

# J E Cunningham

## List of Publications by Year in descending order

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145  
papers

3,862  
citations

218381

26  
h-index

128067

60  
g-index

147  
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147  
docs citations

147  
times ranked

3984  
citing authors

#	ARTICLE	IF	CITATIONS
1	Enhanced Terahertz Spectral Fingerprint Detection of Lactose Using Submicrometer Gap On-Chip Waveguides. <i>Advanced Theory and Simulations</i> , 2022, 5, 2100428.	1.3	1
2	Local anisotropy control of Pt/Co/Ir thin film with perpendicular magnetic anisotropy by surface acoustic waves. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	7
3	Design of a Split Ring Resonator Integrated with On-Chip Terahertz Waveguides for Colon Cancer Detection. <i>Advanced Theory and Simulations</i> , 2022, 5, .	1.3	4
4	Tunable terahertz band-stop filter using strongly coupled split ring resonators integrated with on-chip waveguide. <i>Journal of Applied Physics</i> , 2021, 129, .	1.1	6
5	All-Electronic Phase-Resolved THz Microscopy Using the Self-Mixing Effect in a Semiconductor Laser. <i>ACS Photonics</i> , 2021, 8, 1001-1006.	3.2	7
6	Terahertz magnetoplasmon resonances in coupled cavities formed in a gated two-dimensional electron gas. <i>Optics Express</i> , 2021, 29, 12958.	1.7	4
7	Coherent terahertz microscopy of modal field distributions in micro-resonators. <i>APL Photonics</i> , 2021, 6, .	3.0	14
8	Scattering-induced amplification of two-dimensional plasmons: Electromagnetic modeling. <i>Journal of Applied Physics</i> , 2021, 129, .	1.1	3
9	Guidance of Terahertz Wave over Commercial Optical Fiber. , 2021, , .		0
10	Broadband Single-Mode Hollow Substrate Integrated Waveguide with Photonic Crystal Sidewalls for Multilayer System-in-Package Applications. , 2021, , .		0
11	Determination of Permittivity of Dielectric Analytes in the Terahertz Frequency Range Using Split Ring Resonator Elements Integrated with On-Chip Waveguide. <i>Sensors</i> , 2020, 20, 4264.	2.1	9
12	Effect of Substrate Etching on Terahertz Metamaterial Resonances and Its Liquid Sensing Applications. <i>Sensors</i> , 2020, 20, 3133.	2.1	8
13	High-speed modulation of a terahertz quantum cascade laser by coherent acoustic phonon pulses. <i>Nature Communications</i> , 2020, 11, 835.	5.8	26
14	Substrate integrated Bragg waveguide: an octave-bandwidth single-mode hybrid transmission line for millimeter-wave applications. <i>Optics Express</i> , 2020, 28, 27903.	1.7	8
15	On-chip terahertz spectroscopy of magnetoplasmons in a two-dimensional electron gas. , 2020, , .		0
16	Increasing the sensitivity of terahertz metamaterials for dielectric sensing by substrate etching. , 2020, , .		1
17	Probing Ultrafast Switch-on Dynamics of Frequency Tuneable Semiconductor Lasers Using Terahertz Time-domain Spectroscopy. , 2019, , .		0
18	Full-wave modelling of terahertz frequency plasmons in two-dimensional electron systems. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 215101.	1.3	4

