David J Ottaway

List of Publications by Year
in descending order

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141 papers	8,531 citations	44069 48 h-index	43889 91 g-index
141 all docs	141 docs citations	141 times ranked	6750 citing authors

#	Article	IF	Citations
1	Enhanced sensitivity of the LIGO gravitational wave detector by using squeezed states of light. Nature Photonics, 2013, 7, 613-619.	31.4	825
2	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
3	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
4	Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo. Living Reviews in Relativity, 2016, 19, 1.	26.7	427
5	Quantum-Enhanced Advanced LIGO Detectors in the Era of Gravitational-Wave Astronomy. Physical Review Letters, 2019, 123, 231107.	7.8	359
6	An All-Optical Trap for a Gram-Scale Mirror. Physical Review Letters, 2007, 98, 150802.	7.8	318
7	Sensitivity of the Advanced LIGO detectors at the beginning of gravitational wave astronomy. Physical Review D, 2016, 93, .	4.7	286
8	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
9	Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914. Classical and Quantum Gravity, 2016, 33, 134001.	4.0	225
10	Sensitivity and performance of the Advanced LIGO detectors in the third observing run. Physical Review D, 2020, 102, .	4.7	196
11	Optical Dilution and Feedback Cooling of a Gram-Scale Oscillator to 6.9ÂmK. Physical Review Letters, 2007, 99, 160801.	7.8	193
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	Mid-infrared fiber lasers at and beyond 35Âμm using dual-wavelength pumping. Optics Letters, 2014, 39, 493.	3.3	150
14	Stable, Single Frequency Er:YAG Lasers at 1.6 mum. IEEE Journal of Quantum Electronics, 2010, 46, 1039-1042.	1.9	146
15	Analysis of LIGO data for gravitational waves from binary neutron stars. Physical Review D, 2004, 69, .	4.7	145
16	Seismic isolation of Advanced LIGO: Review of strategy, instrumentation and performance. Classical and Quantum Gravity, 2015, 32, 185003.	4.0	141
17	Measurement of radiation-pressure-induced optomechanical dynamics in a suspended Fabry-Perot cavity. Physical Review A, 2006, 74, .	2.5	136
18	Versatile and widely tunable mid-infrared erbium doped ZBLAN fiber laser. Optics Letters, 2016, 41, 1676.	3.3	131

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19	Limits on Gravitational-Wave Emission from Selected Pulsars Using LIGO Data. Physical Review Letters, 2005, 94, 181103.	7.8	130
20	A cryogenic silicon interferometer for gravitational-wave detection. Classical and Quantum Gravity, 2020, 37, 165003.	4.0	120
21	Neutron Star Extreme Matter Observatory: A kilohertz-band gravitational-wave detector in the global network. Publications of the Astronomical Society of Australia, 2020, 37, .	3.4	114
22	Search for gravitational waves from galactic and extra-galactic binary neutron stars. Physical Review D, 2005, 72, .	4.7	109
23	First upper limits from LIGO on gravitational wave bursts. Physical Review D, 2004, 69, .	4.7	108
24	Challenges and opportunities of gravitational-wave searches at MHz to GHz frequencies. Living Reviews in Relativity, 2021, 24, 1.	26.7	105
25	Identification and mitigation of narrow spectral artifacts that degrade searches for persistent gravitational waves in the first two observing runs of Advanced LIGO. Physical Review D, 2018, 97, .	4.7	104
26	Analysis of first LIGO science data for stochastic gravitational waves. Physical Review D, 2004, 69, .	4.7	96
27	Squeezed-state source using radiation-pressure-induced rigidity. Physical Review A, 2006, 73, .	2.5	92
28	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
29	Upper Limits on a Stochastic Background of Gravitational Waves. Physical Review Letters, 2005, 95, 221101.	7.8	89
30	Search for gravitational waves from primordial black hole binary coalescences in the galactic halo. Physical Review D, 2005, 72, .	4.7	79
31	Improving astrophysical parameter estimation via offline noise subtraction for Advanced LIGO. Physical Review D, 2019, 99, .	4.7	77
32	Search for gravitational waves associated with the gamma ray burst GRB030329 using the LIGO detectors. Physical Review D, 2005, 72, .	4.7	74
33	Impact of upconverted scattered light on advanced interferometric gravitational wave detectors. Optics Express, 2012, 20, 8329.	3.4	73
34	Roadmap on optical sensors. Journal of Optics (United Kingdom), 2017, 19, 083001.	2.2	70
35	The basic physics of the binary black hole merger GW150914. Annalen Der Physik, 2017, 529, 1600209.	2.4	69
36	Advanced LIGO two-stage twelve-axis vibration isolation and positioning platform. Part 1: Design and production overview. Precision Engineering, 2015, 40, 273-286.	3.4	66

