Wei Ren

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/804729/publications.pdf

Version: 2024-02-01

109 papers	2,932 citations	126858 33 h-index	206029 48 g-index
111 all docs	111 docs citations	111 times ranked	1864 citing authors

#	Article	IF	Citations
1	Metalâ€“organic framework-based nanofiber filters for effective indoor air quality control. Journal of Materials Chemistry A, 2018, 6, 15807-15814.	5.2	169
2	CO concentration and temperature sensor for combustion gases using quantum-cascade laser absorption near 4.7 Î¼m. Applied Physics B: Lasers and Optics, 2012, 107, 849-860.	1.1	145
3	Mercury Telluride Quantum Dot Based Phototransistor Enabling High-Sensitivity Room-Temperature Photodetection at 2000 nm. ACS Nano, 2017, 11, 5614-5622.	7.3	110
4	Single-QCL-based absorption sensor for simultaneous trace-gas detection of CH4 and N2O. Applied Physics B: Lasers and Optics, 2014, 117, 245-251.	1.1	80
5	A compact QCL based methane and nitrous oxide sensor for environmental and medical applications. Analyst, The, 2014, 139, 2065.	1.7	76
6	IR laser absorption diagnostic for C₂H₄ in shock tube kinetics studies. International Journal of Chemical Kinetics, 2012, 44, 423-432.	1.0	72
7	Sensitive detection of formaldehyde using an interband cascade laser near 3.6 Î¼m. Sensors and Actuators B: Chemical, 2015, 221, 1062-1068.	4.0	70
8	Multi-band infrared CO2 absorption sensor for sensitive temperature and species measurements in high-temperature gases. Applied Physics B: Lasers and Optics, 2014, 116, 855-865.	1.1	66
9	A portable low-power QEPAS-based CO2 isotope sensor using a fiber-coupled interband cascade laser. Sensors and Actuators B: Chemical, 2017, 246, 710-715.	4.0	63
10	Atmospheric CH_4 and N_2O measurements near Greater Houston area landfills using a QCL-based QEPAS sensor system during DISCOVER-AQ 2013. Optics Letters, 2014, 39, 957.	1.7	62
11	Double acoustic microresonator quartz-enhanced photoacoustic spectroscopy. Optics Letters, 2014, 39, 2479.	1.7	58
12	Laser sensors for energy systems and process industries: Perspectives and directions. Progress in Energy and Combustion Science, 2022, 91, 100997.	15.8	56
13	Non-uniform temperature and species concentration measurements in a laminar flame using multi-band infrared absorption spectroscopy. Applied Physics B: Lasers and Optics, 2017, 123, 1.	1.1	55
14	Quartz-enhanced photoacoustic detection of ethylene using a 105 Î¼m quantum cascade laser. Optics Express, 2016, 24, 4143.	1.7	52
15	Photothermal CO detection in a hollow-core negative curvature fiber. Optics Letters, 2019, 44, 4048.	1.7	52
16	Shock tube study of methanol, methyl formate pyrolysis: CH3OH and CO time-history measurements. Combustion and Flame, 2013, 160, 2669-2679.	2.8	50
17	Fuel and Ethylene Measurements during n-dodecane, methylcyclohexane, and iso-cetane pyrolysis in shock tubes. Fuel, 2013, 103, 1060-1068.	3.4	47
18	Fiber-ring laser intracavity QEPAS gas sensor using a 7.2â€¯kHz quartz tuning fork. Sensors and Actuators B: Chemical, 2018, 268, 512-518.	4.0	46