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19	High-Speed Modulation of a Terahertz Quantum Cascade Laser Using Coherent Acoustic Phonon Pulses. , 2019, , .		0
20	Photoconductive Arrays for High-Field Terahertz Generation. , 2019, , .		2
21	Increasing the sensitivity of terahertz split ring resonator metamaterials for dielectric sensing by localized substrate etching. Optics Express, 2019, 27, 23164.	1.7	52
22	Tunable broadband terahertz polarizer using graphene-metal hybrid metasurface. Optics Express, 2019, 27, 33768.	1.7	19
23	Detection sensitivity of laser feedback interferometry using a terahertz quantum cascade laser. Optics Letters, 2019, 44, 3314.	1.7	15
24	Low-Loss Asymptotically Single-Mode THz Bragg Fiber Fabricated by Digital Light Processing Rapid Prototyping. IEEE Transactions on Terahertz Science and Technology, 2018, 8, 90-99.	2.0	24
25	Confinement of picosecond timescale current pulses by tapered coplanar waveguides. Applied Physics Letters, 2018, 112, .	1.5	4
26	Effect of FePd alloy composition on the dynamics of artificial spin ice. Scientific Reports, 2018, 8, 4750.	1.6	13
27	Modelling and Study of a THz Hollow Photonic Crystal Integrated Waveguide. , 2018, , .		1
28	A high electron mobility phonotransistor. Communications Physics, 2018, 1, .	2.0	3
29	Ultrafast switch-on dynamics of frequency-tuneable semiconductor lasers. Nature Communications, 2018, 9, 3076.	5.8	16
30	Investigation of electromagnetic mode transition and filtering of an asymptotically single-mode hollow THz Bragg fibre. Journal Physics D: Applied Physics, 2018, 51, 305101.	1.3	3
31	Asymptotically single-mode small-core terahertz Bragg fibre with low loss and low dispersion. Journal Physics D: Applied Physics, 2017, 50, 045104.	1.3	13
32	The Development of a Semtex-H Simulant for Terahertz Spectroscopy. Journal of Infrared, Millimeter, and Terahertz Waves, 2017, 38, 325-338.	1.2	6
33	The 2017 terahertz science and technology roadmap. Journal Physics D: Applied Physics, 2017, 50, 043001.	1.3	1,160
34	On-Chip Terahertz-Frequency Measurements of Liquids. Analytical Chemistry, 2017, 89, 7981-7987.	3.2	22
35	High-order operating mode selection using second-order bandgap in THz Bragg fiber. , 2017, , .		3
36	Focusing THz radiation in $\hat{1}/4$ m-scale waveguides. , 2017, , .		0

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37	THz-TDS of liquids in a temperature-controlled transmission flowcell. , 2017, , .		0
38	GMR at THz frequencies in coplanar waveguides. , 2017, , .		0
39	Investigation into free-space terahertz radiation from a LT-GaAs-on-quartz photoconductive emitter. , 2017, , .		0
40	Quasi-continuous frequency tunable terahertz quantum cascade lasers with coupled cavity and integrated photonic lattice. Optics Express, 2017, 25, 486.	1.7	17
41	Free-space terahertz radiation from a LT-GaAs-on-quartz large-area photoconductive emitter. Optics Express, 2016, 24, 26986.	1.7	21
42	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.	1.1	10
43	Time-domain measurement of terahertz frequency magnetoplasmon resonances in a two-dimensional electron system by the direct injection of picosecond pulsed currents. Applied Physics Letters, 2016, 108, .	1.5	10
44	Modeling terahertz plasmons in coupled semiconductor resonators. , 2016, , .		0
45	Accurate parameter extraction from liquids measured using on-chip terahertz spectroscopy. , 2016, , .		1
46	Multilayer extraction of complex refractive index in broadband transmission terahertz time-domain spectroscopy. , 2016, , .		2
47	Estimation of spectroscopic uncertainty and correlation in terahertz time domain spectroscopy. , 2016, , .		0
48	Integrated On-Chip THz Sensors for Fluidic Systems Fabricated Using Flexible Polyimide Films. IEEE Transactions on Terahertz Science and Technology, 2016, 6, 619-624.	2.0	22
49	Generation of Terahertz Radiation from Fe-doped InGaAsP Using 800Ånm to 1550Ånm Pulsed Laser Excitation. Journal of Infrared, Millimeter, and Terahertz Waves, 2016, 37, 415-425.	1.2	21
50	Terahertz plasmons in coupled two-dimensional semiconductor resonators. Physical Review B, 2015, 92, .	1.1	16
51	Excitation, detection and electrostatic manipulation of terahertz-frequency range plasmons in a two-dimensional electron system. Scientific Reports, 2015, 5, 15420.	1.6	21
52	A sound idea: Manipulating domain walls in magnetic nanowires using surface acoustic waves. Applied Physics Letters, 2015, 107, .	1.5	54
53	Design study of low loss single-mode hollow core photonic crystal terahertz waveguide with support bridges. , 2015, , .		2
54	On-chip THz-frequency tuneable plasmonic circuits. , 2015, , .		0

