

# David M Tratt

## List of Publications by Year in descending order

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83  
papers

1,736  
citations

471509

17  
h-index

289244

40  
g-index

85  
all docs

85  
docs citations

85  
times ranked

1695  
citing authors

#	ARTICLE	IF	CITATIONS
1	Validation of in situ and remote sensing-derived methane refinery emissions in a complex wind environment and chemical implications. <i>Atmospheric Environment</i> , 2022, 273, 118900.	4.1	2
2	Measuring Floating Thick Seep Oil from the Coal Oil Point Marine Hydrocarbon Seep Field by Quantitative Thermal Oil Slick Remote Sensing. <i>Remote Sensing</i> , 2022, 14, 2813.	4.0	3
3	Wildfire Smoke Exposure: Covid19 Comorbidity?. <i>Journal of Respiration</i> , 2021, 1, 74-79.	1.1	9
4	Identification and source attribution of halocarbon emitters with longwave-infrared spectral imaging. <i>Remote Sensing of Environment</i> , 2021, 258, 112398.	11.0	7
5	On the Utility of Longwave-Infrared Spectral Imaging for Remote Botanical Identification. <i>Remote Sensing</i> , 2021, 13, 3344.	4.0	1
6	Estimating exposure to hydrogen sulfide from animal husbandry operations using satellite ammonia as a proxy: Methodology demonstration. <i>Science of the Total Environment</i> , 2020, 709, 134508.	8.0	4
7	The Lavic Lake Fault: A Long-Term Cumulative Slip Analysis via Combined Field Work and Thermal Infrared Hyperspectral Airborne Remote Sensing. <i>Remote Sensing</i> , 2020, 12, 3586.	4.0	1
8	Validation of ASTER Emissivity Retrieval Using the Mako Airborne TIR Imaging Spectrometer at the Algodones Dune Field in Southern California, USA. <i>Remote Sensing</i> , 2020, 12, 815.	4.0	4
9	Multi-Order Carbon Spectral Imager: A Sensor Concept for Carbon Cycle Investigations. <i>Earth and Space Science</i> , 2019, 6, 990-1003.	2.6	0
10	Validation of mobile in situ measurements of dairy husbandry emissions by fusion of airborne/surface remote sensing with seasonal context from the Chino Dairy Complex. <i>Environmental Pollution</i> , 2018, 242, 2111-2134.	7.5	9
11	GHOST: A Satellite Mission Concept for Persistent Monitoring of Stratospheric Gravity Waves Induced by Severe Storms. <i>Bulletin of the American Meteorological Society</i> , 2018, 99, 1813-1828.	3.3	6
12	High areal rate longwave-infrared hyperspectral imaging for environmental remote sensing. , 2018, , .		0
13	Remote sensing and in situ measurements of methane and ammonia emissions from a megacity dairy complex: Chino, CA. <i>Environmental Pollution</i> , 2017, 221, 37-51.	7.5	19
14	Tracking and quantification of gaseous chemical plumes from anthropogenic emission sources within the Los Angeles Basin. <i>Remote Sensing of Environment</i> , 2017, 201, 275-296.	11.0	29
15	Sulfate mineralogy of fumaroles in the Salton Sea Geothermal Field, Imperial County, California. <i>Journal of Volcanology and Geothermal Research</i> , 2017, 347, 15-43.	2.1	14
16	MAHI: An Airborne Mid-Infrared Imaging Spectrometer for Industrial Emissions Monitoring. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2017, 55, 4558-4566.	6.3	9
17	Urban-industrial emissions monitoring with airborne longwave-infrared hyperspectral imaging. , 2016, , .		10
18	Comparing imaging spectroscopy and in situ observations of Chino dairy complex emissions. , 2016, , .		0

