

# Paul Dean

## List of Publications by Year in descending order

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133  
papers

2,284  
citations

218677

26  
h-index

243625

44  
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136  
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136  
docs citations

136  
times ranked

1306  
citing authors

#	ARTICLE	IF	CITATIONS
1	Prospects of temperature performance enhancement through higher resonant phonon transition designs in GaAs-based terahertz quantum-cascade lasers. <i>New Journal of Physics</i> , 2022, 24, 033047.	2.9	7
2	Broadband Terahertz Gas Spectroscopy Through Multimode Self-Mixing in a Quantum Cascade Laser. <i>NATO Science for Peace and Security Series B: Physics and Biophysics</i> , 2021, , 35-44.	0.3	1
3	Observation of optical feedback dynamics in single-mode terahertz quantum cascade lasers: Transient instabilities. <i>Physical Review A</i> , 2021, 103, .	2.5	19
4	All-Electronic Phase-Resolved THz Microscopy Using the Self-Mixing Effect in a Semiconductor Laser. <i>ACS Photonics</i> , 2021, 8, 1001-1006.	6.6	7
5	Coherent terahertz microscopy of modal field distributions in micro-resonators. <i>APL Photonics</i> , 2021, 6, .	5.7	14
6	Sub-surface damage detection in marble structures using THz time domain and laser feedback interferometric imaging techniques. , 2021, , .		1
7	Terahertz quantum cascade laser under optical feedback: effects of laser self-pulsations on self-mixing signals. <i>Optics Express</i> , 2021, 29, 39885.	3.4	6
8	Terahertz imaging with self-pulsations in quantum cascade lasers under optical feedback. <i>APL Photonics</i> , 2021, 6, 091301.	5.7	6
9	External cavity terahertz quantum cascade laser with a metamaterial/graphene optoelectronic mirror. <i>Applied Physics Letters</i> , 2020, 117, .	3.3	13
10	Programmable, Transform-Limited Pulses from a Terahertz Quantum Cascade Laser. <i>ACS Photonics</i> , 2020, 7, 2423-2428.	6.6	0
11	Wideband Electrically Controlled Vernier Frequency Tunable Terahertz Quantum Cascade Laser. <i>ACS Photonics</i> , 2020, 7, 765-773.	6.6	8
12	High-speed modulation of a terahertz quantum cascade laser by coherent acoustic phonon pulses. <i>Nature Communications</i> , 2020, 11, 835.	12.8	26
13	Quantum Transmission Line Modeling and Experimental Investigation of the Output Characteristics of a Terahertz Quantum Cascade Laser. <i>IEEE Transactions on Terahertz Science and Technology</i> , 2020, 10, 333-342.	3.1	1
14	Terahertz photonic integrated circuit for frequency tuning and power modulation. <i>Optics Express</i> , 2020, 28, 4374.	3.4	7
15	Laser feedback interferometry in multi-mode terahertz quantum cascade lasers. <i>Optics Express</i> , 2020, 28, 14246.	3.4	15
16	Photoconductive arrays on insulating substrates for high-field terahertz generation. <i>Optics Express</i> , 2020, 28, 17219.	3.4	17
17	Dual resonance phononâ€“photonâ€“phonon terahertz quantum-cascade laser: physics of the electron transport and temperature performance optimization. <i>Optics Express</i> , 2020, 28, 38788.	3.4	13
18	Exact frequency and phase control of a terahertz laser. <i>Optica</i> , 2020, 7, 1143.	9.3	3