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37	Resonantly diode-pumped continuous-wave and Q-switched Er:YAG laser at 1645 nm. Optics Express, 2010, 18, 13673.	3.4	65
38	Energy level decay and excited state absorption processes in erbium-doped tellurite glass. Journal of Applied Physics, 2011, 110, .	2.5	63
39	Recent Advances in 3.5 <i>Î¼</i>m Erbium-Doped Mid-Infrared Fiber Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 6-14.	2.9	59
40	Approaching the motional ground state of a 10-kg object. Science, 2021, 372, 1333-1336.	12.6	59
41	Active correction of thermal lensing through external radiative thermal actuation. Optics Letters, 2004, 29, 2635.	3.3	58
42	Seismic isolation enhancements for initial and advanced LIGO. Classical and Quantum Gravity, 2004, 21, S915-S921.	4.0	53
43	Overview of Advanced LIGO adaptive optics. Applied Optics, 2016, 55, 8256.	2.1	53
44	New energy-transfer upconversion process in Er^3+:ZBLAN mid-infrared fiber lasers. Optics Express, 2016, 24, 6869.	3.4	52
45	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
46	Gain-switched holmium-doped fibre laser. Optics Express, 2009, 17, 20872.	3.4	51
47	Actively Q-switched dual-wavelength pumped Er³⁺â€‰:ZBLAN fiber laser at 347â€‰Âµm. Optics Letters, 2018, 43, 2724.	3.3	49
48	Reducing scattered light in LIGOâ€™s third observing run. Classical and Quantum Gravity, 2021, 38, 025016.	4.0	49
49	Advanced LIGO two-stage twelve-axis vibration isolation and positioning platform. Part 2: Experimental investigation and tests results. Precision Engineering, 2015, 40, 287-297.	3.4	44
50	Mode-locked and tunable fiber laser at the 3.5â€‰â€‰Âµm band using frequency-shifted feedback. Optics Letters, 2020, 45, 224.	3.3	44
51	Search for gravitational-wave bursts in LIGO's third science run. Classical and Quantum Gravity, 2006, 23, S29-S39.	4.0	40
52	Numerical Modeling of <inline-formula> <tex-math notation="LaTeX">$3.5~ {mu }ext{m}$ </tex-math> </inline-formula> Dual-Wavelength Pumped Erbium-Doped Mid-Infrared Fiber Lasers. IEEE Journal of Quantum Electronics, 2016, 52, 1-12.	1.9	36
53	The Seismic Attenuation System (SAS) for the Advanced LIGO gravitational wave interferometric detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 598, 737-753.	1.6	34
54	Two-photon absorption and saturable absorption of mid-IR in graphene. Applied Physics Letters, 2019, 114, .	3.3	29

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55	Solid-state laser intensity stabilization at the 10^-8 level. Optics Letters, 2004, 29, 1876.	3.3	28
56	Ultrafast 3.5â€‰â€‰Âµm fiber laser. Optics Letters, 2021, 46, 1636.	3.3	27
57	First Demonstration of Electrostatic Damping of Parametric Instability at Advanced LIGO. Physical Review Letters, 2017, 118, 151102.	7.8	24
58	Point absorbers in Advanced LIGO. Applied Optics, 2021, 60, 4047.	1.8	24
59	High-power diode-laser-pumped CW solid-state lasers using stable-unstable resonators. IEEE Journal of Selected Topics in Quantum Electronics, 1997, 3, 19-25.	2.9	20
60	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
61	Extruded Microstructured Fiber Lasers. IEEE Photonics Technology Letters, 2012, 24, 578-580.	2.5	20
62	First joint observation by the underground gravitational-wave detector KAGRA with GEO 600. Progress of Theoretical and Experimental Physics, 2022, 2022, .	6.6	20
63	Cryogenic, high power, near diffraction limited, Yb:YAG slab laser. Optics Express, 2013, 21, 6973.	3.4	19
64	LIGOâ€™s quantum response to squeezed states. Physical Review D, 2021, 104, .	4.7	19
65	Frequency-resolving spatiotemporal wave-front sensor. Optics Letters, 2004, 29, 1452.	3.3	18
66	Seismic isolation and suspension systems for Advanced LIGO. , 2004, , .		18
67	Machine learning for sensing with a multimode exposed core fiber specklegram sensor. Optics Express, 2022, 30, 10443.	3.4	18
68	High dynamic range thermally actuated bimorph mirror for gravitational wave detectors. Applied Optics, 2020, 59, 2784.	1.8	17
69	Quantum correlation measurements in interferometric gravitational-wave detectors. Physical Review A, 2017, 95, .	2.5	16
70	A practical review of shorter than excitation wavelength light emission processes. Applied Spectroscopy Reviews, 2020, 55, 327-349.	6.7	16
71	Optical lock-in camera for gravitational wave detectors. Optics Express, 2020, 28, 14405.	3.4	16
72	Transmission loss measurements of plastic scintillating optical fibres. Optical Materials Express, 2019, 9, 1.	3.0	16

