Robert P Lucht

List of Publications by Year
in descending order

86	1,954	279798 23	265206 42
papers	citations	h-index	g-index

86	86	86	702
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Chirped Probe Pulse Femtosecond Cars H₂Measurements At Elevated Pressure And Temperature. , 2022, , .		2
2	CO2 chirped-probe-pulse femtosecond CARS thermometry. Proceedings of the Combustion Institute, 2021, 38, 1599-1606.	3.9	8
3	Transverse injection of rich, premixed, natural gas-air and natural gas-hydrogen-air reacting jets into high-speed vitiated crossflow at engine-relevant conditions. International Journal of Hydrogen Energy, 2021, 46, 35718-35738.	7.1	4
4	Impact of moderate pumpâ€“Stokes chirp on femtosecond coherent antiâ€Stokes Raman scattering spectra. Journal of Raman Spectroscopy, 2020, 51, 115-124.	2.5	8
5	NOX reduction in an axially staged gas turbine model combustor through increase in the combustor exit Mach number. Combustion and Flame, 2020, 212, 282-294.	5.2	18
6	Pure rotational coherent antiâ€Stokes Raman scattering spectroscopy of nitric oxide: Determination of Raman tensor invariants. Journal of Raman Spectroscopy, 2020, 51, 807-828.	2.5	2
7	CARS thermometry in laminar sooting ethylene-air co-flow diffusion flames with nitrogen dilution. Combustion and Flame, 2019, 208, 37-44.	5.2	12
8	Reacting Jets in Vitiated Crossflow at High Speeds: The Development of an Optically-Accessible Secondary Combustion Zone. , 2019, , .		1
9	The development and performance of a perforated plate burner to produce vitiated flow with negligible swirl under engine-relevant gas turbine conditions. Review of Scientific Instruments, 2019, 90, 075107.	1.3	6
10	Flame stabilization mechanism in reacting jets in swirling vitiated crossflow. Combustion and Flame, 2019, 207, 302-313.	5.2	22
11	Five kHz thermometry in turbulent spray flames using chirped-probe pulse femtosecond CARS, part I: Processing and interference analysis. Combustion and Flame, 2019, 200, 405-416.	5.2	12
12	Investigation of the Chirped Probe Pulse Femtosecond Coherent Anti-Stokes Raman Scattering at High Pressure. , 2019, , .		0
13	Dual-Broadband Coherent anti-Stokes Raman Scattering for Investigating Pure Rotational Raman Spectra of Nitric Oxide. , 2019, , .		0
14	Effects of self-phase modulation (SPM) on femtosecond coherent anti-Stokes Raman scattering spectroscopy. Optics Express, 2019, 27, 33954.	3.4	10
15	Effects of moderate pump and Stokes chirp on chirped-probe pulse femtosecond coherent anti-Stokes Raman scattering thermometry. , 2018, , .		0
16	Effect of the nature of vitiated crossflow on the flow-field of a transverse reacting jet. Experiments in Fluids, 2017, 58, 1.	2.4	8
17	Dual-pump vibrational CARS measurements of temperature and species concentrations in turbulent premixed flames with CO2 addition. Combustion and Flame, 2017, 181, 239-250.	5.2	22
18	Investigation of Gas Heating by Nanosecond Repetitively Pulsed Glow Discharges Used for Actuation of a Laminar Methane-Air Flame. Combustion Science and Technology, 2017, 189, 2012-2022.	2.3	14