#	Article	IF	Citations
19	Hydrogen peroxide detection with quartz-enhanced photoacoustic spectroscopy using a distributed-feedback quantum cascade laser. Applied Physics Letters, 2014, 104, .	1.5	44
20	Shock tube studies of methyl butanoate pyrolysis with relevance to biodiesel. Combustion and Flame, 2012, 159, 3235-3241.	2.8	43
21	Sub-ppm CO detection in a sub-meter-long hollow-core negative curvature fiber using absorption spectroscopy at 2.3 Î¼m. Sensors and Actuators B: Chemical, 2020, 303, 127238.	4.0	43
22	Ultrasensitive photoacoustic detection in a high-finesse cavity with Poundâ€“Dreverâ€“Hall locking. Optics Letters, 2019, 44, 1924.	1.7	43
23	Constrained reaction volume approach for studying chemical kinetics behind reflected shock waves. Combustion and Flame, 2013, 160, 1550-1558.	2.8	42
24	Fiber-ring laser-based intracavity photoacoustic spectroscopy for trace gas sensing. Optics Letters, 2017, 42, 2114.	1.7	40
25	Pressure-dependent kinetics of methyl formate reactions with OH at combustion, atmospheric and interstellar temperatures. Physical Chemistry Chemical Physics, 2018, 20, 26190-26199.	1.3	40
26	Multi-species time-history measurements during high-temperature acetone and 2-butanone pyrolysis. Proceedings of the Combustion Institute, 2013, 34, 607-615.	2.4	39
27	Improved evanescent-wave quartz-enhanced photoacoustic CO sensor using an optical fiber taper. Sensors and Actuators B: Chemical, 2017, 248, 1023-1028.	4.0	38
28	Stability and emission characteristics of nonpremixed MILD combustion from a parallel-jet burner in a cylindrical furnace. Energy, 2019, 170, 1181-1190.	4.5	38
29	Position effects of acoustic micro-resonator in quartz enhanced photoacoustic spectroscopy. Sensors and Actuators B: Chemical, 2015, 206, 364-370.	4.0	36
30	Mid-infrared fiber-optic photothermal interferometry. Optics Letters, 2017, 42, 3718.	1.7	35
31	Silica Hollow-Core Negative Curvature Fibers Enable Ultrasensitive Mid-Infrared Absorption Spectroscopy. Journal of Lightwave Technology, 2020, 38, 2067-2072.	2.7	35
32	MIR-Pump NIR-Probe Fiber-Optic Photothermal Spectroscopy With Background-Free First Harmonic Detection. IEEE Sensors Journal, 2020, 20, 12709-12715.	2.4	35
33	Mid-infrared multimode fiber-coupled quantum cascade laser for off-beam quartz-enhanced photoacoustic detection. Optics Letters, 2016, 41, 4095.	1.7	34
34	Premixed MILD Combustion of Propane in a Cylindrical Furnace with a Single Jet Burner: Combustion and Emission Characteristics. Energy & Fuels, 2018, 32, 8817-8829.	2.5	34
35	Dual-comb photothermal spectroscopy. Nature Communications, 2022, 13, 2181.	5.8	34
36	Experimental and Modeling Study of the Thermal Decomposition of C3â€“C5 Ethyl Esters Behind Reflected Shock Waves. Journal of Physical Chemistry A, 2014, 118, 1785-1798.	1.1	33