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19	Monitoring Water Dynamics in Plants using Laser Feedback Interferometry. , 2020, , .		3
20	Spectral analysis of a gas-phase reaction using self-mixing in a terahertz quantum cascade laser. , 2020, , .		0
21	Development of a Broadband Multidimensional THz Spectrometer. , 2020, , .		0
22	Increasing the sensitivity of terahertz metamaterials for dielectric sensing by substrate etching. , 2020, , .		1
23	Sensing and imaging using laser feedback interferometry with quantum cascade lasers. Applied Physics Reviews, 2019, 6, 021320.	11.3	52
24	Probing Ultrafast Switch-on Dynamics of Frequency Tuneable Semiconductor Lasers Using Terahertz Time-domain Spectroscopy. , 2019, , .		0
25	High-resolution frequency and phase control of a terahertz laser. , 2019, , .		1
26	Electromagnetic-field analysis of diagonal-feedhorn antennas for terahertz-frequency quantum-cascade laser integration. , 2019, , .		0
27	Photoconductive Arrays for High-Field Terahertz Generation. , 2019, , .		2
28	Coherent imaging using laser feedback interferometry with pulsed-mode terahertz quantum cascade lasers. Optics Express, 2019, 27, 10221.	3.4	31
29	Increasing the sensitivity of terahertz split ring resonator metamaterials for dielectric sensing by localized substrate etching. Optics Express, 2019, 27, 23164.	3.4	52
30	Detection sensitivity of laser feedback interferometry using a terahertz quantum cascade laser. Optics Letters, 2019, 44, 3314.	3.3	15
31	Optomechanical response with nanometer resolution in the self-mixing signal of a terahertz quantum cascade laser. Optics Letters, 2019, 44, 5663.	3.3	5
32	Frequency Tuning Range Control in Pulsed Terahertz Quantum-Cascade Lasers: Applications in Interferometry. IEEE Journal of Quantum Electronics, 2018, 54, 1-8.	1.9	9
33	Determining Ethanol Content of Liquid Solutions Using Laser Feedback Interferometry with a Terahertz Quantum Cascade Laser. , 2018, 2, 1-4.		9
34	Continuous Frequency Tuning with near Constant Output Power in Coupled Y-Branched Terahertz Quantum Cascade Lasers with Photonic Lattice. ACS Photonics, 2018, 5, 2912-2920.	6.6	17
35	Silver-based surface plasmon waveguide for terahertz quantum cascade lasers. Optics Express, 2018, 26, 3814.	3.4	21
36	Gas spectroscopy with integrated frequency monitoring through self-mixing in a terahertz quantum-cascade laser. Optics Letters, 2018, 43, 2225.	3.3	12

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37	Ultrafast switch-on dynamics of frequency-tuneable semiconductor lasers. Nature Communications, 2018, 9, 3076.	12.8	16
38	Gas spectroscopy through multimode self-mixing in a double-metal terahertz quantum cascade laser. Optics Letters, 2018, 43, 5933.	3.3	10
39	Mode Selection and Tuning Mechanisms in Coupled-Cavity Terahertz Quantum Cascade Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-12.	2.9	12
40	Temperature-Dependent High-Speed Dynamics of Terahertz Quantum Cascade Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-9.	2.9	7
41	Frequency Tunability and Spectral Control in Terahertz Quantum Cascade Lasers With Phase-Adjusted Finite-Defect-Site Photonic Lattices. IEEE Transactions on Terahertz Science and Technology, 2017, 7, 360-367.	3.1	10
42	Development of Terahertz Frequency Quantum Cascade Lasers for the Applications as Local Oscillators. NATO Science for Peace and Security Series B: Physics and Biophysics, 2017, , 123-134.	0.3	2
43	Measurement of the emission spectrum of a semiconductor laser using laser-feedback interferometry. Scientific Reports, 2017, 7, 7236.	3.3	20
44	Investigation into free-space terahertz radiation from a LT-GaAs-on-quartz photoconductive emitter. , 2017, , .		0
45	Quasi-continuous frequency tunable terahertz quantum cascade lasers with coupled cavity and integrated photonic lattice. Optics Express, 2017, 25, 486.	3.4	17
46	Multi-spectral terahertz sensing: proposal for a coupled-cavity quantum cascade laser based optical feedback interferometer. Optics Express, 2017, 25, 10153.	3.4	15
47	Terahertz generation mechanism in nano-grating electrode photomixers on Fe-doped InGaAsP. Optics Express, 2017, 25, 10177.	3.4	2
48	Two-dimensional coherent spectroscopy of a THz quantum cascade laser: observation of multiple harmonics. Optics Express, 2017, 25, 21753.	3.4	12
49	Injection locking of a terahertz quantum cascade laser to a telecommunications wavelength frequency comb. Optica, 2017, 4, 1059.	9.3	28
50	Multi-Watt high-power THz frequency quantum cascade lasers. Electronics Letters, 2017, 53, 799-800.	1.0	82
51	Laser Feedback Interferometry as a Tool for Analysis of Granular Materials at Terahertz Frequencies: Towards Imaging and Identification of Plastic Explosives. Sensors, 2016, 16, 352.	3.8	27
52	Model for a pulsed terahertz quantum cascade laser under optical feedback. Optics Express, 2016, 24, 20554.	3.4	16
53	Origin of terminal voltage variations due to self-mixing in terahertz frequency quantum cascade lasers. Optics Express, 2016, 24, 21948.	3.4	10
54	Free-space terahertz radiation from a LT-GaAs-on-quartz large-area photoconductive emitter. Optics Express, 2016, 24, 26986.	3.4	21

