

Pietro Patimisco

List of Publications by Year in descending order

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110
papers

4,026
citations

70961

41
h-index

123241

61
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111
all docs

111
docs citations

111
times ranked

1029
citing authors

#	ARTICLE	IF	CITATIONS
1	Quartz-Enhanced Photoacoustic Spectroscopy: A Review. <i>Sensors</i> , 2014, 14, 6165-6206.	2.1	336
2	Recent advances in quartz enhanced photoacoustic sensing. <i>Applied Physics Reviews</i> , 2018, 5, .	5.5	174
3	Part-per-trillion level SF ₆ detection using a quartz enhanced photoacoustic spectroscopy-based sensor with single-mode fiber-coupled quantum cascade laser excitation. <i>Optics Letters</i> , 2012, 37, 4461.	1.7	142
4	Quartz enhanced photoacoustic H ₂ S gas sensor based on a fiber-amplifier source and a custom tuning fork with large prong spacing. <i>Applied Physics Letters</i> , 2015, 107, .	1.5	128
5	Atmospheric CH ₄ measurement near a landfill using an ICL-based QEPAS sensor with V-T relaxation self-calibration. <i>Sensors and Actuators B: Chemical</i> , 2019, 297, 126753.	4.0	127
6	Analysis of the electro-elastic properties of custom quartz tuning forks for photoacoustic gas sensing. <i>Sensors and Actuators B: Chemical</i> , 2016, 227, 539-546.	4.0	110
7	Widely-tunable mid-infrared fiber-coupled quartz-enhanced photoacoustic sensor for environmental monitoring. <i>Optics Express</i> , 2014, 22, 28222.	1.7	93
8	Ultra-high sensitive trace gas detection based on light-induced thermoelastic spectroscopy and a custom quartz tuning fork. <i>Applied Physics Letters</i> , 2020, 116, .	1.5	90
9	Single-tube on-beam quartz-enhanced photoacoustic spectroscopy. <i>Optics Letters</i> , 2016, 41, 978.	1.7	88
10	Quartz-enhanced photoacoustic spectroscopy for multi-gas detection: A review. <i>Analytica Chimica Acta</i> , 2022, 1202, 338894.	2.6	79
11	A quartz enhanced photo-acoustic gas sensor based on a custom tuning fork and a terahertz quantum cascade laser. <i>Analyst</i> , The, 2014, 139, 2079-2087.	1.7	77
12	Tuning forks with optimized geometries for quartz-enhanced photoacoustic spectroscopy. <i>Optics Express</i> , 2019, 27, 1401.	1.7	77
13	THz Quartz-enhanced photoacoustic sensor for H ₂ S trace gas detection. <i>Optics Express</i> , 2015, 23, 7574.	1.7	76
14	Ppt level carbon monoxide detection based on light-induced thermoelastic spectroscopy exploring custom quartz tuning forks and a mid-infrared QCL. <i>Optics Express</i> , 2021, 29, 25100.	1.7	76
15	High and flat spectral responsivity of quartz tuning fork used as infrared photodetector in tunable diode laser spectroscopy. <i>Applied Physics Reviews</i> , 2021, 8, .	5.5	76
16	Allan Deviation Plot as a Tool for Quartz-Enhanced Photoacoustic Sensors Noise Analysis. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2016, 63, 555-560.	1.7	72
17	Ultra-highly sensitive HCl-LITES sensor based on a low-frequency quartz tuning fork and a fiber-coupled multi-pass cell. <i>Photoacoustics</i> , 2022, 27, 100381.	4.4	72
18	Ppb-Level Quartz-Enhanced Photoacoustic Detection of Carbon Monoxide Exploiting a Surface Grooved Tuning Fork. <i>Analytical Chemistry</i> , 2019, 91, 5834-5840.	3.2	67