#	Article	IF	Citations
37	QCL-based TDLAS sensor for detection of NO toward emission measurements from ovarian cancer cells. Applied Physics B: Lasers and Optics, 2014, 117, 445-451.	1.1	32
38	In Situ Flame Temperature Measurements Using a Mid-Infrared Two-Line H₂O Laser-Absorption Thermometry. Combustion Science and Technology, 2018, 190, 393-408.	1.2	32
39	Influence of Line Pair Selection on Flame Tomography Using Infrared Absorption Spectroscopy. Applied Spectroscopy, 2019, 73, 529-539.	1.2	32
40	Wavelength-stabilization-based photoacoustic spectroscopy for methane detection. Measurement Science and Technology, 2017, 28, 065102.	1.4	31
41	MHz-rate scanned-wavelength direct absorption spectroscopy using a distributed feedback diode laser at 2.3ÂÂμm. Optics and Laser Technology, 2020, 130, 106344.	2.2	31
42	Shock tube/laser absorption studies of the decomposition of methyl formate. Proceedings of the Combustion Institute, 2013, 34, 453-461.	2.4	30
43	A Mid-Infrared Fiber-Coupled QEPAS Nitric Oxide Sensor for Real-Time Engine Exhaust Monitoring. IEEE Sensors Journal, 2017, 17, 7418-7424.	2.4	30
44	Shock tube measurements of methane, ethylene and carbon monoxide time-histories in DME pyrolysis. Combustion and Flame, 2013, 160, 747-754.	2.8	28
45	An improved study of the uniformity of laminar premixed flames using laser absorption spectroscopy and CFD simulation. Experimental Thermal and Fluid Science, 2020, 112, 110013.	1.5	28
46	Heterodyne interferometric photothermal spectroscopy for gas detection in a hollow-core fiber. Sensors and Actuators B: Chemical, 2021, 346, 130528.	4.0	27
47	TDLAS Monitoring of Carbon Dioxide with Temperature Compensation in Power Plant Exhausts. Applied Sciences (Switzerland), 2019, 9, 442.	1.3	26
48	Methane and ethylene time-history measurements in n-butane and n-heptane pyrolysis behind reflected shock waves. Fuel, 2013, 108, 557-564.	3.4	22
49	Theoretical and Shock Tube Study of the Rate Constants for Hydrogen Abstraction Reactions of Ethyl Formate. Journal of Physical Chemistry A, 2017, 121, 6304-6313.	1.1	22
50	Kinetic mechanism for modeling the temperature effect on PAH formation in pyrolysis of acetylene. Fuel, 2019, 255, 115796.	3.4	22
51	Temperature sensing in shock-heated evaporating aerosol using wavelength-modulation absorption spectroscopy of CO₂near 2.7 Âμm. Measurement Science and Technology, 2010, 21, 105603.	1.4	21
52	Shock tube measurements of 3-pentanone pyrolysis and oxidation. Combustion and Flame, 2012, 159, 3251-3263.	2.8	21
53	Optical fiber tip-based quartz-enhanced photoacoustic sensor for trace gas detection. Applied Physics B: Lasers and Optics, 2016, 122, 1.	1.1	21
54	Theoretical and Experimental Investigation of Fiber-Ring Laser Intracavity Photoacoustic Spectroscopy (FLI-PAS) for Acetylene Detection. Journal of Lightwave Technology, 2017, 35, 4519-4525.	2.7	21

#	Article	IF	Citations
55	Pyrolysis and oxidation of methyl acetate in a shock tube: A multi-species time-history study. Proceedings of the Combustion Institute, 2017, 36, 255-264.	2.4	20
56	Mid-infrared heterodyne phase-sensitive dispersion spectroscopy in flame measurements. Proceedings of the Combustion Institute, 2019, 37, 1329-1336.	2.4	20
57	Anharmonic kinetics of the cyclopentane reaction with hydroxyl radical. Chemical Science, 2020, 11, 2511-2523.	3.7	20
58	Chemical kinetic modeling and shock tube study of methyl propanoate decomposition. Combustion and Flame, 2017, 184, 30-40.	2.8	18
59	Quartz-Enhanced Photoacoustic Spectroscopy (QEPAS) Detection of the Î½₇ Band of Ethylene at Low Pressure with CO₂ Interference Analysis. Applied Spectroscopy, 2017, 71, 1834-1841.	1.2	17
60	Tellurite Hollow-Core Antiresonant Fiber-Coupled Quantum Cascade Laser Absorption Spectroscopy. Journal of Lightwave Technology, 2021, 39, 5662-5668.	2.7	16
61	Standoff detection of VOCs using external cavity quantum cascade laser spectroscopy. Laser Physics Letters, 2018, 15, 085701.	0.6	15
62	Exploring the pyrolysis chemistry of prototype aromatic ester phenyl formate: Reaction pathways, thermodynamics and kinetics. Combustion and Flame, 2020, 211, 337-346.	2.8	15
63	Combined Ab Initio, Kinetic Modeling, and Shock Tube Study of the Thermal Decomposition of Ethyl Formate. Journal of Physical Chemistry A, 2017, 121, 6568-6579.	1.1	14
64	Characterization of Temperature and Soot Volume Fraction in Laminar Premixed Flames: Laser Absorption/Extinction Measurement and Two-Dimensional Computational Fluid Dynamics Modeling. Energy & Fuels, 2018, 32, 12962-12970.	2.5	14
65	Active modulation of intracavity laser intensity with the Poundâ€“Dreverâ€“Hall locking for photoacoustic spectroscopy. Optics Letters, 2020, 45, 1148.	1.7	14
66	Multi-species time-history measurements during n-hexadecane oxidation behind reflected shock waves. Proceedings of the Combustion Institute, 2013, 34, 369-376.	2.4	13
67	A theoretical and shock tube kinetic study on hydrogen abstraction from phenyl formate. Physical Chemistry Chemical Physics, 2018, 20, 21280-21285.	1.3	13
68	Water Catalysis of the Reaction of Methanol with OH Radical in the Atmosphere is Negligible. Angewandte Chemie - International Edition, 2020, 59, 10826-10830.	7.2	13
69	Accurate entropy calculation for large flexible hydrocarbons using a multi-structural 2-dimensional torsion method. Physical Chemistry Chemical Physics, 2019, 21, 10003-10010.	1.3	12
70	Trace gas detection in a hollow-core antiresonant fiber with heterodyne phase-sensitive dispersion spectroscopy. Sensors and Actuators B: Chemical, 2022, 363, 131774.	4.0	12
71	Mid-infrared CO2 sensor with blended absorption features for non-uniform laminar premixed flames. Applied Physics B: Lasers and Optics, 2022, 128, 1.	1.1	11
72	Accurate prediction of bond dissociation energies of large n-alkanes using ONIOM-CCSD(T)/CBS methods. Chemical Physics Letters, 2018, 699, 139-145.	1.2	10