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55	Accurate material parameter extraction from broadband terahertz spectroscopy. , 2015, , .		0
56	Spatially resolved on-chip picosecond pulse detection using graphene. , 2015, , .		0
57	On-Chip Picosecond Pulse Detection and Generation Using Graphene Photoconductive Switches. Nano Letters, 2015, 15, 1591-1596.	4.5	33
58	Discrete Vernier tuning in terahertz quantum cascade lasers using coupled cavities. Optics Express, 2014, 22, 16595.	1.7	27
59	Surface acoustic wave generation and detection using graphene interdigitated transducers on lithium niobate. Applied Physics Letters, 2014, 104, .	1.5	23
60	Non-universality of scaling exponents in quantum Hall transitions. Journal of Physics Condensed Matter, 2014, 26, 475801.	0.7	7
61	Probing temperature- and solvent-dependent protein dynamics using terahertz time-domain spectroscopy. Journal of Applied Crystallography, 2014, 47, 146-153.	1.9	4
62	On-chip terahertz spectroscopic techniques for measuring mesoscopic quantum systems. Review of Scientific Instruments, 2013, 84, 085101.	0.6	14
63	THz-TDS analysis of hidden explosives for homeland security scenarios. , 2013, , .		2
64	Spectroscopy of polycrystalline materials using thinned-substrate planar Goubau line at cryogenic temperatures. Lab on A Chip, 2013, 13, 4065.	3.1	25
65	Surface acoustic wave modulation of quantum cascade lasers. , 2013, , .		1
66	Terahertz quantum cascade lasers with thin resonant-phonon depopulation active regions and surface-plasmon waveguides. Journal of Applied Physics, 2013, 113, 113110.	1.1	14
67	Effect of Molecular Size and Particle Shape on the Terahertz Absorption of a Homologous Series of Tetraalkylammonium Salts. Analytical Chemistry, 2013, 85, 7926-7934.	3.2	14
68	Optimization and application of on-chip terahertz Goubau lines. , 2013, , .		0
69	Terahertz time-domain spectroscopy of lysozyme and mouse urinary protein single crystals. , 2013, , .		1
70	Understanding the influence of morphology on the terahertz spectra of a powdered ionic crystalline system. , 2013, , .		0
71	The quantum percolation model of the scaling theory of the quantum Hall effect: a unifying model for plateau-to-plateau transitions. Journal of Physics: Conference Series, 2013, 456, 012007.	0.3	2
72	Acousto-microfluidics: Transporting microbubble and microparticle arrays in acoustic traps using surface acoustic waves. Journal of Applied Physics, 2012, 111, .	1.1	27

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73	Acoustic charge transport in graphene. , 2012, , .		1
74	Acousto-microfluidics: Trapping and transporting microbubbles using surface acoustic waves. , 2012, , .		0
75	On-chip THz generation and detection at milli-Kelvin temperatures for the study of ultrafast phenomena in confined semiconductor systems. , 2012, , .		2
76	Acoustically induced current flow in graphene. Applied Physics Letters, 2012, 100, .	1.5	90
77	Resonant-phonon depopulation terahertz quantum cascade lasers and their application in spectroscopic imaging. Semiconductor Science and Technology, 2012, 27, 094004.	1.0	6
78	Increasing the bandwidth of planar on-chip THz devices for spectroscopic applications. , 2011, , .		4
79	Terahertz-frequency photoconductive detectors fabricated from metal-organic chemical vapor deposition-grown Fe-doped InGaAs. Applied Physics Letters, 2011, 98, .	1.5	33
80	Applying broadband terahertz time-domain spectroscopy to the analysis of crystalline proteins: a dehydration study. Journal of Applied Crystallography, 2011, 44, 129-133.	1.9	15
81	Impact of disorder on frequency scaling in the integer quantum Hall effect. Physical Review B, 2011, 84, .	1.1	13
82	Simultaneous measurement of orthogonal components of polarization in a free-space propagating terahertz signal using electro-optic detection. Applied Physics Letters, 2011, 98, .	1.5	39
83	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.	1.2	6
84	Calculation and Measurement of Terahertz Active Normal Modes in Crystalline PETN. ChemPhysChem, 2010, 11, 368-378.	1.0	30
85	Terahertz emission from metal-organic chemical vapor deposition grown Fe:InGaAs using 830 nm to 1.55-µm excitation. Applied Physics Letters, 2010, 96, .	1.5	51
86	On-chip terahertz systems for spectroscopy and imaging. Electronics Letters, 2010, 46, S34.	0.5	25
87	Interview with Professor John Cunningham. Electronics Letters, 2010, 46, S33.	0.5	0
88	Finite difference method for solving the Schrödinger equation with band nonparabolicity in mid-infrared quantum cascade lasers. Journal of Applied Physics, 2010, 108, .	1.1	59
89	Terahertz spectral measurements of a homologous organic series. , 2010, , .		0
90	Terahertz quantum cascade lasers with angled facets for monolithic integration. , 2010, , .		0

