

Nathan R Newbury

List of Publications by Year in descending order

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133
papers

6,960
citations

92079

37
h-index

83414

72
g-index

138
all docs

138
docs citations

138
times ranked

4993
citing authors

#	ARTICLE	IF	CITATIONS
1	Application of quantum-limited optical time transfer to space-based optical clock comparisons and coherent networks. <i>APL Photonics</i> , 2024, 9, .	5.5	2
2	Optical atomic clock aboard an Earth-orbiting space station (OACESS): enhancing searches for physics beyond the standard model in space. <i>Quantum Science and Technology</i> , 2023, 8, 014003.	5.9	12
3	Quantum-limited optical time transfer for future geosynchronous links. <i>Nature</i> , 2023, 618, 721-726.	36.2	20
4	Fundamental physics with a state-of-the-art optical clock in space. <i>Quantum Science and Technology</i> , 2022, 7, 044002.	5.9	25
5	The time-programmable frequency comb and its use in quantum-limited ranging. <i>Nature</i> , 2022, 610, 667-673.	36.2	51
6	Mid-infrared dual frequency comb spectroscopy for combustion analysis from 2.8 to 5 μm . <i>Proceedings of the Combustion Institute</i> , 2021, 38, 1627-1635.	4.5	31
7	Fiber Laser Based Dual-Comb Spectroscopy with Dynamically Controlled Spectral Resolution. , 2021, , .		1
8	Feedlot-produced ammonia emissions quantified using dual-comb spectroscopy. , 2021, , .		0
9	Precise multispecies agricultural gas flux determined using broadband open-path dual-comb spectroscopy. <i>Science Advances</i> , 2021, 7, .	10.9	39
10	Scaling up Frequency-Comb-Based Optical Time Transfer to Long Terrestrial Distances. <i>Physical Review Applied</i> , 2021, 15, .	3.8	8
11	Open-Path Dual-Comb Spectroscopy for Multispecies Trace Gas Detection in the 4.5 μm Spectral Region. <i>Laser and Photonics Reviews</i> , 2021, 15, 2000583.	10.1	23
12	Broadband dual-comb spectroscopy for open-path field measurement of H ₂ O and H ₂ O. , 2021, , .		0
13	Optical time-frequency transfer across a free-space, three-node network. <i>APL Photonics</i> , 2020, 5, .	5.5	29
14	Optical Two-Way Time-Frequency Transfer across a Three-Node Free-Space Network. , 2020, , .		0
15	Dual-comb photoacoustic spectroscopy. <i>Nature Communications</i> , 2020, 11, 3152.	13.2	45
16	Optical atomic clock comparison through turbulent air. <i>Physical Review Research</i> , 2020, 2, .	3.6	17
17	Compact mid-infrared dual-comb spectrometer for outdoor spectroscopy. <i>Optics Express</i> , 2020, 28, 14740.	3.4	33
18	Obtaining more energetic modelocked pulses from a SESAM-based fiber laser. <i>Optics Express</i> , 2020, 28, 20345.	3.4	5