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19	Hyperspectral LWIR mapping of fumarole sulfates, salton sea, imperial county, California. , 2016, , .		1
20	Multi-year study of remotely-sensed ammonia emission from fumaroles in the salton sea geothermal field. , 2016, , .		1
21	Geologic swath map of the lavic lake fault from airborne thermal hyperspectral imagery. , 2016, , .		2
22	Mako airborne thermal infrared imaging spectrometer: performance update. Proceedings of SPIE, 2016, , .	0.8	8
23	MAGI: A New High-Performance Airborne Thermal-Infrared Imaging Spectrometer for Earth Science Applications. IEEE Transactions on Geoscience and Remote Sensing, 2015, 53, 5447-5457.	6.3	18
24	Airborne visualization and quantification of discrete methane sources in the environment. Remote Sensing of Environment, 2014, 154, 74-88.	11.0	67
25	Emerging Technologies, Lidar. Encyclopedia of Earth Sciences Series, 2014, , 177-185.	0.1	3
26	Remote sensing visualization and quantification of ammonia emission from an inland seabird colony. Journal of Applied Remote Sensing, 2013, 7, 073475.	1.3	2
27	Remote sensing atmospheric trace gases with infrared imaging spectroscopy. Eos, 2012, 93, 525-525.	0.1	4
28	First flights of a new airborne thermal infrared imaging spectrometer with high area coverage. Proceedings of SPIE, 2011, , .	0.8	21
29	Remotely sensed ammonia emission from fumarolic vents associated with a hydrothermally active fault in the Salton Sea Geothermal Field, California. Journal of Geophysical Research, 2011, 116, .	3.3	25
30	Promoting Robust Design of Diode Lasers for Space: A National Initiative. Aerospace Conference Proceedings IEEE, 2008, , .	0.0	0
31	Analysis of laser remote sensing technology needs in the earth sciences: a decadal-scale outlook. Journal of Applied Remote Sensing, 2008, 2, 023546.	1.3	0
32	Space-based mineral and gas identification using a high-performance thermal infrared imaging spectrometer. , 2008, , .		9
33	NASA laser remote sensing technology needs for earth science in the next decade and beyond. , 2007, , .		0
34	Active Raman sounding of the earth's water vapor field. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2005, 61, 2335-2341.	3.9	7
35	Progress in laser sources for lidar applications: laser sources for 3D-imaging remote sensing. , 2005, 5653, 241.		3
36	Relativistic cyclotron resonance condition as applied to Type II interplanetary radio emission. Journal of Geophysical Research, 2004, 109, .	3.3	2

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37	Laser remote sensing: addressing key measurement challenges in the Earth sciences. , 2004, , .		1
38	In situ measurement of dust devil dynamics: Toward a strategy for Mars. Journal of Geophysical Research, 2003, 108, .	3.3	47
39	Differential Laser Absorption Spectrometry for Global Profiling of Tropospheric Carbon Dioxide: Selection of Optimum Sounding Frequencies for High-Precision Measurements. Applied Optics, 2003, 42, 6569.	2.1	92
40	Radiometric calibration of an airborne CO <sub>2</sub> pulsed Doppler lidar with a natural Earth surface. Applied Optics, 2002, 41, 3530.	2.1	5
41	Airborne Doppler lidar investigation of the wind-modulated sea-surface angular retroreflectance signature. Applied Optics, 2002, 41, 6941.	2.1	11
42	Aerosol layers over the Pacific Ocean: Vertical distributions and optical properties as observed by multiwavelength airborne lidars. Journal of Geophysical Research, 2002, 107, AAC 5-1.	3.3	10
43	April 1998 Asian dust event: A southern California perspective. Journal of Geophysical Research, 2001, 106, 18371-18379.	3.3	107
44	Asian dust events of April 1998. Journal of Geophysical Research, 2001, 106, 18317-18330.	3.3	747
45	<title>Multicenter airborne coherent atmospheric wind sensor (MACAWS) instrument: recent upgrades and results</title>. , 1999, 3757, 6.		2
46	Lidar In-space Technology Experiment measurements of sea surface directional reflectance and the link to surface wind speed. Applied Optics, 1998, 37, 5550.	2.1	30
47	Remote sensing of multi-level wind fields with high-energy airborne scanning coherent Doppler lidar. Optics Express, 1998, 2, 40.	3.4	14
48	The Multi-center Airborne Coherent Atmospheric Wind Sensor. Bulletin of the American Meteorological Society, 1998, 79, 581-599.	3.3	34
49	Airborne lidar observations of tropospheric aerosols during the Global Backscatter Experiment (GLOBE) Pacific circumnavigation missions of 1989 and 1990. Journal of Geophysical Research, 1997, 102, 3701-3714.	3.3	14
50	Optimization of coherent lidar performance with graded-reflectance transmitter resonator optics in the low equivalent Fresnel number regime. Applied Optics, 1996, 35, 4820.	2.1	0
51	Measuring atmospheric winds with airborne Doppler lidar. , 1996, , .		0
52	Evidence of seasonally dependent stratosphere-troposphere exchange and purging of lower stratospheric aerosol from a multiyear lidar data set. Journal of Geophysical Research, 1995, 100, 3139.	3.3	20
53	Evolution of the Pinatubo volcanic aerosol column above Pasadena, California observed with a mid-infrared backscatter lidar. Geophysical Research Letters, 1995, 22, 807-810.	4.0	6
54	Recent climatological trends in atmospheric aerosol backscatter derived from the Jet Propulsion Laboratory multiyear backscatter profile database. Applied Optics, 1994, 33, 424.	2.1	13