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19	Mid-infrared fiber-coupled QCL-QEPAS sensor. <i>Applied Physics B: Lasers and Optics</i> , 2013, 112, 25-33.	1.1	66
20	Methane, ethane and propane detection using a compact quartz enhanced photoacoustic sensor and a single interband cascade laser. <i>Sensors and Actuators B: Chemical</i> , 2019, 282, 952-960.	4.0	66
21	Simultaneous dual-gas QEPAS detection based on a fundamental and overtone combined vibration of quartz tuning fork. <i>Applied Physics Letters</i> , 2017, 110, .	1.5	64
22	Atmospheric CH ₄ and N ₂ O measurements near Greater Houston area landfills using a QCL-based QEPAS sensor system during DISCOVER-AQ 2013. <i>Optics Letters</i> , 2014, 39, 957.	1.7	62
23	Quartz-enhanced photoacoustic spectroscopy exploiting tuning fork overtone modes. <i>Applied Physics Letters</i> , 2015, 107, .	1.5	61
24	Improved Tuning Fork for Terahertz Quartz-Enhanced Photoacoustic Spectroscopy. <i>Sensors</i> , 2016, 16, 439.	2.1	59
25	In-plane quartz-enhanced photoacoustic spectroscopy. <i>Applied Physics Letters</i> , 2020, 116, .	1.5	59
26	Highly sensitive gas leak detector based on a quartz-enhanced photoacoustic SF ₆ sensor. <i>Optics Express</i> , 2016, 24, 15872.	1.7	57
27	Analysis of overtone flexural modes operation in quartz-enhanced photoacoustic spectroscopy. <i>Optics Express</i> , 2016, 24, A682.	1.7	57
28	Ppb-level gas detection using on-beam quartz-enhanced photoacoustic spectroscopy based on a 28kHz tuning fork. <i>Photoacoustics</i> , 2022, 25, 100321.	4.4	57
29	Dual-Gas Quartz-Enhanced Photoacoustic Sensor for Simultaneous Detection of Methane/Nitrous Oxide and Water Vapor. <i>Analytical Chemistry</i> , 2019, 91, 12866-12873.	3.2	53
30	Multi-pass quartz-enhanced photoacoustic spectroscopy-based trace gas sensing. <i>Optics Letters</i> , 2021, 46, 977.	1.7	52
31	Light-induced thermo-elastic effect in quartz tuning forks exploited as a photodetector in gas absorption spectroscopy. <i>Optics Express</i> , 2020, 28, 19074.	1.7	51
32	Broadband detection of methane and nitrous oxide using a distributed-feedback quantum cascade laser array and quartz-enhanced photoacoustic sensing. <i>Photoacoustics</i> , 2020, 17, 100159.	4.4	47
33	Overtone resonance enhanced single-tube on-beam quartz enhanced photoacoustic spectrophone. <i>Applied Physics Letters</i> , 2016, 109, .	1.5	46
34	Fiber-ring laser intracavity QEPAS gas sensor using a 7.2kHz quartz tuning fork. <i>Sensors and Actuators B: Chemical</i> , 2018, 268, 512-518.	4.0	46
35	Quartz-enhanced photoacoustic sensor for ethylene detection implementing optimized custom tuning fork-based spectrophone. <i>Optics Express</i> , 2019, 27, 4271.	1.7	46
36	Compact and portable quartz-enhanced photoacoustic spectroscopy sensor for carbon monoxide environmental monitoring in urban areas. <i>Photoacoustics</i> , 2022, 25, 100318.	4.4	45