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19	Optical timing jitter due to atmospheric turbulence: comparison of frequency comb measurements to predictions from micrometeorological sensors. <i>Optics Express</i> , 2020, 28, 26661.	3.4	10
20	Mid-Infrared Dual-Comb Spectroscopy of Biomass Pyrolysis. , 2020, , .		0
21	Atmospheric monitoring in the 4.5 to 4.9 μm region using open-path dual-comb spectroscopy. , 2020, , .		0
22	Retrieval of the Refractive Index Structure Parameter from Frequency Comb Timing Jitter Data. , 2020, , .		0
23	Comparison of Livestock Emissions Measurements Using Open-Path Dual-Comb Spectroscopy and Closed-Path Cavity Ring-Down Spectroscopy. , 2020, , .		0
24	Agri-combs: Open-path dual-comb spectroscopy of livestock emissions. , 2020, , .		0
25	Micrometeorological flux measurements using spatially-scanned open-path dual-comb spectroscopy. , 2020, , .		1
26	Beef cattle feedlot emissions measured using open-path dual-comb spectroscopy. , 2020, , .		0
27	Ultra-Precise Time and Frequency Transfer through Turbulent Air. , 2020, , .		0
28	Impact of Atmospheric Turbulence on Frequency Comb Optical Timing Jitter. , 2020, , .		0
29	Real-time liquid-phase organic reaction monitoring with mid-infrared attenuated total reflectance dual frequency comb spectroscopy. <i>Journal of Molecular Spectroscopy</i> , 2019, 356, 39-45.	1.3	11
30	Estimating vehicle carbon dioxide emissions from Boulder, Colorado, using horizontal path-integrated column measurements. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 4177-4192.	5.0	26
31	Femtosecond time synchronization of optical clocks off of a flying quadcopter. <i>Nature Communications</i> , 2019, 10, 1819.	13.2	63
32	Femtosecond optical two-way time-frequency transfer in the presence of motion. <i>Physical Review A</i> , 2019, 99, .	2.5	30
33	SAGE: A proposal for a space atomic gravity explorer. <i>European Physical Journal D</i> , 2019, 73, 1.	1.3	81
34	Dual-comb spectroscopy with tailored spectral broadening in Si_3N_4 nanophotonics. <i>Optics Express</i> , 2019, 27, 11869.	3.4	18
35	Mid-infrared dual-comb spectroscopy of volatile organic compounds across long open-air paths. <i>Optica</i> , 2019, 6, 165.	9.3	71
36	Multifunctional integrated photonics in the mid-infrared with suspended AlGaAs on silicon. <i>Optica</i> , 2019, 6, 1246.	9.3	46

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55	Operating an optical frequency comb using a 5-W handheld USB charger. , 2018, , .		0
56	Compact Fiber Frequency Combs for Precision Measurement Outside the Metrology Lab. , 2018, , .		0
57	Open Path MIR DCS for Chemical Detection. , 2018, , .		0
58	Open-Path Dual Frequency Comb Spectroscopy Applied to Source Quantification. , 2018, , .		1
59	Progress towards a three-node free-space clock network. , 2018, , .		0
60	Femtosecond Synchronization through Turbulent Air Off a Quadcopter. , 2018, , .		0
61	Broadband, high-resolution investigation of advanced absorption line shapes at high temperature. Physical Review A, 2017, 96, .	2.5	15
62	Ultrabroadband Supercontinuum Generation and Frequency-Comb Stabilization Using On-Chip Waveguides with Both Cubic and Quadratic Nonlinearities. Physical Review Applied, 2017, 8, .	3.8	96
63	Full stabilization and control of an integrated photonics optical frequency synthesizer. , 2017, , .		0
64	Doppler-tolerant synchronization of clocks over free space at the femtosecond level. , 2017, , .		0
65	Gas-phase broadband spectroscopy using active sources: progress, status, and applications [Invited]. Journal of the Optical Society of America B: Optical Physics, 2017, 34, 104.	2.0	110
66	Optical sampling analog-to-digital converter based on two asynchronous mode-locked fiber lasers. Journal of the Optical Society of America B: Optical Physics, 2017, 34, 824.	2.0	9
67	Open-path dual-comb spectroscopy to an airborne retroreflector. Optica, 2017, 4, 724.	9.3	87
68	Room-temperature-deposited dielectrics and superconductors for integrated photonics. Optics Express, 2017, 25, 10322.	3.4	33
69	Intercomparison of open-path trace gas measurements with two dual-frequency-comb spectrometers. Atmospheric Measurement Techniques, 2017, 10, 3295-3311.	3.1	60
70	Self-referenced frequency combs using high-efficiency silicon-nitride waveguides. Optics Letters, 2017, 42, 2314.	3.3	84
71	Towards an Integrated-Photonics Optical-Frequency Synthesizer With < 1 Hz Residual Frequency Noise. , 2017, , .		7
72	Wake mode sidebands and instability in mode-locked lasers with slow saturable absorbers. Optics Letters, 2017, 42, 2362.	3.3	29