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91	Terahertz time-domain spectroscopy of protein single crystals. , 2010, , .		0
92	Calculation of terahertz active normal modes in organic crystals. , 2010, , .		0
93	THz generation using 800 to 1550 nm excitation of photoconductors. , 2009, , .		2
94	Terahertz goubau waveguides with integrated photoconductive emitters and mode discriminating detectors. , 2009, , .		0
95	Dual-frequency imaging using an electrically tunable terahertz quantum cascade laser. , 2009, , .		1
96	On-chip terahertz Goubau-line waveguides with integrated photoconductive emitters and mode-discriminating detectors. Applied Physics Letters, 2009, 95, .	1.5	21
97	Formation and manipulation of two-dimensional arrays of micron-scale particles in microfluidic systems by surface acoustic waves. Applied Physics Letters, 2009, 94, .	1.5	68
98	Comparison of near infrared laser excitation wavelengths and its influence on the interrogation of seized drugs of abuse by Raman spectroscopy. Journal of Raman Spectroscopy, 2009, 40, 1974-1983.	1.2	32
99	Sound tunes single-photon source. Nature Photonics, 2009, 3, 611-612.	15.6	1
100	Broadband terahertz time-domain spectroscopy of drugs-of-abuse and the use of principal component analysis. Analyst, The, 2009, 134, 1658.	1.7	70
101	Dual-frequency imaging using an electrically tunable terahertz quantum cascade laser. Optics Express, 2009, 17, 20631.	1.7	42
102	Terahertz pulsed spectroscopic imaging using optimized binary masks. Applied Physics Letters, 2009, 95, 231112.	1.5	31
103	Terahertz spectroscopy of explosives and drugs. Materials Today, 2008, 11, 18-26.	8.3	447
104	Sub-wavelength imaging of terahertz dielectric permittivity using planar resonant circuits. , 2008, , .		0
105	Broadband terahertz time-domain spectroscopy of drugs-of-abuse mixtures and street samples. , 2008, , .		1
106	Terahertz vibrational absorption resonances observed using on-chip terahertz circuits. , 2008, , .		0
107	Alignment of particles in microfluidic systems using standing surface acoustic waves. Applied Physics Letters, 2008, 92, .	1.5	89
108	Terahertz evanescent field microscopy of dielectric materials using on-chip waveguides. Applied Physics Letters, 2008, 92, 032903.	1.5	20