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19	Two-photon-absorption line strengths for nitric oxide: Comparison of theory and sub-Doppler, laser-induced fluorescence measurements. Journal of Chemical Physics, 2017, 146, 124311.	3.0	0
20	A model combustor for studying a reacting jet in an oscillating crossflow. Review of Scientific Instruments, 2017, 88, 065112.	1.3	8
21	Technique developments and performance analysis of chirped-probe-pulse femtosecond coherent anti-Stokes Raman scattering combustion thermometry. Applied Optics, 2017, 56, 8797.	1.8	14
22	High dynamic range thermometry at 5â€‰kHz in hydrogenâ€“air diffusion flame using chirpedâ€probeâ€pulse femtosecond coherent antiâ€stokes Raman scattering. Journal of Raman Spectroscopy, 2016, 47, 177-188.	2.5	10
23	5 kHz thermometry in a swirl-stabilized gas turbine model combustor using chirped probe pulse femtosecond CARS. Part 2. Analysis of swirl flame dynamics. Combustion and Flame, 2016, 173, 454-467.	5.2	13
24	5 kHz thermometry in a swirl-stabilized gas turbine model combustor using chirped probe pulse femtosecond CARS. Part 1: Temporally resolved swirl-flame thermometry. Combustion and Flame, 2016, 173, 441-453.	5.2	21
25	High-repetition-rate planar measurements in the wake of a reacting jet injected into a swirling vitiated crossflow. Combustion and Flame, 2016, 163, 241-257.	5.2	26
26	Two-color Polarization Spectroscopy Technique for Probing Collisionally Induced Resonances of Nitric Oxide. , 2015, , .		0
27	Structure and dynamics of the wake of a reacting jet injected into a swirling, vitiated crossflow in a staged combustion system. Experiments in Fluids, 2015, 56, 1.	2.4	13
28	Simultaneous 5 kHz OH-PLIF/PIV for the study of turbulent combustion at engine conditions. Applied Physics B: Lasers and Optics, 2015, 118, 109-130.	2.2	42
29	Vibrational CARS thermometry and one-dimensional numerical simulations in CH4/H2/air partially-premixed flames. International Journal of Hydrogen Energy, 2015, 40, 6959-6969.	7.1	13
30	Vibrational CARS thermometry and one-dimensional simulations in laminar H 2 /air counter-flow diffusion flames. International Journal of Hydrogen Energy, 2015, 40, 10662-10672.	7.1	8
31	Chirped probe pulse femtosecond coherent anti-Stokes Raman scattering thermometry at 5 kHz in a Gas Turbine Model Combustor. Proceedings of the Combustion Institute, 2015, 35, 3731-3738.	3.9	34
32	Study of Swirl Stabilized Burner with Interchangeable Swirler Using Chirped-Probe-Pulse Femtosecond Coherent Anti-Stokes Raman Scattering for Thermometry and CH4 Concentration Measurements. , 2015, , .		0
33	Application of a Two-color Polarization Spectroscopy Technique for Detection of Carbon Monoxide. , 2014, , .		0
34	Simultaneous CO concentration and temperature measurements using tunable diode laser absorption spectroscopy near 2.3ÂÎ¼m. Applied Physics B: Lasers and Optics, 2014, 117, 7-18.	2.2	24
35	The development of an optically accessible, high-power combustion test rig. Review of Scientific Instruments, 2014, 85, 035105.	1.3	33
36	Sooting Jet Diffusion Flame Thermometry at 5 kHz using Femtosecond Coherent Anti-Stokes Raman Scattering. , 2014, , .		2

