

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	Asian dust events of April 1998. Journal of Geophysical Research, 2001, 106, 18317-18330.	3.3	747
2	April 1998 Asian dust event: A southern California perspective. Journal of Geophysical Research, 2001, 106, 18371-18379.	3.3	107
3	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
4	Airborne visualization and quantification of discrete methane sources in the environment. Remote Sensing of Environment, 2014, 154, 74-88.	11.0	67
5	In situ measurement of dust devil dynamics: Toward a strategy for Mars. Journal of Geophysical Research, 2003, 108, .	3.3	47
6	Airborne CO ₂ coherent lidar for measurements of atmospheric aerosol and cloud backscatter. Applied Optics, 1994, 33, 5698.	2.1	35
7	The Multi-center Airborne Coherent Atmospheric Wind Sensor. Bulletin of the American Meteorological Society, 1998, 79, 581-599.	3.3	34
8	CO ₂ DIAL measurements of water vapor. Applied Optics, 1987, 26, 3033.	2.1	33
9	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
10	Tracking and quantification of gaseous chemical plumes from anthropogenic emission sources within the Los Angeles Basin. Remote Sensing of Environment, 2017, 201, 275-296.	11.0	29
11	Spectral control of gain-switched lasers by injection-seeding: Application to TEA CO ₂ systems. Progress in Quantum Electronics, 1985, 10, 229-265.	7.0	28
12	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
13	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
14	Atmospheric backscatter vertical profiles at 92 and 106 $\hat{1}$ / ₄ m: a comparative study. Applied Optics, 1988, 27, 4907.	2.1	21
15	First flights of a new airborne thermal infrared imaging spectrometer with high area coverage. Proceedings of SPIE, 2011, , .	0.8	21
16	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
17	Remote sensing and in situ measurements of methane and ammonia emissions from a megacity dairy complex: Chino, CA. Environmental Pollution, 2017, 221, 37-51.	7.5	19
18	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

#	ARTICLE	IF	CITATIONS
19	Altitude and seasonal characteristics of aerosol backscatter at thermal infrared wavelengths using lidar observations from coastal California. <i>Journal of Geophysical Research</i> , 1989, 94, 9897-9908.	3.3	16
20	Airborne lidar observations of tropospheric aerosols during the Global Backscatter Experiment (GLOBE) Pacific circumnavigation missions of 1989 and 1990. <i>Journal of Geophysical Research</i> , 1997, 102, 3701-3714.	3.3	14
21	Remote sensing of multi-level wind fields with high-energy airborne scanning coherent Doppler lidar. <i>Optics Express</i> , 1998, 2, 40.	3.4	14
22	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
23	Polarization coupling effects in transversely excited atmospheric CO ₂ lasers: Application to single axial mode operation. <i>Applied Physics Letters</i> , 1983, 42, 12-14.	3.3	13
24	Unstable resonator antenna properties in coherent lidar applications: a comparative study. <i>Applied Optics</i> , 1988, 27, 3645.	2.1	13
25	Recent climatological trends in atmospheric aerosol backscatter derived from the Jet Propulsion Laboratory multiyear backscatter profile database. <i>Applied Optics</i> , 1994, 33, 424.	2.1	13
26	Injection-locking of TEA CO ₂ lasers by an orthogonally-polarised injection source. <i>Optics Communications</i> , 1982, 43, 274-276.	2.1	11
27	Airborne Doppler lidar investigation of the wind-modulated sea-surface angular retroreflectance signature. <i>Applied Optics</i> , 2002, 41, 6941.	2.1	11
28	Injection locked single mode operation of a TEA CO ₂ laser with high energy extraction. <i>Journal of Infrared, Millimeter and Terahertz Waves</i> , 1981, 2, 571-579.	0.6	10
29	Aerosol layers over the Pacific Ocean: Vertical distributions and optical properties as observed by multiwavelength airborne lidars. <i>Journal of Geophysical Research</i> , 2002, 107, AAC 5-1.	3.3	10
30	Urban-industrial emissions monitoring with airborne longwave-infrared hyperspectral imaging. , 2016, , .		10
31	Theoretical and experimental study of the injection-locked TEA CO ₂ laser incorporating electron-plasma prepulse chirp phenomena. <i>IEEE Journal of Quantum Electronics</i> , 1985, 21, 11-14.	1.9	9
32	The UK free-electron laser: Optical and electron beam diagnostics. <i>IEEE Journal of Quantum Electronics</i> , 1985, 21, 1083-1088.	1.9	9
33	Status and prospects of hybrid and injection-locked TEA CO ₂ lasers for LIDAR and nonlinear optics applications. <i>IEEE Journal of Quantum Electronics</i> , 1985, 21, 359-364.	1.9	9
34	Data acquisition and optical diagnostic systems for the UK FEL. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 1987, 259, 38-48.	1.6	9
35	Space-based mineral and gas identification using a high-performance thermal infrared imaging spectrometer. , 2008, , .		9
36	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

