# Nathan R Newbury

List of Publications by Year
in descending order



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|---|---|---|---|
| 127 papers | 6,554 citations | 109321 35 h-index | 102487 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 5â€Âµm. Proceedings of the Combustion Institute, 2021, 38, 1627-1635. | 3.9 | 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, . | 10.3 | 32 |
| 5 | Scaling up Frequency-Comb-Based Optical Time Transfer to Long Terrestrial Distances. Physical Review Applied, 2021, 15, . | 3.8 | 6 |
| 6 | Openâ€Path Dualâ€Comb Spectroscopy for Multispecies Trace Gas Detection in the 4.5â€“5ÂÂµm Spectral Region. Laser and Photonics Reviews, 2021, 15, 2000583. | 8.7 | 19 |
| 7 | Broadband dual-comb spectroscopy for open-path field measurement of H216O and H218O. , 2021, , . | | 0 |
| 8 | Optical time-frequency transfer across a free-space, three-node network. APL Photonics, 2020, 5, . | 5.7 | 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. | 12.8 | 41 |
| 11 | Optical atomic clock comparison through turbulent air. Physical Review Research, 2020, 2, . | 3.6 | 16 |
| 12 | Compact mid-infrared dual-comb spectrometer for outdoor spectroscopy. Optics Express, 2020, 28, 14740. | 3.4 | 31 |
| 13 | Obtaining more energetic modelocked pulses from a SESAM-based fiber laser. Optics Express, 2020, 28, 20345. | 3.4 | 5 |
| 14 | Optical timing jitter due to atmospheric turbulence: comparison of frequency comb measurements to predictions from micrometeorological sensors. Optics Express, 2020, 28, 26661. | 3.4 | 8 |
| 15 | Mid-Infrared Dual-Comb Spectroscopy of Biomass Pyrolysis. , 2020, , . | | 0 |
| 16 | Atmospheric monitoring in the 4.5 to 4.9 pm 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. Journal of Molecular Spectroscopy, 2019, 356, 39-45. | 1.2 | 11 |
| 26 | Estimating vehicle carbon dioxide emissions from Boulder, Colorado, using horizontal path-integrated column measurements. Atmospheric Chemistry and Physics, 2019, 19, 4177-4192. | 4.9 | 25 |
| 27 | Femtosecond time synchronization of optical clocks off of a flying quadcopter. Nature Communications, 2019, 10, 1819. | 12.8 | 59 |
| 28 | Femtosecond optical two-way time-frequency transfer in the presence of motion. Physical Review A, 2019, 99, . | 2.5 | 29 |
| 29 | SAGE: A proposal for a space atomic gravity explorer. European Physical Journal D, 2019, 73, 1. | 1.3 | 75 |
| 30 | Dual-comb spectroscopy with tailored spectral broadening in Si<sub>3</sub>N<sub>4</sub> nanophotonics. Optics Express, 2019, 27, 11869. | 3.4 | 17 |
| 31 | Mid-infrared dual-comb spectroscopy of volatile organic compounds across long open-air paths. Optica, 2019, 6, 165. | 9.3 | 67 |
| 32 | Multifunctional integrated photonics in the mid-infrared with suspended AlGaAs on silicon. Optica, 2019, 6, 1246. | 9.3 | 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. | 27.8 | 550 |
| 41 | Comparing Optical Oscillators across the Air to Milliradians in Phase and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>1</mml:mn><mml:msup><mml:mn>0</mml:mn><mml:mrow><mml:mo>â</mml:mo></mml:mrow> in Frequency. Physical Review Letters, 2018, 120, 050801. | 7.8 | 53 |
| 42 | High-coherence mid-infrared dual-comb spectroscopy spanning 2.6 to 5.2â€‰Î¼m. Nature Photonics, 2018, 12, 202-208. | 31.4 | 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. | 9.3 | 129 |
| 46 | Speed-dependent Voigt lineshape parameter database from dual frequency comb measurements at temperatures up to 1305â€¯K. Part II: Argon-broadened H2O absorption, 6801â€“7188Âcmâ»1. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 217, 189-212. | 2.3 | 12 |
| 47 | Coherent laser ranging for precision imaging through flames. Optica, 2018, 5, 988. | 9.3 | 34 |
| 48 | Speed-dependent Voigt lineshape parameter database from dual frequency comb measurements up to 1305â€¯K. Part I: Pure H2O absorption, 6801â€“7188Âcmâ»1. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 210, 240-250. | 2.3 | 18 |