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73	Compact cavity-dumped Q-switched Er:YAG laser. Optics Letters, 2016, 41, 4309.	3.3	15
74	Short-pulse actively Q-switched Er:YAG lasers. Optics Express, 2016, 24, 15341.	3.4	15
75	High-power Nd:YAG lasers using stableâ€“unstable resonators. Classical and Quantum Gravity, 2002, 19, 1783-1792.	4.0	14
76	Self-pulsing in Tm-doped<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>YAlO</mml:mi><mml:mn>3</mml:mn></mml:msub></mm Excited-state absorption and chaos. Physical Review A, 2015, 91, .	2.5	13
77	Alpha particle autoradiography for high spatial resolution mapping of radionuclides. Journal of Environmental Radioactivity, 2019, 197, 9-15.	1.7	12
78	Search for continuous gravitational waves from ten H.E.S.S. sources using a hidden Markov model. Physical Review D, 2021, 103, .	4.7	11
79	Improving the robustness of the advanced LIGO detectors to earthquakes. Classical and Quantum Gravity, 2020, 37, 235007.	4.0	11
80	Effects of electrical charging on the mechanical Q of a fused silica disk. Review of Scientific Instruments, 2003, 74, 4840-4845.	1.3	10
81	In situ measurement of absorption in high-power interferometers by using beam diameter measurements. Optics Letters, 2006, 31, 450.	3.3	10
82	Understanding the mobility and retention of uranium and its daughter products. Journal of Hazardous Materials, 2021, 410, 124553.	12.4	9
83	Hydraulic external pre-isolator system for LIGO. Classical and Quantum Gravity, 2014, 31, 235001.	4.0	8
84	Mode matching error signals using radio-frequency beam shape modulation. Applied Optics, 2020, 59, 9884.	1.8	8
85	Mechanical loss of laser-welded fused silica fibers. Review of Scientific Instruments, 2006, 77, 023906.	1.3	7
86	Recent results of a seismically isolated optical table prototype designed for advanced LIGO. Journal of Physics: Conference Series, 2008, 122, 012010.	0.4	7
87	New class of optical beams for large baseline interferometric gravitational wave detectors. Physical Review D, 2013, 88, .	4.7	7
88	In-fiber measurement of the erbium-doped ZBLAN ⁴I_{13/2} state energy transfer parameter. Journal of the Optical Society of America B: Optical Physics, 2021, 38, 415.	2.1	7
89	Second-generation laser interferometry for gravitational wave detection: ACIGA progress. Classical and Quantum Gravity, 2001, 18, 4121-4126.	4.0	6
90	The Verdet constant of Er-doped crystalline YAG and tellurite glass at 1645 nm. Applied Physics B: Lasers and Optics, 2012, 106, 429-433.	2.2	6

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91	Effects of transients in LIGO suspensions on searches for gravitational waves. Review of Scientific Instruments, 2017, 88, 124501.	1.3	6
92	Luminescence effects in reactive powder sintered silica glasses for radiation sensing. Journal of the American Ceramic Society, 2019, 102, 222-238.	3.8	6
93	Australian Lidar Measurements of Aerosol Layers Associated with the 2015 Calbuco Eruption. Atmosphere, 2020, 11, 124.	2.3	6
94	Practical test mass and suspension configuration for a cryogenic kilohertz gravitational wave detector. Physical Review D, 2020, 102, .	4.7	6
95	Single-pulse measurement of wind velocities using an Er:Yb:glass coherent laser radar. Applied Optics, 2011, 50, 4017.	2.1	5
96	Modeling circulating cavity fields using the discrete linear canonical transform. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2021, 38, 1293.	1.5	5
97	Modal decomposition of complex optical fields using convolutional neural networks. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2021, 38, 1603.	1.5	5
98	High Power Lasers and Novel Optics for Laser Interferometric Gravitational Wave Detectors. Australian Journal of Physics, 1995, 48, 999.	0.6	5
99	A Higher Power 3.5 Î¼m Fibre Laser. , 2014, , .		5
100	Upper limits on the strength of periodic gravitational waves from PSR J1939+2134. Classical and Quantum Gravity, 2004, 21, S671-S676.	4.0	4
101	Air-Clad Holmium-Doped Silica Fiber Laser. IEEE Journal of Quantum Electronics, 2016, 52, 1-8.	1.9	4
102	A fibre optic based approach and device for sensing beta radiation in liquids. Sensors and Actuators A: Physical, 2019, 296, 101-109.	4.1	4
103	A fibre optic based approach and device for sensing alpha particles in liquids. Sensors and Actuators A: Physical, 2019, 299, 111573.	4.1	4
104	Q-switched dual-wavelength pumped 3.5-Âµm erbium-doped mid-infrared fiber laser. , 2018, , .		4
105	High-transmission fiber ring resonator for spectral filtering of master oscillator power amplifiers. OSA Continuum, 2019, 2, 2487.	1.8	3
106	Suppression of self-pulsing in Tm:YAlO3 lasers via current feedback. Applied Physics B: Lasers and Optics, 2014, 114, 415-419.	2.2	2
107	Modeling thermoelastic distortion of optics using elastodynamic reciprocity. Physical Review D, 2015, 92, .	4.7	2
108	Evaluation of the signal quality of an inexpensive CMOS camera towards imaging a high-resolution plastic scintillation detector array. Radiation Measurements, 2017, 104, 22-31.	1.4	2