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109	Terahertz vibrational absorption spectroscopy using microstrip-line waveguides. Applied Physics Letters, 2008, 93, 182904.	1.5	51
110	Cyclotron absorption in two-dimensional electron systems monitored by terahertz time-domain spectroscopy. , 2007, , .		0
111	Evanescent-field Terahertz time-domain microscopy. , 2007, , .		0
112	Monolithic integration of low-temperature-grown GaAs with a two-dimensional electron gas. Semiconductor Science and Technology, 2007, 22, 811-813.	1.0	3
113	Temperature dependent and magnetic field dependent terahertz spectroscopy of $\text{In}_{1-x}\text{Mn}_x\text{As}$ . , 2007, , .		0
114	Terahertz time domain spectroscopy - present and future modalities. IEEE MTT-S International Microwave Symposium Digest IEEE MTT-S International Microwave Symposium, 2007, , .	0.0	1
115	Temperature dependent and magnetic field dependent terahertz spectroscopy of $\text{In}_{1-x}\text{Mn}_x\text{As}$ . , 2007, , .		0
116	Broadband terahertz time-domain and Raman spectroscopy of explosives. , 2007, 6549, 40.		18
117	Time-domain terahertz spectroscopy and applications on drugs and explosives. , 2007, , .		4
118	Excitation-density-dependent generation of broadband terahertz radiation in an asymmetrically excited photoconductive antenna. Optics Letters, 2007, 32, 2297.	1.7	52
119	Far-Infrared Spectroscopic Characterization of Explosives for Security Applications Using Broadband Terahertz Time-Domain Spectroscopy. Applied Spectroscopy, 2007, 61, 638-643.	1.2	99
120	Polyharmonic surface acoustic wave control of single-electron transport in semimetallic carbon nanotubes. Physical Review B, 2007, 76, .	1.1	0
121	On-chip pulsed terahertz systems and their applications. Journal of Infrared, Millimeter and Terahertz Waves, 2007, 27, 557-569.	0.6	17
122	TWO FRONTIERS OF ELECTRONIC ENGINEERING: SIZE AND FREQUENCY. Series on Iraq War and Its Consequences, 2007, , 195-216.	0.1	0
123	Analysis of drugs-of-abuse and explosives using terahertz time-domain and Raman spectroscopy. , 2006, , .		10
124	Complementary spectroscopic studies of materials of security interest. , 2006, 6402, 74.		8
125	Cryogenic excitation and detection of terahertz radiation in microstrip circuits. , 2006, , .		0
126	Electromagnetic simulation of terahertz frequency range filters for genetic sensing. Journal of Applied Physics, 2006, 100, 066105.	1.1	22



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127	Guided-wave Terahertz devices for sensing the properties of overlaid dielectric films. , 2006, , .		0
128	Multiple-frequency terahertz pulsed sensing of dielectric films. Applied Physics Letters, 2006, 88, 071112.	1.5	24
129	Measurement and simulation of the sensitivity of terahertz frequency range passive filter elements to overlaid dielectrics. , 2006, , .		0
130	On-chip photoconductive excitation and detection of pulsed terahertz radiation at cryogenic temperatures. Applied Physics Letters, 2006, 88, 142103.	1.5	18
131	Temperature-Dependent Far-Infrared Spectra of Explosives and Drugs Measured by Terahertz Time-Domain Spectroscopy. , 2006, , .		1
132	Terahertz frequency range band-stop filters. Applied Physics Letters, 2005, 86, 213503.	1.5	54
133	Acoustoelectric current in submicron-separated quantum wires. Applied Physics Letters, 2005, 86, 152105.	1.5	13
134	Acoustic Transport of Electrons in Parallel Quantum Wires. Acta Physica Polonica A, 2005, 107, 38-45.	0.2	2
135	Measurements of noise caused by switching of impurity states and of suppression of shot noise in surface-acoustic-wave-based single-electron pumps. Physical Review B, 2002, 65, .	1.1	26
136	Quantised current driven by surface acoustic waves. Materials Science and Engineering C, 2001, 15, 97-100.	3.8	5
137	High-frequency single-electron transport and the quantized acoustoelectric effect. Physica B: Condensed Matter, 2000, 280, 493-494.	1.3	8
138	Quantized Acoustoelectric Current—An Alternative Route Towards a Standard of Electric Current. Journal of Low Temperature Physics, 2000, 118, 555-569.	0.6	7
139	Single-electron acoustic charge transport on shallow-etched channels in a perpendicular magnetic field. Physical Review B, 2000, 62, 1564-1567.	1.1	66
140	Single-electron acoustic charge transport by two counterpropagating surface acoustic wave beams. Physical Review B, 1999, 60, 4850-4855.	1.1	86
141	Quantized current in one-dimensional channel induced by surface acoustic waves. Physica B: Condensed Matter, 1998, 249-251, 140-146.	1.3	34
142	Radiation Damage of Silicon and Diamond by High Energy Neutrons, Protons and $\hat{\pm}$ Particles. Materials Science Forum, 1997, 258-263, 787-792.	0.3	6
143	Noncontact semiconductor wafer characterization with the terahertz Hall effect. Applied Physics Letters, 1997, 71, 16-18.	1.5	170
144	Pulsed THz sensing of dielectric thin films using cascaded filter arrays. , 0, , .		0

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145	Effect of mesa geometry on low-terahertz frequency range plasmons in two-dimensional electron systems. Journal Physics D: Applied Physics, 0, , .	1.3	3