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37	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. Environmental Pollution, 2018, 242, 2111-2134.	7.5	9
38	Wildfire Smoke Exposure: Covid19 Comorbidity?. Journal of Respiration, 2021, 1, 74-79.	1.1	9
39	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
40	Mako airborne thermal infrared imaging spectrometer: performance update. Proceedings of SPIE, 2016, , .	0.8	8
41	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
42	Optimizing coherent lidar performance with graded-reflectance laser resonator optics. Applied Optics, 1992, 31, 4233.	2.1	7
43	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
44	Identification and source attribution of halocarbon emitters with longwave-infrared spectral imaging. Remote Sensing of Environment, 2021, 258, 112398.	11.0	7
45	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
46	GHOST: A Satellite Mission Concept for Persistent Monitoring of Stratospheric Gravity Waves Induced by Severe Storms. Bulletin of the American Meteorological Society, 2018, 99, 1813-1828.	3.3	6
47	Radiometric calibration of an airborne CO ₂ pulsed Doppler lidar with a natural Earth surface. Applied Optics, 2002, 41, 3530.	2.1	5
48	Line-tunable orthogonally polarised dual-wavelength operation of a CW CO ₂ laser. Journal of Physics E: Scientific Instruments, 1982, 15, 1010-1011.	0.7	4
49	Injection locking of wide-aperture TEA CO ₂ lasers. Applied Optics, 1983, 22, 208.	2.1	4
50	Optical measurements on the UK free-electron laser. IEEE Journal of Quantum Electronics, 1987, 23, 1514-1521.	1.9	4
51	Airborne CO ₂ 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
52	Remote sensing atmospheric trace gases with infrared imaging spectroscopy. Eos, 2012, 93, 525-525.	0.1	4
53	Estimating exposure to hydrogen sulfide from animal husbandry operations using satellite ammonia as a proxy: Methodology demonstration. Science of the Total Environment, 2020, 709, 134508.	8.0	4
54	Validation of ASTER Emissivity Retrieval Using the Mako Airborne TIR Imaging Spectrometer at the Algodones Dune Field in Southern California, USA. Remote Sensing, 2020, 12, 815.	4.0	4

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55	Automated rejection of parasitic frequency sidebands in heterodyne detection LIDAR applications. Review of Scientific Instruments, 1989, 60, 78-81.	1.3	3
56	Progress in laser sources for lidar applications: laser sources for 3D-imaging remote sensing. , 2005, 5653, 241.		3
57	Emerging Technologies, Lidar. Encyclopedia of Earth Sciences Series, 2014, , 177-185.	0.1	3
58	Measuring Floating Thick Seep Oil from the Coal Oil Point Marine Hydrocarbon Seep Field by Quantitative Thermal Oil Slick Remote Sensing. Remote Sensing, 2022, 14, 2813.	4.0	3
59	<title>Multicenter airborne coherent atmospheric wind sensor (MACAWS) instrument: recent upgrades and results</title>. , 1999, 3757, 6.		2
60	Relativistic cyclotron resonance condition as applied to Type II interplanetary radio emission. Journal of Geophysical Research, 2004, 109, .	3.3	2
61	Remote sensing visualization and quantification of ammonia emission from an inland seabird colony. Journal of Applied Remote Sensing, 2013, 7, 073475.	1.3	2
62	Geologic swath map of the lavic lake fault from airborne thermal hyperspectral imagery. , 2016, , .		2
63	Validation of in situ and remote sensing-derived methane refinery emissions in a complex wind environment and chemical implications. Atmospheric Environment, 2022, 273, 118900.	4.1	2
64	New lasers and laser schemes. Applied Physics B: Lasers and Optics, 1982, 29, 143-148.	2.2	1
65	Remote sensing applications of a free-electron laser lidar. , 0, , .		1
66	Laser remote sensing: addressing key measurement challenges in the Earth sciences. , 2004, , .		1
67	Hyperspectral LWIR mapping of fumarole sulfates, salton sea, imperial county, California. , 2016, , .		1
68	Multi-year study of remotely-sensed ammonia emission from fumaroles in the salton sea geothermal field. , 2016, , .		1
69	The Lavic Lake Fault: A Long-Term Cumulative Slip Analysis via Combined Field Work and Thermal Infrared Hyperspectral Airborne Remote Sensing. Remote Sensing, 2020, 12, 3586.	4.0	1
70	On the Utility of Longwave-Infrared Spectral Imaging for Remote Botanical Identification. Remote Sensing, 2021, 13, 3344.	4.0	1
71	Voltage dependence of the d31 tensor element in Pb(Ti,â€%Zr)O3. Review of Scientific Instruments, 1983, 54, 635-637.	1.3	0
72	Unstable Resonator Considerations For Spaceborne Coherent Lidar Applications. Proceedings of SPIE, 1989, , .	0.8	0

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73	Design and performance measurements of an airborne aerosol backscatter lidar. , 1990, , .		0
74	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
75	Measuring atmospheric winds with airborne Doppler lidar. , 1996, , .		0
76	Atmospheric and surface backscatter: dynamic range and spatial variability effects on lidar design and performance. , 0, , .		0
77	NASA laser remote sensing technology needs for earth science in the next decade and beyond. , 2007, , .		0
78	Promoting Robust Design of Diode Lasers for Space: A National Initiative. Aerospace Conference Proceedings IEEE, 2008, , .	0.0	0
79	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
80	Comparing imaging spectroscopy and in situ observations of Chino dairy complex emissions. , 2016, , .		0
81	Multi-Order Carbon Spectral Imager: A Sensor Concept for Carbon Cycle Investigations. Earth and Space Science, 2019, 6, 990-1003.	2.6	0
82	Preliminary Measurements of Spontaneous Radiation Output from the UK Free Electron Laser. NATO ASI Series Series B: Physics, 1985, , 247-254.	0.2	0
83	High areal rate longwave-infrared hyperspectral imaging for environmental remote sensing. , 2018, , .		0