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37	Hydrogen peroxide detection with quartz-enhanced photoacoustic spectroscopy using a distributed-feedback quantum cascade laser. <i>Applied Physics Letters</i> , 2014, 104, .	1.5	44
38	Purely wavelength- and amplitude-modulated quartz-enhanced photoacoustic spectroscopy. <i>Optics Express</i> , 2016, 24, 25943.	1.7	44
39	Quartz-enhanced photoacoustic spectrophones exploiting custom tuning forks: a review. <i>Advances in Physics: X</i> , 2017, 2, 169-187.	1.5	44
40	Quartz-enhanced photoacoustic spectroscopy for hydrocarbon trace gas detection and petroleum exploration. <i>Fuel</i> , 2020, 277, 118118.	3.4	43
41	Quartz-enhanced photoacoustic spectroscopy exploiting low-frequency tuning forks as a tool to measure the vibrational relaxation rate in gas species. <i>Photoacoustics</i> , 2021, 21, 100227.	4.4	43
42	Low-Loss Hollow Waveguide Fibers for Mid-Infrared Quantum Cascade Laser Sensing Applications. <i>Sensors</i> , 2013, 13, 1329-1340.	2.1	42
43	Partial Least-Squares Regression as a Tool to Retrieve Gas Concentrations in Mixtures Detected Using Quartz-Enhanced Photoacoustic Spectroscopy. <i>Analytical Chemistry</i> , 2020, 92, 11035-11043.	3.2	42
44	Mid-Infrared Quartz-Enhanced Photoacoustic Sensor for ppb-Level CO Detection in a SF ₆ Gas Matrix Exploiting a T-Grooved Quartz Tuning Fork. <i>Analytical Chemistry</i> , 2020, 92, 13922-13929.	3.2	42
45	High finesse optical cavity coupled with a quartz-enhanced photoacoustic spectroscopic sensor. <i>Analyst</i> , 2015, 140, 736-743.	1.7	41
46	High-concentration methane and ethane QEPAS detection employing partial least squares regression to filter out energy relaxation dependence on gas matrix composition. <i>Photoacoustics</i> , 2022, 26, 100349.	4.4	41
47	A quartz-enhanced photoacoustic sensor for H ₂ S trace-gas detection at 2.6 μ m. <i>Applied Physics B: Lasers and Optics</i> , 2015, 119, 21-27.	1.1	37
48	H ₂ S quartz-enhanced photoacoustic spectroscopy sensor employing a liquid-nitrogen-cooled THz quantum cascade laser operating in pulsed mode. <i>Photoacoustics</i> , 2021, 21, 100219.	4.4	37
49	Nitrous oxide quartz-enhanced photoacoustic detection employing a broadband distributed-feedback quantum cascade laser array. <i>Applied Physics Letters</i> , 2018, 113, .	1.5	34
50	Parts-per-billion detection of carbon monoxide: A comparison between quartz-enhanced photoacoustic and photothermal spectroscopy. <i>Photoacoustics</i> , 2021, 22, 100244.	4.4	34
51	Double antinode excited quartz-enhanced photoacoustic spectrophone. <i>Applied Physics Letters</i> , 2017, 110, .	1.5	33
52	Single mode operation with mid-IR hollow fibers in the range 51-105 μ m. <i>Optics Express</i> , 2015, 23, 195.	1.7	32
53	Loss Mechanisms Determining the Quality Factors in Quartz Tuning Forks Vibrating at the Fundamental and First Overtone Modes. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2018, 65, 1951-1957.	1.7	29
54	Environmental Monitoring of Methane with Quartz-Enhanced Photoacoustic Spectroscopy Exploiting an Electronic Hygrometer to Compensate the H ₂ O Influence on the Sensor Signal. <i>Sensors</i> , 2020, 20, 2935.	2.1	29

