

Nathan R Newbury

List of Publications by Year in descending order

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127
papers

6,554
citations

109137

35
h-index

102304

66
g-index

129
all docs

129
docs citations

129
times ranked

3616
citing authors

#	ARTICLE	IF	CITATIONS
1	Mid-infrared dual frequency comb spectroscopy for combustion analysis from 2.8 to 5 μm . Proceedings of the Combustion Institute, 2021, 38, 1627-1635.	2.4	28
2	Fiber Laser Based Dual-Comb Spectroscopy with Dynamically Controlled Spectral Resolution. , 2021, , .		1
3	Feedlot-produced ammonia emissions quantified using dual-comb spectroscopy. , 2021, , .		0
4	Precise multispecies agricultural gas flux determined using broadband open-path dual-comb spectroscopy. Science Advances, 2021, 7, .	4.7	32
5	Scaling up Frequency-Comb-Based Optical Time Transfer to Long Terrestrial Distances. Physical Review Applied, 2021, 15, .	1.5	6
6	Open-Path Dual-Comb Spectroscopy for Multispecies Trace Gas Detection in the 4.5 μm to 5 μm Spectral Region. Laser and Photonics Reviews, 2021, 15, 2000583.	4.4	19
7	Broadband dual-comb spectroscopy for open-path field measurement of H ₂ O and H ₂ O. , 2021, , .		0
8	Optical time-frequency transfer across a free-space, three-node network. APL Photonics, 2020, 5, .	3.0	26
9	Optical Two-Way Time-Frequency Transfer across a Three-Node Free-Space Network. , 2020, , .		0
10	Dual-comb photoacoustic spectroscopy. Nature Communications, 2020, 11, 3152.	5.8	41
11	Optical atomic clock comparison through turbulent air. Physical Review Research, 2020, 2, .	1.3	16
12	Compact mid-infrared dual-comb spectrometer for outdoor spectroscopy. Optics Express, 2020, 28, 14740.	1.7	31
13	Obtaining more energetic modelocked pulses from a SESAM-based fiber laser. Optics Express, 2020, 28, 20345.	1.7	5
14	Optical timing jitter due to atmospheric turbulence: comparison of frequency comb measurements to predictions from micrometeorological sensors. Optics Express, 2020, 28, 26661.	1.7	8
15	Mid-Infrared Dual-Comb Spectroscopy of Biomass Pyrolysis. , 2020, , .		0
16	Atmospheric monitoring in the 4.5 to 4.9 μm region using open-path dual-comb spectroscopy. , 2020, , .		0
17	Retrieval of the Refractive Index Structure Parameter from Frequency Comb Timing Jitter Data. , 2020, , .		0
18	Comparison of Livestock Emissions Measurements Using Open-Path Dual-Comb Spectroscopy and Closed-Path Cavity Ring-Down Spectroscopy. , 2020, , .		0

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19	Agri-combs: Open-path dual-comb spectroscopy of livestock emissions. , 2020, , .		0
20	Micrometeorological flux measurements using spatially- scanned open-path dual-comb spectroscopy. , 2020, , .		1
21	Beef cattle feedlot emissions measured using open-path dual-comb spectroscopy. , 2020, , .		0
22	Ultra-Precise Time and Frequency Transfer through Turbulent Air. , 2020, , .		0
23	Impact of Atmospheric Turbulence on Frequency Comb Optical Timing Jitter. , 2020, , .		0
24	10.1063/5.0010704.1. , 2020, , .		0
25	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.	0.4	11
26	Estimating vehicle carbon dioxide emissions from Boulder, Colorado, using horizontal path-integrated column measurements. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 4177-4192.	1.9	25
27	Femtosecond time synchronization of optical clocks off of a flying quadcopter. <i>Nature Communications</i> , 2019, 10, 1819.	5.8	59
28	Femtosecond optical two-way time-frequency transfer in the presence of motion. <i>Physical Review A</i> , 2019, 99, .	1.0	29
29	SAGE: A proposal for a space atomic gravity explorer. <i>European Physical Journal D</i> , 2019, 73, 1.	0.6	75
30	Dual-comb spectroscopy with tailored spectral broadening in Si ₃ N ₄ nanophotonics. <i>Optics Express</i> , 2019, 27, 11869.	1.7	17
31	Mid-infrared dual-comb spectroscopy of volatile organic compounds across long open-air paths. <i>Optica</i> , 2019, 6, 165.	4.8	67
32	Multifunctional integrated photonics in the mid-infrared with suspended AlGaAs on silicon. <i>Optica</i> , 2019, 6, 1246.	4.8	41
33	A Compact Mid-infrared Dual-Comb Spectrometer with 1000 nm of Spectral Coverage. , 2019, , .		0
34	Imaging through Flames with Coherent Laser Ranging. , 2019, , .		0
35	Optical two-way time transfer with enhanced SNR for longer distance free-space links. , 2019, , .		0
36	Measurement of acetone emission using a compact midinfrared dual-comb spectrometer. , 2019, , .		0