#	Article	IF	Citations
73	Rapid field measurement of ventilation rate using a quartz-enhanced photoacoustic SF₆ gas sensor. Measurement Science and Technology, 2020, 31, 085105.	1.4	10
74	Water Catalysis of the Reaction of Methanol with OH Radical in the Atmosphere is Negligible. Angewandte Chemie, 2020, 132, 10918-10922.	1.6	10
75	Multipass-assisted dual-comb gas sensor for multi-species detection using a free-running fiber laser. Applied Physics B: Lasers and Optics, 2020, 126, 1.	1.1	10
76	Phase-modulated multigroup volume holographic correlator. Optics Letters, 2008, 33, 1144.	1.7	9
77	Interband cascade laser absorption sensor for real-time monitoring of formaldehyde filtration by a nanofiber membrane. Applied Optics, 2018, 57, 8005.	0.9	9
78	Cascaded group-additivity ONIOM: A new method to approach CCSD(T)/CBS energies of large aliphatic hydrocarbons. Combustion and Flame, 2019, 201, 31-43.	2.8	9
79	Direct dynamics of a large complex hydrocarbon reaction system: The reaction of OH with exo-tricyclodecane (the main component of Jet Propellant-10). Combustion and Flame, 2020, 216, 82-91.	2.8	8
80	Shock tube measurement of NO time-histories in nitromethane pyrolysis using a quantum cascade laser at 5.26â€Âµm. Proceedings of the Combustion Institute, 2021, 38, 1745-1752.	2.4	8
81	Dual-comb Spectroscopy for Laminar Premixed Flames with a Free-running Fiber Laser. Combustion Science and Technology, 2022, 194, 2523-2538.	1.2	8
82	Multispectral infrared absorption spectroscopy for quantitative temperature measurements in axisymmetric laminar premixed sooting flames. Case Studies in Thermal Engineering, 2021, 28, 101575.	2.8	8
83	Mid-infrared cavity-enhanced absorption sensor for ppb-level N₂O detection using an injection-current-modulated quantum cascade laser. Optics Express, 2021, 29, 41634.	1.7	8
84	Photothermal multi-species detection in a hollow-core fiber with frequency-division multiplexing. Sensors and Actuators B: Chemical, 2022, 369, 132333.	4.0	8
85	Wavelength-modulation dispersion spectroscopy of NO with heterodyne phase-sensitive detection. Optics Letters, 2022, 47, 2899.	1.7	7
86	Multi-pass absorption spectroscopy for H₂O₂ detection using a CW DFB-QCL. Advanced Optical Technologies, 2014, 3, 549-558.	0.9	6
87	Temperature and H2O sensing in laminar premixed flames using mid-infrared heterodyne phase-sensitive dispersion spectroscopy. Applied Physics B: Lasers and Optics, 2018, 124, 1.	1.1	6
88	Accurate temperature prediction with small absorption spectral data enabled by transfer machine learning. Optics Express, 2021, 29, 40699.	1.7	6
89	High-temperature ammonia detection using heterodyne phase-sensitive dispersion spectroscopy at 9.06ÂÎ¼m. Fuel, 2022, 325, 124852.	3.4	6
90	Quantum cascade laser-based sensor system for nitric oxide detection. Proceedings of SPIE, 2015, , .	0.8	5