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55	Fiber-Coupled Quartz-Enhanced Photoacoustic Spectroscopy System for Methane and Ethane Monitoring in the Near-Infrared Spectral Range. <i>Molecules</i> , 2020, 25, 5607.	1.7	28
56	Coupling external cavity mid-IR quantum cascade lasers with low loss hollow metallic/dielectric waveguides. <i>Applied Physics B: Lasers and Optics</i> , 2012, 108, 255-260.	1.1	27
57	Sub-ppb-level CH ₄ detection by exploiting a low-noise differential photoacoustic resonator with a room-temperature interband cascade laser. <i>Optics Express</i> , 2020, 28, 19446.	1.7	27
58	Acoustic Coupling between Resonator Tubes in Quartz-Enhanced Photoacoustic Spectrophones Employing a Large Prong Spacing Tuning Fork. <i>Sensors</i> , 2019, 19, 4109.	2.1	26
59	Quartz-enhanced photoacoustic NH ₃ sensor exploiting a large-prong-spacing quartz tuning fork and an optical fiber amplifier for biomedical applications. <i>Photoacoustics</i> , 2022, 26, 100363.	4.4	25
60	Low-Loss Coupling of Quantum Cascade Lasers into Hollow-Core Waveguides with Single-Mode Output in the 3.7–7.6 μ m Spectral Range. <i>Sensors</i> , 2016, 16, 533.	2.1	21
61	Hollow core waveguide as mid-infrared laser modal beam filter. <i>Journal of Applied Physics</i> , 2015, 118, 113102.	1.1	20
62	Octupole electrode pattern for tuning forks vibrating at the first overtone mode in quartz-enhanced photoacoustic spectroscopy. <i>Optics Letters</i> , 2018, 43, 1854.	1.7	20
63	Compact quartz-enhanced photoacoustic sensor for ppb-level ambient NO ₂ detection by use of a high-power laser diode and a grooved tuning fork. <i>Photoacoustics</i> , 2022, 25, 100325.	4.4	20
64	Photoacoustic spectroscopy for gas sensing: A comparison between piezoelectric and interferometric readout in custom quartz tuning forks. <i>Photoacoustics</i> , 2020, 17, 100155.	4.4	19
65	Front-End Amplifiers for Tuning Forks in Quartz Enhanced PhotoAcoustic Spectroscopy. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 2947.	1.3	16
66	Damping Mechanisms of Piezoelectric Quartz Tuning Forks Employed in Photoacoustic Spectroscopy for Trace Gas Sensing. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2019, 216, 1800552.	0.8	13
67	Piezo-enhanced acoustic detection module for mid-infrared trace gas sensing using a grooved quartz tuning fork. <i>Optics Express</i> , 2019, 27, 35267.	1.7	12
68	Mid infrared quantum cascade laser operating in pure amplitude modulation for background-free trace gas spectroscopy. <i>Optics Express</i> , 2016, 24, 26464.	1.7	11
69	Quartz-Enhanced Photoacoustic Detection of Ethane in the Near-IR Exploiting a Highly Performant Spectrophone. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 2447.	1.3	11
70	Simultaneous multi-gas detection between 3 and 4 μ m based on a 2.5-m multipass cell and a tunable Fabry-Pérot filter detector. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2019, 216, 154-160.	2.0	9
71	Spatial mode filtering of mid-infrared (mid-IR) laser beams with hollow core fiber optics. <i>Proceedings of SPIE</i> , 2013, , .	0.8	8
72	Electronic temperatures of terahertz quantum cascade active regions with phonon scattering assisted injection and extraction scheme. <i>Optics Express</i> , 2013, 21, 10172.	1.7	8

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73	Mode matching of a laser-beam to a compact high finesse bow-tie optical cavity for quartz enhanced photoacoustic gas sensing. <i>Sensors and Actuators A: Physical</i> , 2017, 267, 70-75.	2.0	7
74	Near-Infrared Quartz-Enhanced Photoacoustic Sensor for H ₂ S Detection in Biogas. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 5347.	1.3	7
75	Compact and Versatile QEPAS-Based Sensor Box for Simultaneous Detection of Methane and Infrared Absorber Gas Molecules in Ambient Air. <i>Frontiers in Environmental Chemistry</i> , 0, 3, .	0.7	7
76	Influence of Air Pressure on the Resonance Properties of a T-Shaped Quartz Tuning Fork Coupled with Resonator Tubes. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 7974.	1.3	6
77	Application of standard and custom quartz tuning forks for quartz-enhanced photoacoustic spectroscopy gas sensing. <i>Applied Spectroscopy Reviews</i> , 2023, 58, 562-584.	3.4	6
78	Quartz-enhanced photoacoustic spectroscopy for gas sensing applications. , 2020, , 597-659.		4
79	Influence of Tuning Fork Resonance Properties on Quartz-Enhanced Photoacoustic Spectroscopy Performance. <i>Sensors</i> , 2019, 19, 3825.	2.1	3
80	A theoretical-experimental framework for the analysis of the dynamic response of a QEPAS tuning fork device immersed in a fluid medium. <i>Mechanical Systems and Signal Processing</i> , 2021, 149, 107298.	4.4	3
81	New approaches in quartz-enhanced photoacoustic sensing. <i>Proceedings of SPIE</i> , 2015, , .	0.8	2
82	Innovative quartz enhanced photoacoustic sensors for trace gas detection. , 2016, , .		2
83	New Developments in Quartz-Enhanced Photoacoustic Sensing Real-World Applications. , 2020, , .		2
84	Compact and low-noise quartz-enhanced photoacoustic sensor for sub-ppm ethylene detection in atmosphere. , 2018, , .		2
85	Recent advances in quartz-enhanced photoacoustic sensing. , 2018, , .		2
86	THz quantum cascade laser-based quartz enhanced photo-acoustic sensor. , 2013, , .		1
87	Quartz-enhanced photoacoustic sensors for H ₂ S trace gas detection. , 2015, , .		1
88	New developments in THz quartz enhanced photoacoustic spectroscopy. , 2016, , .		1
89	Modeling the dependence of fork geometry on the performance of quartz enhanced photoacoustic spectroscopic sensors. , 2015, , .		1
90	Interband cascade laser based quartz-enhanced photoacoustic sensor for multiple hydrocarbons detection. , 2018, , .		1

