The status of GEO600. AIP Conference Proceedings, 2000, , .	0.4	2
137	The status of GEO 600. , 2004, , .		2
138	Feedforward correction of mirror misalignment fluctuations for the GEO 600 gravitational wave detector. Classical and Quantum Gravity, 2005, 22, 3093-3104.	4.0	2
139	Designs of the frequency reference cavity for the AEI 10 m Prototype interferometer. Journal of Physics: Conference Series, 2010, 228, 012028.	0.4	2
140	Towards a Suspension Platform Interferometer for the AEI 10 m Prototype Interferometer. Journal of Physics: Conference Series, 2010, 228, 012027.	0.4	2
141	Third generation gravitational-wave observatories and their science reach. General Relativity and Gravitation, 2011, 43, 361-362.	2.0	2
142	Publisherâ€™s Note: Search for gravitational waves associated with the August 2006 timing glitch of the Vela pulsar [Phys. Rev. D83, 042001 (2011)]. Physical Review D, 2012, 85, .	4.7	2
143	Concepts and research for future detectors. General Relativity and Gravitation, 2014, 46, 1.	2.0	2
144	Improving the stability of frequency-dependent squeezing with bichromatic control of filter cavity length, alignment, and incident beam pointing. Physical Review D, 2022, 105, .	4.7	2

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145	The GEO 600 stabilized laser system and the current-lock technique. AIP Conference Proceedings, 2000, , .	0.4	1
146	Detecting gravitational waves. , 2004, , .		1
147	The AEI 10 m Prototype Interferometer frequency control using the reference cavity and its angular control. Journal of Physics: Conference Series, 2012, 363, 012012.	0.4	1
148	Costâ€“benefit analysis for commissioning decisions in GEO 600. Classical and Quantum Gravity, 2015, 32, 135014.	4.0	1
149	An algorithm to compute the transfer function of a mechanical system. Classical and Quantum Gravity, 2004, 21, S1247-S1251.	4.0	0
150	Publisherâ€™s Note: First cross-correlation analysis of interferometric and resonant-bar gravitational-wave data for stochastic backgrounds [Phys. Rev. DPRVDAQ0556-282176, 022001 (2007)]. Physical Review D, 2007, 76, .	4.7	0
151	Publisherâ€™s Note: Upper limit map of a background of gravitational waves [Phys. Rev. D76, 082003 (2007)]. Physical Review D, 2008, 77, .	4.7	0
152	Publisherâ€™s Note: Upper limits on gravitational wave emission from 78 radio pulsars [Phys. Rev. D76, 042001 (2007)]. Physical Review D, 2008, 77, .	4.7	0
153	Publisherâ€™s Note: All-sky search for periodic gravitational waves in LIGO S4 data [Phys. Rev. D77, 022001 (2008)]. Physical Review D, 2008, 77, .	4.7	0
154	Publisherâ€™s Note: First cross-correlation analysis of interferometric and resonant-bar gravitational-wave data for stochastic backgrounds [Phys. Rev. D76, 022001 (2007)]. Physical Review D, 2008, 77, .	4.7	0
155	Publisherâ€™s Note: Search for gravitational waves associated with the August 2006 timing glitch of the Vela pulsar [Phys. Rev. D83, 042001 (2011)]. Physical Review D, 2011, 83, .	4.7	0
156	GEO 600. , 0, , 155-168.		0
157	ET: A third generation observatory. , 0, , 298-316.		0
158	Length sensing and control for Einstein Telescope Low Frequency. Journal of Physics: Conference Series, 2016, 716, 012030.	0.4	0
159	GEO 600 - RESEARCH, PROGRESS AND PROSPECTS. , 2002, , 1845-1846.		0
160	THE EINSTEIN TELESCOPE ET. , 2012, , .		0