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55	Extraction-controlled terahertz frequency quantum cascade lasers with a diagonal LO-phonon extraction and injection stage. Optics Express, 2016, 24, 28583.	3.4	10
56	Apertureless near-field terahertz imaging using the self-mixing effect in a quantum cascade laser. Applied Physics Letters, 2016, 108, .	3.3	67
57	Generation of continuous wave terahertz frequency radiation from metal-organic chemical vapour deposition grown Fe-doped InGaAs and InGaAsP. Journal of Applied Physics, 2016, 119, 153103.	2.5	10
58	Pump-probe measurements of gain in a terahertz quantum cascade laser. , 2016, , .		1
59	Terahertz near-field microscopy using the self-mixing effect in a quantum cascade laser. , 2016, , .		0
60	Terahertz emission mechanism and laser excitation position dependence of nano-grating electrode photomixers. , 2016, , .		0
61	Improving the Out-Coupling of a Metal-Metal Terahertz Frequency Quantum Cascade Laser Through Integration of a Hybrid Mode Section into the Waveguide. Journal of Infrared, Millimeter, and Terahertz Waves, 2016, 37, 426-434.	2.2	3
62	Design and Characterization of 1.8â€“3.2 THz Schottky-Based Harmonic Mixers. IEEE Transactions on Terahertz Science and Technology, 2016, 6, 737-746.	3.1	39
63	Terahertz frequency quantum cascade lasers for use as waveguide-integrated local oscillators. , 2016, , .		0
64	Terahertz frequency quantum cascade lasers: Optical feedback effects and applications. , 2016, , .		1
65	Gain recovery time in a terahertz quantum cascade laser. Applied Physics Letters, 2016, 108, .	3.3	28
66	Simple Electrical Modulation Scheme for Laser Feedback Imaging. IEEE Sensors Journal, 2016, 16, 1937-1942.	4.7	20
67	Diffuse-Reflectance Spectroscopy Using a Frequency-Switchable Terahertz Quantum Cascade Laser. IEEE Transactions on Terahertz Science and Technology, 2016, 6, 341-347.	3.1	4
68	Terahertz radar crossâ€“section characterisation using laser feedback interferometry with quantum cascade laser. Electronics Letters, 2015, 51, 1774-1776.	1.0	12
69	Efficient prediction of terahertz quantum cascade laser dynamics from steady-state simulations. Applied Physics Letters, 2015, 106, .	3.3	32
70	Observation of time-resolved gain dynamics in a terahertz quantum cascade laser. , 2015, , .		1
71	Terahertz quantum cascade laser bandwidth prediction. , 2015, , .		0
72	Waveguide-integrated terahertz-frequency quantum cascade lasers for detection of trace-gas species. , 2015, , .		0