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109	Differential wavefront sensing and control using radio-frequency optical demodulation. Optics Express, 2021, 29, 15995.	3.4	2
110	Evaluating the energy dependence of various polystyrene based plastic scintillators. Radiation Measurements, 2019, 122, 57-62.	1.4	1
111	Modelling and optimisation of a dual-wavelength pumped 3.5 Î¼m fibre laser at the watt level. , 2016, , .		1
112	Wavelength Tunable Mid-infrared Er3+:ZBLAN Fiber Laser at 3.5 Î¼m using Dual Wavelength Pumping. , 2015, , .		1
113	High Peak Power, Short Pulse Duration Er:YAG Lasers using Q-Switching and Cavity Dumping. , 2016, , .		1
114	Hartmann Wavefront Sensors for Advanced LIGO. , 2018, , .		1
115	Erbium-doped mid-infrared fiber lasers. , 2019, , .		1
116	Observing the optical modes of parametric instability. Optics Letters, 2022, 47, 1685.	3.3	1
117	Quiet Hydraulic Actuators for LIGO. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 259-265.	0.4	0
118	Toward the Quantum Ground State of a Gram-scale Object. , 2007, , .		0
119	Progress and Challenges Developing a Coating for Next Generation Gravitational-wave Detectors. , 2007, , .		0
120	A cryogenic, end pumped, zigzag slab laser suitable for power scaling. , 2011, , .		0
121	Suppression of self-pulsing behaviour in Tm:YAlO<inf>3</inf> lasers via pump diode-current feedback. , 2011, , .		0
122	Cryogenic, Conduction Cooled, End Pumped, Zigzag Slab Laser, Suitable for Power Scaling. , 2012, , .		0
123	Mid-Infrared Er³⁺:ZBLAN Waveguide Using ZBLAN Glass Extrusion, Femto-Second Inscription and Dual-Wavelength Pumping for the Generation of 3.5 Âµm Lasing. , 2020, , .		0
124	Sub-picosecond Fiber Laser at 3.5 Âµm. , 2021, , .		0
125	Quantification of radionuclide distribution and migration during Cu-(Fe)-sulphide mineral processing by alpha particle autoradiography. Journal of Environmental Radioactivity, 2021, 228, 106514.	1.7	0
126	THE LIGO GRAVITATIONAL WAVE OBSERVATORIES: RECENT RESULTS AND FUTURE PLANS. , 2006, , .		0

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127	Modelling and Fabrication of a Leaky Mode Depressed Clad Ho3+ Fiber. , 2012, , .		0
128	Development of Efficient Mid-infrared 3.5Î¼m Fiber Laser. , 2013, , .		0
129	Erbium-doped Mid-Infrared Fiber Lasers. , 2016, , .		0
130	High peak power, short pulse duration Er:YAG lasers and applications. , 2019, , .		0
131	Mid-IR laser for wavefront correction in gravitational wave detectors. , 2019, , .		0
132	Mode matching error signal from radio frequency waist size and position modulation. , 2019, , .		0
133	High precision measurement of optical absorption in low-OH fused silica at 2 micron. , 2019, , .		0
134	High sensitivity measurement of thermal distortion in low-loss optical materials. , 2020, , .		0
135	Determining the advantage of quantum radar. , 2020, , .		0
136	High Bandwidth Phase-Locking for Low-Noise Applications. , 2020, , .		0
137	Q-switched and Mode-locked 3.5 Î¼m Fiber Laser. , 2020, , .		0
138	High-power continuous wave mid-infrared fluoride glass fiber lasers. , 2022, , 505-595.		0
139	Numerical optimization of high power 3.5 Î¼m erbium-doped mid-infrared fiber laser and amplifiers. , 2022, , .		0
140	Absorption and thermal issues. , 0, , 145-162.		0
141	Gravitational wave detection. , 0, , 216-236.		0