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91	Simultaneous dual gas QEPAS sensing of water and methane/nitrous oxide. , 2019, , .		1
92	Measurement of the methane isotopologues relaxation rate exploiting quartz-enhanced photoacoustic spectroscopy. , 2022, , .		1
93	Quantum cascade laser-based sensor system for hydrogen peroxide detection. , 2013, , .		0
94	Pure amplitude and wavelength modulation spectroscopy for detection of N2O using a three-section quantum cascade laser. , 2017, , .		0
95	Low power consumption quartz-enhanced photoacoustic gas sensor employing a quantum cascade laser in pulsed operation. Proceedings of SPIE, 2017, , .	0.8	0
96	Single-tube on beam quartz-enhanced photoacoustic spectrophones exploiting a custom quartz tuning fork operating in the overtone mode. Proceedings of SPIE, 2017, , .	0.8	0
97	Broadband Gas QEPAS Detection Exploiting a Monolithic DFB-QCL Array. NATO Science for Peace and Security Series B: Physics and Biophysics, 2021, , 61-70.	0.2	0
98	Quartz Enhanced Photoacoustic Sensors for Trace Gas Detection in the IR and THz Spectral Range. NATO Science for Peace and Security Series B: Physics and Biophysics, 2014, , 139-151.	0.2	0
99	Recent advances of mid-“infrared compact, field deployable sensors and their real world applications in the petrochemical industry, atmospheric chemistry and security. , 2016, , .		0
100	Micro-resonator Parameter Optimization of a QEPAS Spectrophone using a Custom Quartz Tuning Fork with large Prong Spacing. , 2016, , .		0
101	Tapered hollow-core fibers providing single-mode output in the 3.5um-7.8um spectral range. , 2018, , .		0
102	New generation of tuning forks for quartz-enhanced photoacoustic spectroscopy. , 2019, , .		0
103	Quartz-enhanced photoacoustic sensors for detection of multiple hydrocarbon and methane isotopes. , 2019, , .		0
104	Octupole electrode pattern for tuning forks vibrating at the first overtone mode in quartz-enhanced photoacoustic spectroscopy. , 2019, , .		0
105	Quartz-enhanced photoacoustic spectroscopy employing a distributed feedback-quantum cascade laser array for nitrous oxide and methane broadband detection. , 2019, , .		0
106	A novel double-tuning fork acoustic detection module for photoacoustic wide range sensing. , 2022, , .		0
107	Compact sensor for wide concentration range methane and ethane detection employing quartz tuning fork as photodetector in tunable diode laser spectroscopy. , 2022, , .		0
108	Quartz enhanced photoacoustic spectrometer for natural gas composition analysis. , 2022, , .		0

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109	Quartz-enhanced photoacoustic spectroscopy employing a Vernier-effect distributed feedback-quantum cascade laser for multiple analytes detection. , 2022, , .		0
110	Quartz-enhanced photoacoustic sensors for environmental monitoring applications. , 2022, , .		0