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73	Terahertz quantum cascade lasers &#x2014; The past, present, and potential future. , 2015, , .		0
74	Metal-metal terahertz quantum cascade laser with hybrid mode section. , 2015, , .		0
75	Generation of continuous wave terahertz radiation from Fe-doped InGaAs and InGaAsP. , 2015, , .		0
76	Active phase-nulling of the self-mixing phase in a terahertz frequency quantum cascade laser. Optics Letters, 2015, 40, 950.	3.3	9
77	Mechanically robust waveguideâ€”integration and beam shaping of terahertz quantum cascade lasers. Electronics Letters, 2015, 51, 919-921.	1.0	15
78	Three-dimensional terahertz imaging using swept-frequency feedback interferometry with a quantum cascade laser. Optics Letters, 2015, 40, 994.	3.3	35
79	Selection of Longitudinal Modes in a Terahertz Quantum Cascade Laser via Narrow-band Injection Seeding. , 2015, , .		0
80	Terahertz quantum cascade lasers with >1 W output powers. Electronics Letters, 2014, 50, 309-311.	1.0	235
81	A QCL model with integrated thermal and stark rollover mechanisms. , 2014, , .		0
82	Narrow bandwidth injection seeding of a THz quantum cascade laser. , 2014, , .		0
83	High-contrast coherent terahertz imaging of porcine tissue via swept-frequency feedback interferometry. Biomedical Optics Express, 2014, 5, 3981.	2.9	41
84	Discrete Vernier tuning in terahertz quantum cascade lasers using coupled cavities. Optics Express, 2014, 22, 16595.	3.4	27
85	Methodology for materials analysis using swept-frequency feedback interferometry with terahertz frequency quantum cascade lasers. Optics Express, 2014, 22, 18633.	3.4	20
86	Terahertz inverse synthetic aperture radar imaging using self-mixing interferometry with a quantum cascade laser. Optics Letters, 2014, 39, 2629.	3.3	36
87	Narrow-band injection seeding of a terahertz frequency quantum cascade laser: Selection and suppression of longitudinal modes. Applied Physics Letters, 2014, 105, 111113.	3.3	9
88	Terahertz imaging using quantum cascade lasersâ€”a review of systems and applications. Journal Physics D: Applied Physics, 2014, 47, 374008.	2.8	141
89	Coherent THz imaging using the self-mixing effect in quantum cascade lasers. , 2014, , .		0
90	Time-resolved measurement of pulse-to-pulse heating effects in a terahertz quantum cascade laser using an NbN superconducting detector. Applied Physics Letters, 2013, 103, .	3.3	5

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91	Terahertz and mid-infrared photoexpansion nanospectroscopy. Proceedings of SPIE, 2013, , .	0.8	0
92	Transient Analysis of THz-QCL Pulses Using NbN and YBCO Superconducting Detectors. IEEE Transactions on Terahertz Science and Technology, 2013, 3, 172-179.	3.1	11
93	Photothermoelastic response of zincblende crystals to radiation from a THz-frequency quantum cascade laser. , 2013, , .		0
94	Transient analysis of substrate heating effects in a terahertz quantum cascade laser using an ultrafast NbN superconducting detector. , 2013, , .		0
95	Self-Mixing Interferometry With Terahertz Quantum Cascade Lasers. IEEE Sensors Journal, 2013, 13, 37-43.	4.7	46
96	Terahertz quantum cascade lasers with thin resonant-phonon depopulation active regions and surface-plasmon waveguides. Journal of Applied Physics, 2013, 113, 113110.	2.5	14
97	Self-mixing effect in THz quantum cascade lasers: Applications in sensing and imaging. , 2013, , .		1
98	Swept-frequency feedback interferometry using terahertz frequency QCLs: a method for imaging and materials analysis. Optics Express, 2013, 21, 22194.	3.4	91
99	Detection of terahertz frequency radiation via the photothermoelastic response of zincblende crystals. Journal of the Optical Society of America B: Optical Physics, 2013, 30, 3151.	2.1	0
100	Coherent terahertz photonics. Optics Express, 2013, 21, 22988.	3.4	61
101	Coherent three-dimensional terahertz imaging through self-mixing in a quantum cascade laser. Applied Physics Letters, 2013, 103, .	3.3	45
102	Demonstration of the self-mixing effect in interband cascade lasers. Applied Physics Letters, 2013, 103, .	3.3	17
103	Spectroscopic analysis of powders through diffuse-reflectance imaging using a frequency-switchable terahertz quantum cascade laser. , 2013, , .		0
104	Integrated injection seeded terahertz source and amplifier for time-domain spectroscopy. Optics Letters, 2012, 37, 731.	3.3	5
105	Measuring the sampling coherence of a terahertz quantum cascade laser. Optics Express, 2012, 20, 16662.	3.4	21
106	Ultra-fast sampling of terahertz pulses from a quantum cascade laser using superconducting antenna-coupled NbN and YBCO detectors. , 2012, , .		0
107	Thermo-optic detection of quantum cascade laser radiation in the range $\sim 2.2$ – $2.9$ THz using a ZnTe crystal. , 2012, , .		0
108	Time domain measurements of the sampling coherence of a terahertz quantum cascade laser. , 2012, , .		0