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37	Chirped-probe-pulse femtosecond coherent anti-Stokes Raman scattering concentration measurements. Journal of the Optical Society of America B: Optical Physics, 2013, 30, 188.	2.1	18
38	Development of a combined pure rotational and vibrational coherent anti-Stokes Raman scattering system. Optics Letters, 2013, 38, 1340.	3.3	26
39	Microexplosion Investigation of Monomethylhydrazine Gelled Droplet with OH Planar Laser-Induced Fluorescence. Journal of Propulsion and Power, 2013, 29, 1303-1310.	2.2	24
40	Emission Measurements and CH* Chemiluminescence of a Staged Combustion Rig for Stationary Gas Turbine Applications. Journal of Engineering for Gas Turbines and Power, 2012, 134, .	1.1	20
41	Polarization suppression of the nonresonant background in femtosecond coherent anti-Stokes Raman scattering for flame thermometry at 5 kHz. Optics Express, 2012, 20, 21495.	3.4	21
42	Theoretical modeling of single-laser-shot, chirped-probe-pulse femtosecond coherent anti-Stokes Raman scattering thermometry. Applied Physics B: Lasers and Optics, 2011, 104, 699-714.	2.2	62
43	Single-laser-shot femtosecond coherent anti-Stokes Raman scattering thermometry at 1000Hz in unsteady flames. Proceedings of the Combustion Institute, 2011, 33, 839-845.	3.9	14
44	Dual-pump CARS temperature and major species concentration measurements in counter-flow methane flames using narrowband pump and broadband Stokes lasers. Combustion and Flame, 2010, 157, 1390-1399.	5.2	15
45	Electronic-resonance-enhanced coherent anti-Stokes Raman scattering of nitric oxide: Saturation and Stark effects. Journal of Chemical Physics, 2010, 133, 084310.	3.0	6
46	Effects of Molecular Interference on Femtosecond-CARS Spectroscopy. , 2010, , .		0
47	Chirped-Probe-Pulse Femtosecond Coherent Anti-Stokes Raman Scattering for Single-Laser-Pulse Flame Temperature Measurements. , 2010, , .		0
48	Theory of Chirped-Probe Pulse Single-Shot Femtosecond Coherent Anti-Stokes Raman Scattering Thermometry in Flames at 1000 Hz. , 2010, , .		0
49	Effects of N2â€“CO polarization beating on femtosecond coherent anti-Stokes Raman scattering spectroscopy of N2. Applied Physics Letters, 2009, 94, 144101.	3.3	31
50	Effects of collisions on electronic-resonance-enhanced coherent anti-Stokes Raman scattering of nitric oxide. Journal of Chemical Physics, 2009, 130, 214304.	3.0	16
51	Structure and mixing of a transient flow of helium injected into an established flow of nitrogen: two dimensional measurement and simulation. Experiments in Fluids, 2009, 46, 559-575.	2.4	6
52	Gas-phase single-shot thermometry at 1 kHz using fs-CARS spectroscopy. Optics Letters, 2009, 34, 3857.	3.3	94
53	Single-Pulse Femtosecond Coherent Anti-Stokes Raman Scattering Temperature Measurements Using a Chirped-Pulse Probe Beam. , 2009, , .		0
54	Measurement and calculation of the Qâ€branch spectrum of nitrogen using inverse Raman spectroscopy and cw Ramanâ€induced polarization spectroscopy. Journal of Raman Spectroscopy, 2008, 39, 68-78.	2.5	3

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55	Temperature measurements in reacting flows by time-resolved femtosecond coherent anti-Stokes Raman scattering (fs-CARS) spectroscopy. Optics Communications, 2008, 281, 319-325.	2.1	65
56	Collisional effects on molecular dynamics in electronic-resonance-enhanced CARS. Journal of Modern Optics, 2008, 55, 3263-3272.	1.3	16
57	Single-laser-shot detection of nitric oxide in reacting flows using electronic resonance enhanced coherent anti-Stokes Raman scattering. Applied Physics Letters, 2008, 93, 091115.	3.3	13
58	Femtosecond coherent anti-Stokes Raman scattering measurement of gas-phase species and temperature. , 2008, , .		0
59	Theory of Single-Pulse Femtosecond Coherent Anti-Stokes Raman Scattering Using a Chirped Probe Beam. , 2008, , .		0
60	Fs-CARS for High-Bandwidth, Collision-Free Temperature Measurements. , 2008, , .		0
61	Kilohertz-Rate, Collision-Free, Gas-Phase Thermometry with Femtosecond CARS. , 2008, , .		0
62	Theory of femtosecond coherent anti-Stokes Raman scattering spectroscopy of gas-phase transitions. Journal of Chemical Physics, 2007, 127, 044316.	3.0	68
63	CHEMISTRY: Femtosecond Lasers for Molecular Measurements. Science, 2007, 316, 207-208.	12.6	18
64	Detection of atomic hydrogen in flames using picosecond two-color two-photon-resonant six-wave-mixing spectroscopy. Applied Optics, 2007, 46, 3921.	2.1	23
65	Diode-laser-based sensor for ultraviolet absorption measurements of atomic mercury. Applied Physics B: Lasers and Optics, 2007, 87, 341-353.	2.2	35
66	Femtosecond coherent anti-Stokes Raman scattering measurement of gas temperatures from frequency-spread dephasing of the Raman coherence. Applied Physics Letters, 2006, 89, 251112.	3.3	131
67	Measurement of nitric oxide concentrations in flames by using electronic-resonance-enhanced coherent anti-Stokes Raman scattering. Optics Letters, 2006, 31, 3357.	3.3	23
68	Planar laser imaging and modeling of matrix-assisted pulsed-laser evaporation direct write in the bubble regime. Journal of Applied Physics, 2006, 100, 033107.	2.5	12
69	Development of injection-seeded, pulsed optical parametric generator/oscillator systems for high-resolution spectroscopy. Applied Physics B: Lasers and Optics, 2005, 80, 669-680.	2.2	45
70	Measurements of OH mole fraction and temperature up to 20 kHz by using a diode-laser-based UV absorption sensor. Applied Optics, 2005, 44, 6729.	2.1	57
71	Nonperturbative modeling of two-photon absorption in a three-state system. Journal of Chemical Physics, 2004, 121, 9820-9829.	3.0	1
72	Two-color, two-photon laser-induced polarization spectroscopy (LIPS) measurements of atomic hydrogen in near-adiabatic, atmospheric pressure hydrogen/air flames. Combustion and Flame, 2004, 137, 523-537.	5.2	52

