Gerald Diebold

List of Publications by Year
in descending order

75 papers	859 citations	687363 13 h-index	526287 27 g-index
241 all docs	241 docs citations	241 times ranked	942 citing authors

#	Article	IF	Citations
1	Photoacoustic Point Source. Physical Review Letters, 2001, 86, 3550-3553.	7.8	140
2	Determination of Thermal Diffusivities, Thermal Conductivities, and Sound Speeds of Room-Temperature Ionic Liquids by the Transient Grating Technique. Journal of Chemical & Engineering Data, 2006, 51, 1250-1255.	1.9	111
3	Chemical, Structural, Electronic, and Preliminary Photophysical and Biological Effects The financial assistance of Brown University start-up funds, Salomon Foundation, the US Department of Energy (ER) Tj ETQq1 1 0.784314 rgBT /Over purchased with assistance from NSF (CHE-8206423) and NIH (RR-06462). M. Beggs, J. Collosso, H. E. Ensley, T.-L. Shen, Angewandte Chemie - International Edition, 2002, 41, 747.	13.8	46
4	The photoacoustic effect generated by an incompressible sphere. Journal of the Acoustical Society of America, 2002, 112, 1780-1786.	1.1	37
5	Evaluation of Photodynamic Therapy Agents through Transient Grating Measurements. Journal of Physical Chemistry A, 2003, 107, 5138-5143.	2.5	36
6	Photoacoustic trace detection of gases at the parts-per-quadrillion level with a moving optical grating. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 7246-7249.	7.1	36
7	Propagation based differential phase contrast imaging and tomography of murine tissue with a laser plasma x-ray source. Applied Physics Letters, 2007, 91, .	3.3	28
8	Production of the photoacoustic effect and transient gratings by molecular volume changes. Journal of Chemical Physics, 1996, 104, 6730-6741.	3.0	27
9	Laser-Induced â€œRegenerationâ€•of Colloidal Particles: The Effects of Thermal Inertia on the Chemical Reactivity of Laser-Heated Particles. Angewandte Chemie - International Edition, 1999, 38, 3353-3356.	13.8	23
10	Laser-Initiated Chemical Reactions in Carbon Suspensions. Journal of Physical Chemistry A, 2002, 106, 10072-10078.	2.5	17
11	Opto-acoustic detection of chain reactions. Chemical Physics, 1980, 49, 429-437.	1.9	15
12	Photoacoustic shock generation in carbon suspensions. Applied Physics Letters, 1999, 75, 4204-4206.	3.3	14
13	Imaging based on the ultrasonic vibration potential. Applied Physics Letters, 2004, 85, 5466-5468.	3.3	14
14	Thermal Diffusion Shock Waves. Physical Review Letters, 2005, 94, 095901.	7.8	14
15	Vibrational relaxation of fluorine by a shock tube schlieren method. Journal of Chemical Physics, 1974, 60, 4170-4174.	3.0	13
16	Observation of the optoacoustic effect in the microwave region. Applied Physics Letters, 1976, 29, 447-449.	3.3	13
17	X-ray spatial harmonic imaging of phase objects. Optics Letters, 2011, 36, 2209.	3.3	13
18	Trace detection based on chemical amplification of the optoacoustic effect. Analytical Chemistry, 1985, 57, 2989-2991.	6.5	11