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37	Precision Optical Time-Frequency Transfer Over Free Space Links With Laser Frequency Combs. , 2019, , .		0
38	Preliminary Measurements for Three-Node Optical Two-Way Time and Frequency Transfer. , 2019, , .		0
39	Mid-infrared Dual-comb Spectroscopy of Volatile Organic Compounds Across Long Open-air Paths. , 2019, , .		0
40	An optical-frequency synthesizer using integrated photonics. Nature, 2018, 557, 81-85.	13.7	550
41	Comparing Optical Oscillators across the Air to Milliradians in Phase and $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \text{display="inline"} \langle \text{mml:mrow} \langle \text{mml:mn} \rangle 1 \langle \text{mml:mn} \rangle \langle \text{mml:msup} \langle \text{mml:mn} \rangle 0 \langle \text{mml:mn} \rangle \langle \text{mml:mrow} \langle \text{mml:mo} \rangle \frac{2.9}{53} \langle \text{mml:mo} \rangle \text{mml:math} \rangle$ in Frequency. Physical Review Letters, 2018, 120, 050801.		53
42	High-coherence mid-infrared dual-comb spectroscopy spanning 2.6 to 5.2 μm . Nature Photonics, 2018, 12, 202-208.	15.6	250
43	Novel Uses of Stabilized Optical Frequency Combs: From Regional Methane Leak Source Identification to Diagnostics for Extreme Combustion. , 2018, , .		0
44	Time Synchronization Over a Free-Space Optical Communication Channel. , 2018, , .		0
45	Regional trace-gas source attribution using a field-deployed dual frequency comb spectrometer. Optica, 2018, 5, 320.	4.8	129
46	Speed-dependent Voigt lineshape parameter database from dual frequency comb measurements at temperatures up to 1305 K . Part II: Argon-broadened H ₂ O absorption, 6801 cm^{-1} . Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 217, 189-212.	1.1	12
47	Coherent laser ranging for precision imaging through flames. Optica, 2018, 5, 988.	4.8	34
48	Speed-dependent Voigt lineshape parameter database from dual frequency comb measurements up to 1305 K . Part I: Pure H ₂ O absorption, 6801 cm^{-1} . Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 210, 240-250.	1.1	18
49	Time synchronization over a free-space optical communication channel. Optica, 2018, 5, 1542.	4.8	28
50	Fully self-referenced frequency comb consuming 5 watts of electrical power. OSA Continuum, 2018, 1, 274.	1.8	21
51	Operating an optical frequency comb using a 5-W handheld USB charger. , 2018, , .		0
52	Compact Fiber Frequency Combs for Precision Measurement Outside the Metrology Lab. , 2018, , .		0
53	Open Path MIR DCS for Chemical Detection. , 2018, , .		0
54	Open-Path Dual Frequency Comb Spectroscopy Applied to Source Quantification. , 2018, , .		0