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73	Temperature and CO2 concentration measurements in the exhaust stream of a liquid-fueled combustor using dual-pump coherent anti-Stokes Raman scattering (CARS) spectroscopy. Combustion and Flame, 2004, 138, 273-284.	5.2	71
74	Two-color, two-photon laser-induced polarization spectroscopy (LIPS) measurements of atomic hydrogen in near-adiabatic, atmospheric pressure hydrogen/air flames. Combustion and Flame, 2004, 137, 523-537.	5.2	1
75	Electronic-resonance-enhanced coherent anti-Stokes Raman spectroscopy of nitric oxide. Applied Physics Letters, 2003, 83, 1887-1889.	3.3	48
76	Polarization spectroscopy using short-pulse lasers: Theoretical analysis. Journal of Chemical Physics, 2002, 116, 571-580.	3.0	19
77	Time-Resolved Thermal Boundary-Layer Structure in a Pulsatile Reversing Channel Flow. Journal of Heat Transfer, 2001, 123, 655-664.	2.1	19
78	Dependence of partially saturated polarization spectroscopy signals on pump intensity and collision rate. Physical Review A, 2001, 64, .	2.5	23
79	Collisional dependence of polarization spectroscopy with a picosecond laser. Journal of Chemical Physics, 2000, 113, 2263-2269.	3.0	25
80	Resonant degenerate four-wave mixing spectroscopy of transitions with degenerate energy levels: Saturation and polarization effects. Journal of Chemical Physics, 1999, 111, 10008-10020.	3.0	19
81	Atomic hydrogen concentration profile measurements in stagnation-flow diamond-forming flames using three-photon excitation laser-induced fluorescence. Journal of Applied Physics, 1998, 83, 2315-2326.	2.5	32
82	Theoretical calculation of line shapes and saturation effects in polarization spectroscopy. Journal of Chemical Physics, 1998, 109, 5830-5843.	3.0	55
83	Nitrogen and hydrogen CARS temperature measurements in a hydrogen/air flame using a near-adiabatic flat-flame burner. Combustion and Flame, 1997, 109, 323-331.	5.2	164
84	Simultaneous acquisition of pure rotational and vibrational nitrogen spectra using three-laser coherent anti-Stokes Raman spectroscopy. Optics Letters, 1987, 12, 386.	3.3	31
85	Two-photon-excited fluorescence measurement of hydrogen atoms in flames. Optics Letters, 1983, 8, 365.	3.3	119
86	Saturated-Fluorescence Measurements of the Hydroxyl Radical. ACS Symposium Series, 1980, , 145-151.	0.5	3