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19	Sonoluminescence initiated by laser irradiation of carbon suspensions. Applied Physics Letters, 1998, 73, 1029-1031.	3.3	11
20	Interference in Atomic Fluorescence Following Photodissociation of Homonuclear Diatomic Molecules. Physical Review Letters, 1983, 51, 1344-1347.	7.8	10
21	Acoustic radiation pressure: A â€œphase contrastâ€•agent for x-ray phase contrast imaging. Applied Physics Letters, 2004, 85, 4517.	3.3	10
22	Thermal Diffusion in a Sinusoidal Temperature Field. Physical Review Letters, 2004, 92, 125901.	7.8	9
23	Laser generation of gas bubbles: Photoacoustic and photothermal effects recorded in transient grating experiments. Journal of Chemical Physics, 2008, 129, 184506.	3.0	9
24	Differential photodiode detector for a shock tube laser schlieren system. Review of Scientific Instruments, 1974, 45, 773-775.	1.3	8
25	Paramagnetic resonance spectrum of metastableP2atomic nitrogen. Physical Review A, 1982, 25, 1504-1512.	2.5	8
26	Ludwigâ€“Soret effect in a linear temperature field: Theory and experiments for steady state distributions. Physics Letters, Section A: General, Atomic and Solid State Physics, 2011, 375, 1917-1920.	2.1	8
27	Photoacoustic waves at reflecting interfaces. Review of Scientific Instruments, 2003, 74, 801-804.	1.3	7
28	Imaging with the ultrasonic vibration potential: A theory for current generation. Ultrasound in Medicine and Biology, 2005, 31, 273-278.	1.5	7
29	Frequency domain vibration potential imaging: Objects with symmetry in one dimension. Applied Physics Letters, 2006, 89, 243902.	3.3	7
30	X-ray phase contrast imaging: Transmission functions separable in cylindrical coordinates. Journal of Applied Physics, 2009, 105, 102002.	2.5	7
31	Dynamics of thermal diffusion in a linear temperature field. Journal of Applied Physics, 2011, 110, 044908.	2.5	7
32	Photoacoustic effect in a sinusoidally modulated structure. Applied Physics Letters, 2012, 100, .	3.3	7
33	Photoacoustic transients produced by laser generated, ultrahigh thermal gradients. Applied Physics Letters, 2013, 103, .	3.3	7
34	Photoacoustic effect generated by moving optical sources: Motion in one dimension. Journal of Applied Physics, 2016, 119, .	2.5	7
35	Density gradient measurements of vibrational relaxation in Heâ€“F2 mixtures behind shock waves. Journal of Chemical Physics, 1975, 62, 296.	3.0	6
36	Quantum-mechanical interference in two-photon absorption: A nonlinear analog of the Hanle effect. Physical Review A, 1985, 32, 2739-2746.	2.5	6

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37	Theory of Thin Layer Photoacoustic Cells for Determination of Volume Changes in Solution. Journal of Physical Chemistry B, 1998, 102, 5404-5408.	2.6	6
38	X-ray elastography: Modification of x-ray phase contrast images using ultrasonic radiation pressure. Journal of Applied Physics, 2009, 105, 102001.	2.5	6
39	Comparison of Ultrasonic Distillation to Sparging of Liquid Mixtures. Analytical Chemistry, 2010, 82, 10090-10094.	6.5	6
40	The Effects of Initial Conditions on Photoacoustic Waveforms Generated by a Gaussian Heating Source Moving in One Dimension. International Journal of Thermophysics, 2016, 37, 1.	2.1	6
41	A numerical study of shock waves generated through laser ablation of explosives. Journal of Applied Physics, 2016, 120, .	2.5	5
42	Effects of A/D converter resolution in signal averaging. Review of Scientific Instruments, 1977, 48, 1689-1694.	1.3	4
43	Density gradient measurements of Cl2 dissociation in shock waves. Journal of Chemical Physics, 1977, 67, 881.	3.0	4
44	Interference in atomic fluorescence excited by molecular photodissociation. Physical Review A, 1985, 32, 1458-1467.	2.5	4
45	Transient gratings generated by particulate suspensions: The uniformly irradiated sphere and the point source. Journal of Chemical Physics, 2006, 124, 034905.	3.0	4
46	Optical pyrometer based on the gas phase photoacoustic effect. Optics Letters, 2016, 41, 2221.	3.3	4
47	Photoacoustic effect generated by moving optical sources: Motion in three dimensions. Journal of the Acoustical Society of America, 2017, 142, 3796-3803.	1.1	4
48	Photoacoustic effect in a stratified atmosphere. Physical Review E, 2018, 98, .	2.1	4
49	Mathematical analysis of thermal diffusion shock waves. Physical Review E, 2005, 72, 041205.	2.1	3
50	Potential distributions from electroacoustic polarization sources. Applied Physics Letters, 2008, 93, .	3.3	3
51	Photoacoustic transients generated by laser irradiation of thin films. Photoacoustics, 2015, 3, 60-63.	7.8	3
52	Emissivity determination using the photoacoustic effect. Applied Optics, 2018, 57, 2790.	1.8	3
53	Heterodyned photoacoustic effect generated by irradiation of single particles by two laser beams modulated at different frequencies. Ultrasonics, 2020, 106, 106157.	3.9	3
54	Generation of high amplitude compressions and rarefactions in a photoacoustically excited droplet. Photoacoustics, 2021, 23, 100289.	7.8	3