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55	Progress towards a three-node free-space clock network. , 2018, , .		0
56	Femtosecond Synchronization through Turbulent Air Off a Quadcopter. , 2018, , .		0
57	Broadband, high-resolution investigation of advanced absorption line shapes at high temperature. Physical Review A, 2017, 96, .	1.0	13
58	Ultrabroadband Supercontinuum Generation and Frequency-Comb Stabilization Using On-Chip Waveguides with Both Cubic and Quadratic Nonlinearities. Physical Review Applied, 2017, 8, .	1.5	90
59	Full stabilization and control of an integrated photonics optical frequency synthesizer. , 2017, , .		0
60	Doppler-tolerant synchronization of clocks over free space at the femtosecond level. , 2017, , .		0
61	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.	0.9	105
62	Open-path dual-comb spectroscopy to an airborne retroreflector. Optica, 2017, 4, 724.	4.8	81
63	Room-temperature-deposited dielectrics and superconductors for integrated photonics. Optics Express, 2017, 25, 10322.	1.7	31
64	Intercomparison of open-path trace gas measurements with two dual-frequency-comb spectrometers. Atmospheric Measurement Techniques, 2017, 10, 3295-3311.	1.2	57
65	Self-referenced frequency combs using high-efficiency silicon-nitride waveguides. Optics Letters, 2017, 42, 2314.	1.7	80
66	Towards an Integrated-Photonics Optical-Frequency Synthesizer With < 1 Hz Residual Frequency Noise. , 2017, , .		7
67	Wake mode sidebands and instability in mode-locked lasers with slow saturable absorbers. Optics Letters, 2017, 42, 2362.	1.7	29
68	Intercomparison of Open-Path Trace Gas Measurements with Two Dual Frequency Comb Spectrometers. , 2017, 10, 3295-3311.		11
69	On-chip waveguides for self-referencing low-power and high-repetition-rate laser frequency combs. , 2017, , .		0
70	Optimizing the Power Efficiency of a SESAM Fiber Comb Laser. , 2017, , .		0
71	Dual Frequency Comb Spectroscopy for Trace Gas Monitoring Over Open-Air Paths. , 2017, , .		0
72	Combustion Diagnostics and Chemical Sensing with Frequency Comb Lasers. , 2016, , .		0

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73	Accurate frequency referencing for fieldable dual-comb spectroscopy. Optics Express, 2016, 24, 30495.	1.7	77
74	Frequency combs for robust optical timekeeping. , 2016, , .		0
75	Tight real-time synchronization of a microwave clock to an optical clock across a turbulent air path. Optica, 2016, 3, 441.	4.8	49
76	Synchronization of Distant Optical Clocks at the Femtosecond Level. Physical Review X, 2016, 6, .	2.8	85
77	Synchronization of clocks through 12 km of strongly turbulent air over a city. Applied Physics Letters, 2016, 109, .	1.5	61
78	Enhanced link availability for free space optical time-frequency transfer using adaptive optic terminals. , 2016, , .		0
79	Optical Frequency Comb Generation based on Erbium Fiber Lasers. Nanophotonics, 2016, 5, 196-213.	2.9	81
80	Dual-comb spectroscopy. Optica, 2016, 3, 414.	4.8	1,158
81	Optical system design for femtosecond-level synchronization of clocks. Proceedings of SPIE, 2016, , .	0.8	2
82	Real-time Phase Correction for High-SNR Fieldable Dual-Comb Spectroscopy. , 2016, , .		0
83	Dual Comb Outdoor Spectroscopy for Complex Molecular Response Retrieval. , 2016, , .		0
84	Remote Synchronization of a Microwave Clock to an Optical Clock at the Femtosecond Level. , 2016, , .		0
85	Broadband Phase Spectroscopy over Turbulent Air Paths. Physical Review Letters, 2015, 115, 103901.	2.9	40
86	Frequency and Timing Distribution using Optical Methods. , 2015, , .		7
87	Femtosecond-Level Synchronization Over Kilometer-Scale Turbulent Air Paths. , 2015, , .		0
88	Free-space time and frequency transfer. , 2015, , .		0
89	Mid-Infrared Optical Frequency Combs based on Difference Frequency Generation for Dual-Comb Spectroscopy. , 2015, , .		1
90	Optical two-way time synchronization at the femtosecond level over a 4-km free space link. , 2015, , .		2