#	Article	IF	Citations
91	Theoretical and Experimental Study of Heterodyne Phase-Sensitive Dispersion Spectroscopy with an Injection-Current-Modulated Quantum Cascade Laser. Sensors, 2020, 20, 6176.	2.1	5
92	Time-resolved characterization of non-thermal plasma-assisted photocatalytic removal of nitric oxide. Journal Physics D: Applied Physics, 2020, 53, 01LT02.	1.3	4
93	Transient tracer gas measurements: Development and evaluation of a fastâ€response SF ₆ measuring system based on quartzâ€enhanced photoacoustic spectroscopy. Indoor Air, 2022, 32, .	2.0	4
94	Hybrid constraint multi-line absorption spectroscopy for non-uniform thermochemical measurements in axisymmetric laminar and jet flames. Optics and Lasers in Engineering, 2022, 154, 107014.	2.0	4
95	Measurement of temperature-dependent line parameters of ammonia transitions near 1103 cmâ¯1. Journal of Quantitative Spectroscopy and Radiative Transfer, 2022, 288, 108269.	1.1	4
96	On the Quantification of Boundary Layer Effects on Flame Temperature Measurements Using Line-of-sight Absorption Spectroscopy. Combustion Science and Technology, 2022, 194, 3259-3276.	1.2	3
97	Tunable diode laser-based two-line thermometry: a noncontact thermometer for active body temperature measurement. Applied Optics, 2021, 60, 7036.	0.9	3
98	QCL Based Absorption Sensor for Simultaneous Trace-Gas Detection of CH4 and N2O. , 2014, , .		1
99	Development of an infrared laser absorption sensor for non-intrusive gas temperature measurements. Energetic Materials Frontiers, 2022, 3, 10-17.	1.3	1
100	Interband cascade laser based absorption sensor for ppb-level formaldehyde detection. , 2015, , .		0
101	Quantum cascade laser-based multipass absorption system for hydrogen peroxide detection. , 2015, , .		0
102	Experimental and modeling study of off-beam quartz-enhanced photoacoustic detection of nitrogen monoxide (NO) using a quantum cascade laser. , 2016, , .		0
103	QEPAS nitric oxide sensor based on a mid-infrared fiber-coupled quantum cascade laser. , 2017, , .		0
104	An erbium doped fiber-ring laser-based intracavity photoacoustic C<inf>2</inf>H<inf>2</inf> gas sensor. , 2017, , .		0
105	Mid-infrared photothermal interferometric gas sensing in hollow-core optical fibers. , 2018, , .		0
106	Fiber Laser Intracavity Quartz-Enhanced Photoacoustic Gas Sensor. , 2018, , .		0
107	CO2 measurement in laminar premixed flames using heterodyne phase-sensitive dispersion spectroscopy. , 2018, , .		0
108	A CGA-ONIOM-DFT framework for accurate and efficient determination of thermodynamics and Kinetics: Case study of cyclopentane reaction with hydroxyl radical. Chemical Physics Letters, 2022, 801, 139714.	1.2	0

#	Article	IF	Citations
109	A portable laser absorption sensor for quantitative measurement of ambient temperature and humidity. , 2022, , .		0