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73	On-chip waveguides for self-referencing low-power and high-repetition-rate laser frequency combs. , 2017, , .		0
74	Optimizing the Power Efficiency of a SESAM Fiber Comb Laser. , 2017, , .		0
75	Dual Frequency Comb Spectroscopy for Trace Gas Monitoring Over Open-Air Paths. , 2017, , .		1
76	Combustion Diagnostics and Chemical Sensing with Frequency Comb Lasers. , 2016, , .		0
77	Accurate frequency referencing for fieldable dual-comb spectroscopy. Optics Express, 2016, 24, 30495.	3.4	81
78	Frequency combs for robust optical timekeeping. , 2016, , .		0
79	Tight real-time synchronization of a microwave clock to an optical clock across a turbulent air path. Optica, 2016, 3, 441.	9.3	50
80	Synchronization of Distant Optical Clocks at the Femtosecond Level. Physical Review X, 2016, 6, .	9.1	91
81	Synchronization of clocks through 12â€™km of strongly turbulent air over a city. Applied Physics Letters, 2016, 109, .	3.2	63
82	Enhanced link availability for free space optical time-frequency transfer using adaptive optic terminals. Proceedings of SPIE, 2016, , .	1.0	0
83	Optical Frequency Comb Generation based on Erbium Fiber Lasers. Nanophotonics, 2016, 5, 196-213.	6.3	85
84	Dual-comb spectroscopy. Optica, 2016, 3, 414.	9.3	1,214
85	Optical system design for femtosecond-level synchronization of clocks. Proceedings of SPIE, 2016, , .	1.0	2
86	Real-time Phase Correction for High-SNR Fieldable Dual-Comb Spectroscopy. , 2016, , .		0
87	Dual Comb Outdoor Spectroscopy for Complex Molecular Response Retrieval. , 2016, , .		0
88	Remote Synchronization of a Microwave Clock to an Optical Clock at the Femtosecond Level. , 2016, , .		0
89	Broadband Phase Spectroscopy over Turbulent Air Paths. Physical Review Letters, 2015, 115, 103901.	8.0	40
90	Frequency and Timing Distribution using Optical Methods. , 2015, , .		8

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91	Femtosecond-Level Synchronization Over Kilometer-Scale Turbulent Air Paths. , 2015, , .		0
92	Free-space time and frequency transfer. , 2015, , .		0
93	Mid-Infrared Optical Frequency Combs based on Difference Frequency Generation for Dual-Comb Spectroscopy. , 2015, , .		1
94	Optical two-way time synchronization at the femtosecond level over a 4-km free space link. , 2015, , .		2
95	Dual-Comb Spectroscopy with Difference-Frequency-Generated Mid-Infrared Frequency Combs. , 2015, , .		0
96	Synchronization of optical oscillators over a free-space link at the femtosecond level. , 2015, , .		4
97	Optical Combs for Sensor Applications. , 2014, , .		0
98	Photonic advances in time and frequency metrology: Frequency combs. , 2014, , .		1
99	Time-domain stabilization of carrier-envelope phase in femtosecond light pulses. Optics Express, 2014, 22, 11788.	3.4	12
100	Speckle phase noise in coherent laser ranging: fundamental precision limitations. Optics Letters, 2014, 39, 4776.	3.3	34
101	Near-Infrared Dual-Comb Spectroscopy of Gases. , 2014, , .		0
102	Optical two-way time and frequency transfer over free space. Nature Photonics, 2013, 7, 434-438.	23.1	240
103	Comb-calibrated frequency-modulated continuous-wave lidar for absolute distance measurements. Optics Letters, 2013, 38, 2026.	3.3	106
104	Absolute spectroscopy of N ₂ O near 45 μ m with a comb-calibrated, frequency-swept quantum cascade laser spectrometer. Optics Express, 2013, 21, 1020.	3.4	24
105	High-performance free-space photonic links for frequency/time transfer. , 2013, , .		0
106	Precision metrology with coherent dual frequency combs. , 2013, , .		0
107	Frequency characterization of a swept- and fixed-wavelength external-cavity quantum cascade laser by use of a frequency comb. Optics Express, 2012, 20, 12432.	3.4	26
108	A method for comparing remote optical clocks over a free-space optical link. , 2012, , .		0