| 49 | Time synchronization over a free-space optical communication channel. Optica, 2018, 5, 1542. | 9.3 | 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, . | 2.5 | 13 |
| 58 | Ultrabroadband Supercontinuum Generation and Frequency-Comb Stabilization Using On-Chip Waveguides with Both Cubic and Quadratic Nonlinearities. Physical Review Applied, 2017, 8, . | 3.8 | 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. | 2.1 | 105 |
| 62 | Open-path dual-comb spectroscopy to an airborne retroreflector. Optica, 2017, 4, 724. | 9.3 | 81 |
| 63 | Room-temperature-deposited dielectrics and superconductors for integrated photonics. Optics Express, 2017, 25, 10322. | 3.4 | 31 |
| 64 | Intercomparison of open-path trace gas measurements with two dual-frequency-comb spectrometers. Atmospheric Measurement Techniques, 2017, 10, 3295-3311. | 3.1 | 57 |
| 65 | Self-referenced frequency combs using high-efficiency silicon-nitride waveguides. Optics Letters, 2017, 42, 2314. | 3.3 | 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. | 3.3 | 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. | 3.4 | 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. | 9.3 | 49 |
| 76 | Synchronization of Distant Optical Clocks at the Femtosecond Level. Physical Review X, 2016, 6, . | 8.9 | 85 |
| 77 | Synchronization of clocks through 12â€‰km of strongly turbulent air over a city. Applied Physics Letters, 2016, 109, . | 3.3 | 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. | 6.0 | 81 |
| 80 | Dual-comb spectroscopy. Optica, 2016, 3, 414. | 9.3 | 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. | 7.8 | 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. | 3.4 | 12 |
| 96 | Speckle phase noise in coherent laser ranging: fundamental precision limitations. Optics Letters, 2014, 39, 4776. | 3.3 | 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. | 31.4 | 233 |
| 99 | Comb-calibrated frequency-modulated continuous-wave ladar for absolute distance measurements. Optics Letters, 2013, 38, 2026. | 3.3 | 102 |
| 100 | Absolute spectroscopy of N_2O near 45 Î¼m with a comb-calibrated, frequency-swept quantum cascade laser spectrometer. Optics Express, 2013, 21, 1020. | 3.4 | 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. | 3.4 | 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. | 3.4 | 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. | 3.4 | 52 |
| 108 | Characterization of an actively linearized ultrabroadband chirped laser with a fiber-laser optical frequency comb. Optics Letters, 2011, 36, 1152. | 3.3 | 35 |

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| 109 | Precision spectroscopy with frequency combs at 3.4 Î¼m. , 2011, , . | | 0 |
| 110 | Searching for applications with a fine-tooth comb. Nature Photonics, 2011, 5, 186-188. | 31.4 | 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 Î¼m. Proceedings of SPIE, 2010, , . | 0.8 | 1 |
| 114 | Sensitivity of coherent dual-comb spectroscopy. Optics Express, 2010, 18, 7929. | 3.4 | 188 |
| 115 | Time-domain spectroscopy of molecular free-induction decay in the infrared. Optics Letters, 2010, 35, 1395. | 3.3 | 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. | 3.3 | 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. | 3.4 | 67 |
| 122 | Coherent Multiheterodyne Spectroscopy Using Stabilized Optical Frequency Combs. Physical Review Letters, 2008, 100, 013902. | 7.8 | 658 |
| 123 | Low-noise fiber-laser frequency combs (Invited). Journal of the Optical Society of America B: Optical Physics, 2007, 24, 1756. | 2.1 | 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. | 3.4 | 52 |
| 126 | Phase-locked, erbium-fiber-laser-based frequency comb in the near infrared. Optics Letters, 2004, 29, 250. | 3.3 | 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. | 3.3 | 33 |