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109	Injection seeding dynamics of THz quantum cascade lasers. , 2012, , .		0
110	Self-mixing signals in terahertz lasers. , 2012, , .		0
111	Resonant-phonon depopulation terahertz quantum cascade lasers and their application in spectroscopic imaging. Semiconductor Science and Technology, 2012, 27, 094004.	2.0	6
112	Terahertz sensing and imaging using a quantum cascade laser. , 2011, , .		0
113	Terahertz imaging through self-mixing in a quantum cascade laser. Optics Letters, 2011, 36, 2587.	3.3	149
114	Terahertz Time Domain Spectroscopy of Phonon-Depopulation Based Quantum Cascade Lasers. AIP Conference Proceedings, 2011, , .	0.4	0
115	Demonstration of a self-mixing displacement sensor based on terahertz quantum cascade lasers. Applied Physics Letters, 2011, 99, .	3.3	63
116	Measurement and analysis of the diffuse reflectance of powdered samples at terahertz frequencies using a quantum cascade laser. Journal of Chemical Physics, 2011, 134, 134304.	3.0	6
117	Multiple-frequency imaging using a terahertz quantum cascade laser. , 2010, , .		0
118	Terahertz quantum cascade lasers with angled facets for monolithic integration. , 2010, , .		0
119	Gain studies of phonon-depopulation based terahertz quantum cascade lasers using terahertz time domain spectroscopy. , 2010, , .		0
120	Terahertz time domain spectroscopy of phonondepopulation based quantum cascade lasers. , 2010, , .		0
121	Dual-frequency imaging using an electrically tunable terahertz quantum cascade laser. , 2009, , .		1
122	Electrically tunable terahertz quantum-cascade laser with a heterogeneous active region. Applied Physics Letters, 2009, 95, 181101.	3.3	33
123	Terahertz time domain spectroscopy of phonon-depopulation based quantum cascade lasers. Applied Physics Letters, 2009, 94, 251108.	3.3	24
124	Generation of Bessel beams using a terahertz quantum cascade laser. Optics Letters, 2009, 34, 1030.	3.3	19
125	Terahertz ambipolar dual-wavelength quantum cascade laser. Optics Express, 2009, 17, 19926.	3.4	23
126	Dual-frequency imaging using an electrically tunable terahertz quantum cascade laser. Optics Express, 2009, 17, 20631.	3.4	42



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127	A Simple Interferometer for the Analysis of Terahertz Sources and Detectors. IEEE Journal of Selected Topics in Quantum Electronics, 2008, 14, 443-448.	2.9	13
128	Absorption-sensitive diffuse reflection imaging of concealed powders using a terahertz quantum cascade laser. Optics Express, 2008, 16, 5997.	3.4	56
129	Three-dimensional characterisation of the non-gaussian focused beam from a terahertz quantum cascade laser. , 2007, , .		1
130	Three-dimensional Characterisation of the Non-Gaussian Focused Beam from a Terahertz Quantum Cascade Laser. , 2007, , .		0
131	Effect of ion implantation on quantum well infrared photodetectors. Infrared Physics and Technology, 2007, 50, 106-112.	2.9	2
132	Depth-resolved holographic imaging through scattering media by use of a photorefractive polymer composite device in the near infrared. Optics Letters, 2005, 30, 1941.	3.3	7
133	Full-field coherence-gated holographic imaging through scattering media using a photorefractive polymer composite device. Applied Physics Letters, 2004, 85, 363-365.	3.3	19