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91	Dual-Comb Spectroscopy with Difference-Frequency-Generated Mid-Infrared Frequency Combs. , 2015, , .		0
92	Synchronization of optical oscillators over a free-space link at the femtosecond level. , 2015, , .		4
93	Optical Combs for Sensor Applications. , 2014, , .		0
94	Photonic advances in time and frequency metrology: Frequency combs. , 2014, , .		1
95	Time-domain stabilization of carrier-envelope phase in femtosecond light pulses. Optics Express, 2014, 22, 11788.	1.7	12
96	Speckle phase noise in coherent laser ranging: fundamental precision limitations. Optics Letters, 2014, 39, 4776.	1.7	33
97	Near-Infrared Dual-Comb Spectroscopy of Gases. , 2014, , .		0
98	Optical two-way time and frequency transfer over free space. Nature Photonics, 2013, 7, 434-438.	15.6	233
99	Comb-calibrated frequency-modulated continuous-wave ladar for absolute distance measurements. Optics Letters, 2013, 38, 2026.	1.7	102
100	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.	1.7	24
101	High-performance free-space photonic links for frequency/time transfer. , 2013, , .		0
102	Precision metrology with coherent dual frequency combs. , 2013, , .		0
103	Frequency characterization of a swept- and fixed-wavelength external-cavity quantum cascade laser by use of a frequency comb. Optics Express, 2012, 20, 12432.	1.7	25
104	A method for comparing remote optical clocks over a free-space optical link. , 2012, , .		0
105	Dual comb-based characterization of rapidly tuned lasers. , 2011, , .		1
106	Sub-micron absolute distance measurements in sub-millisecond times with dual free-running femtosecond Er fiber-lasers. Optics Express, 2011, 19, 18501.	1.7	123
107	Microwave generation with low residual phase noise from a femtosecond fiber laser with an intracavity electro-optic modulator. Optics Express, 2011, 19, 24387.	1.7	52
108	Characterization of an actively linearized ultrabroadband chirped laser with a fiber-laser optical frequency comb. Optics Letters, 2011, 36, 1152.	1.7	35

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109	Precision spectroscopy with frequency combs at 3.4 μm . , 2011, , .		0
110	Searching for applications with a fine-tooth comb. Nature Photonics, 2011, 5, 186-188.	15.6	385
111	Performance of a Coherent Dual Frequency Comb Spectrometer. , 2011, , .		0
112	Dual-comb-based characterization of rapidly tuned lasers. , 2011, , .		1
113	Spectroscopy with a coherent dual frequency comb interferometer at 3.4 μm . Proceedings of SPIE, 2010, , .	0.8	1
114	Sensitivity of coherent dual-comb spectroscopy. Optics Express, 2010, 18, 7929.	1.7	188
115	Time-domain spectroscopy of molecular free-induction decay in the infrared. Optics Letters, 2010, 35, 1395.	1.7	76
116	Infrared Time Domain Spectroscopy with Synchronized Frequency Combs. , 2010, , .		0
117	High-performance, vibration-immune, fiber-laser frequency comb. Optics Letters, 2009, 34, 638.	1.7	98
118	Measuring optical waveforms with fiber frequency combs. , 2009, , .		0
119	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
120	Frequency comb spectroscopy with coherent optical sampling. , 2009, , .		0
121	Toward a low-jitter 10 GHz pulsed source with an optical frequency comb generator. Optics Express, 2008, 16, 8498.	1.7	67
122	Coherent Multiheterodyne Spectroscopy Using Stabilized Optical Frequency Combs. Physical Review Letters, 2008, 100, 013902.	2.9	658
123	Low-noise fiber-laser frequency combs (Invited). Journal of the Optical Society of America B: Optical Physics, 2007, 24, 1756.	0.9	252
124	Wavelength references for interferometry in air. Applied Optics, 2005, 44, 7793.	2.1	24
125	Phase, timing, and amplitude noise on supercontinua generated in microstructure fiber. Optics Express, 2004, 12, 2166.	1.7	52
126	Phase-locked, erbium-fiber-laser-based frequency comb in the near infrared. Optics Letters, 2004, 29, 250.	1.7	362

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127	Broadband phase-coherent optical frequency synthesis with actively linked Ti:sapphire and Cr:forsterite femtosecond lasers. Optics Letters, 2004, 29, 403.	1.7	33