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55	Advances in photothermal and photoacoustic metrology. Journal of Applied Physics, 2020, 128, 240402.	2.5	3
56	Density gradient measurements of vibrational relaxation in Arâ€“ClF mixtures behind shock waves. Journal of Chemical Physics, 1978, 69, 1787-1788.	3.0	2
57	Mechanism of voltage production and frequency dependence of the ultrasonic vibration potential. Journal of Applied Physics, 2009, 105, 102003.	2.5	2
58	Effects of exothermic chemical reaction on the photoacoustic effect from particulate suspensions. Journal of Chemical Physics, 2011, 134, 124513.	3.0	2
59	Mathieu function solutions for photoacoustic waves in sinusoidal one-dimensional structures. Physical Review E, 2012, 86, 016602.	2.1	2
60	Generation of the sedimentation potential by rapid deceleration of a fluid jet. Journal of Applied Physics, 2014, 116, .	2.5	2
61	Moving photoacoustic sources: Acoustic waveforms in one, two, and three dimensions and application to trace gas detection. Journal of Applied Physics, 2019, 125, 060902.	2.5	2
62	Diffraction of light from phase gratings at large modulation depths:?transient-grating experiments in liquids at high laser powers. Optics Letters, 1999, 24, 211.	3.3	1
63	Resonant microphone based on laser beam deflection. Journal of Applied Physics, 2004, 96, 864-866.	2.5	1
64	Vibration potential imaging of spherical objects. Applied Physics Letters, 2013, 102, 254105.	3.3	1
65	Photoacoustic Effect Generated from an Expanding Spherical Source. International Journal of Thermophysics, 2018, 39, 1.	2.1	1
66	Mathematics of thermal diffusion in an exponential temperature field. Chemical Physics, 2018, 505, 1-5.	1.9	1
67	Differential Infrared Pyrometry for Determination of Microkelvin Temperature Variations. Analytical Chemistry, 2020, 92, 2058-2064.	6.5	1
68	Laser-Induced â€œRegenerationâ€•of Colloidal Particles: The Effects of Thermal Inertia on the Chemical Reactivity of Laser-Heated Particles. , 1999, 38, 3353.		1
69	Quantum beats in atomic fluorescence excited by molecular photodissociation. Journal of Chemical Physics, 1986, 85, 25-33.	3.0	0
70	Numerical calculation of the photoacoustic signal generated by a droplet. AIP Conference Proceedings, 1988, , .	0.4	0
71	Preface to Special Topic: Applied Biophysics. Journal of Applied Physics, 2009, 105, 101901.	2.5	0
72	Mathieu Function Solutions for the Photoacoustic Effect in Two- and Three-Dimensional Structures and Optical Traps. International Journal of Thermophysics, 2012, 33, 2185-2193.	2.1	0

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73	Theory of self-oscillation and mode locking in a longitudinal photoacoustic resonator. Physical Review E, 2014, 90, 043204.	2.1	0
74	Thermally Induced Photoacoustic Transients Produced by Laser-Irradiated Fluid Spheres. International Journal of Thermophysics, 2014, 35, 2171-2177.	2.1	0
75	Abel inversion of optical beam deflection signals from photoacoustic waves with symmetry in one, two, and three dimensions. Journal of Applied Physics, 2021, 130, 214902.	2.5	0