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109	Dual comb-based characterization of rapidly tuned lasers. , 2011, , .		1
110	Sub-micron absolute distance measurements in sub-millisecond times with dual free-running femtosecond Er fiber-lasers. Optics Express, 2011, 19, 18501.	3.4	128
111	Microwave generation with low residual phase noise from a femtosecond fiber laser with an intracavity electro-optic modulator. Optics Express, 2011, 19, 24387.	3.4	55
112	Characterization of an actively linearized ultrabroadband chirped laser with a fiber-laser optical frequency comb. Optics Letters, 2011, 36, 1152.	3.3	37
113	Precision spectroscopy with frequency combs at 3.4 μ m. Proceedings of SPIE, 2011, , .	1.0	0
114	Searching for applications with a fine-tooth comb. Nature Photonics, 2011, 5, 186-188.	23.1	397
115	Performance of a Coherent Dual Frequency Comb Spectrometer. , 2011, , .		0
116	Dual-comb-based characterization of rapidly tuned lasers. , 2011, , .		1
117	Spectroscopy with a coherent dual frequency comb interferometer at 3.4 μ m. Proceedings of SPIE, 2010, , .	1.0	1
118	Sensitivity of coherent dual-comb spectroscopy. Optics Express, 2010, 18, 7929.	3.4	199
119	Time-domain spectroscopy of molecular free-induction decay in the infrared. Optics Letters, 2010, 35, 1395.	3.3	78
120	Infrared Time Domain Spectroscopy with Synchronized Frequency Combs. , 2010, , .		0
121	High-performance, vibration-immune, fiber-laser frequency comb. Optics Letters, 2009, 34, 638.	3.3	100
122	Measuring optical waveforms with fiber frequency combs. , 2009, , .		0
123	Measurement of gravitational time delay using drag-free spacecraft and an optical clock. Proceedings of the International Astronomical Union, 2009, 5, 414-419.	0.0	5
124	Frequency comb spectroscopy with coherent optical sampling. , 2009, , .		0
125	Toward a low-jitter 10 GHz pulsed source with an optical frequency comb generator. Optics Express, 2008, 16, 8498.	3.4	69
126	Coherent Multiheterodyne Spectroscopy Using Stabilized Optical Frequency Combs. Physical Review Letters, 2008, 100, 013902.	8.0	665

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127	Low-noise fiber-laser frequency combs (Invited). Journal of the Optical Society of America B: Optical Physics, 2007, 24, 1756.	2.0	256
128	Wavelength references for interferometry in air. Applied Optics, 2005, 44, 7793.	2.1	25
129	Phase, timing, and amplitude noise on supercontinua generated in microstructure fiber. Optics Express, 2004, 12, 2166.	3.4	52
130	Phase-locked, erbium-fiber-laser-based frequency comb in the near infrared. Optics Letters, 2004, 29, 250.	3.3	364
131	Broadband phase-coherent optical frequency synthesis with actively linked Ti:sapphire and Cr:forsterite femtosecond lasers. Optics Letters, 2004, 29, 403.	3.3	33
132	Discussion on "The alternating-current series motor." Journal of the Institution of Electrical Engineers, 1905, 35, 89-112.	0.0	0
133	Free-form dual-comb spectroscopy for compressive sensing and imaging. Nature Photonics, 0, , .	23.1	0