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55	Airborne CO <sub>2</sub> coherent lidar for measurements of atmospheric aerosol and cloud backscatter. Applied Optics, 1994, 33, 5698.	2.1	35
56	Airborne CO <sub>2</sub> Coherent Lidar Measurements of Cloud Backscatter and Opacity over the Ocean Surface. Journal of Atmospheric and Oceanic Technology, 1994, 11, 770-778.	1.3	4
57	Optimizing coherent lidar performance with graded-reflectance laser resonator optics. Applied Optics, 1992, 31, 4233.	2.1	7
58	Design and performance measurements of an airborne aerosol backscatter lidar. , 1990, , .		0
59	Automated rejection of parasitic frequency sidebands in heterodyne detection LIDAR applications. Review of Scientific Instruments, 1989, 60, 78-81.	1.3	3
60	Altitude and seasonal characteristics of aerosol backscatter at thermal infrared wavelengths using lidar observations from coastal California. Journal of Geophysical Research, 1989, 94, 9897-9908.	3.3	16
61	Unstable Resonator Considerations For Spaceborne Coherent Lidar Applications. Proceedings of SPIE, 1989, , .	0.8	0
62	Unstable resonator antenna properties in coherent lidar applications: a comparative study. Applied Optics, 1988, 27, 3645.	2.1	13
63	Atmospheric backscatter vertical profiles at 92 and 106 $\mu$ m: a comparative study. Applied Optics, 1988, 27, 4907.	2.1	21
64	CO <sub>2</sub> DIAL measurements of water vapor. Applied Optics, 1987, 26, 3033.	2.1	33
65	Optical measurements on the UK free-electron laser. IEEE Journal of Quantum Electronics, 1987, 23, 1514-1521.	1.9	4
66	The UK FEL project: Status and measurement of optical gain. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1987, 259, 31-37.	1.6	24
67	Data acquisition and optical diagnostic systems for the UK FEL. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1987, 259, 38-48.	1.6	9
68	Status of the UK free electron laser project. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1986, 250, 233-238.	1.6	8
69	Status of the UK FEL project. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1985, 237, 207-212.	1.6	7
70	Spectral control of gain-switched lasers by injection-seeding: Application to TEA CO <sub>2</sub> systems. Progress in Quantum Electronics, 1985, 10, 229-265.	7.0	28
71	Theoretical and experimental study of the injection-locked TEA CO <sub>2</sub> laser incorporating electron-plasma prepulse chirp phenomena. IEEE Journal of Quantum Electronics, 1985, 21, 11-14.	1.9	9
72	The UK free-electron laser: Optical and electron beam diagnostics. IEEE Journal of Quantum Electronics, 1985, 21, 1083-1088.	1.9	9

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73	Status and prospects of hybrid and injection-locked TEA CO <sub>2</sub> lasers for LIDAR and nonlinear optics applications. IEEE Journal of Quantum Electronics, 1985, 21, 359-364.	1.9	9
74	Preliminary Measurements of Spontaneous Radiation Output from the UK Free Electron Laser. NATO ASI Series Series B: Physics, 1985, , 247-254.	0.2	0
75	Injection locking of wide-aperture TEA CO <sub>2</sub> lasers. Applied Optics, 1983, 22, 208.	2.1	4
76	Polarization coupling effects in transversely excited atmospheric CO <sub>2</sub> lasers: Application to single axial mode operation. Applied Physics Letters, 1983, 42, 12-14.	3.3	13
77	Voltage dependence of the d <sub>31</sub> tensor element in Pb(Ti,Zr)O <sub>3</sub> . Review of Scientific Instruments, 1983, 54, 635-637.	1.3	0
78	Line-tunable orthogonally polarised dual-wavelength operation of a CW CO <sub>2</sub> laser. Journal of Physics E: Scientific Instruments, 1982, 15, 1010-1011.	0.7	4
79	Injection-locking of TEA CO <sub>2</sub> lasers by an orthogonally-polarised injection source. Optics Communications, 1982, 43, 274-276.	2.1	11
80	New lasers and laser schemes. Applied Physics B: Lasers and Optics, 1982, 29, 143-148.	2.2	1
81	Injection locked single mode operation of a TEA CO <sub>2</sub> laser with high energy extraction. Journal of Infrared, Millimeter and Terahertz Waves, 1981, 2, 571-579.	0.6	10
82	Remote sensing applications of a free-electron laser lidar. , 0, , .		1
83	Atmospheric and surface backscatter: dynamic range and spatial variability effects on lidar design and performance. , 0, , .		0