

# Waruna D Kulatilaka

## List of Publications by Year in descending order

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133  
papers

1,872  
citations

257450

24  
h-index

315739

38  
g-index

133  
all docs

133  
docs citations

133  
times ranked

784  
citing authors

#	ARTICLE	IF	CITATIONS
1	Visible emission of hydrogen flames. <i>Combustion and Flame</i> , 2009, 156, 1234-1241.	5.2	113
2	Gas-phase single-shot thermometry at 1 kHz using fs-CARS spectroscopy. <i>Optics Letters</i> , 2009, 34, 3857.	3.3	94
3	Photolytic-interference-free, femtosecond two-photon fluorescence imaging of atomic hydrogen. <i>Optics Letters</i> , 2012, 37, 3051.	3.3	85
4	The Effects of Turbulent Jet Characteristics on Engine Performance Using a Pre-Chamber Combustor. , O, , .		67
5	Femtosecond, two-photon-absorption, laser-induced-fluorescence (fs-TALIF) imaging of atomic hydrogen and oxygen in non-equilibrium plasmas. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 015204.	2.8	64
6	Theoretical modeling of single-laser-shot, chirped-probe-pulse femtosecond coherent anti-Stokes Raman scattering thermometry. <i>Applied Physics B: Lasers and Optics</i> , 2011, 104, 699-714.	2.2	62
7	Direct measurement of rotationally resolved H <sub>2</sub> Q-branch Raman coherence lifetimes using time-resolved picosecond coherent anti-Stokes Raman scattering. <i>Applied Physics Letters</i> , 2010, 97, 081112.	3.3	56
8	One-dimensional single-shot thermometry in flames using femtosecond-CARS line imaging. <i>Optics Letters</i> , 2011, 36, 4182.	3.3	53
9	Two-color, two-photon laser-induced polarization spectroscopy (LIPS) measurements of atomic hydrogen in near-adiabatic, atmospheric pressure hydrogen/air flames. <i>Combustion and Flame</i> , 2004, 137, 523-537.	5.2	52
10	Electronic-resonance-enhanced coherent anti-Stokes Raman spectroscopy of nitric oxide. <i>Applied Physics Letters</i> , 2003, 83, 1887-1889.	3.3	48
11	Comparison of nanosecond and picosecond excitation for interference-free two-photon laser-induced fluorescence detection of atomic hydrogen in flames. <i>Applied Optics</i> , 2008, 47, 4672.	2.1	46
12	Development of injection-seeded, pulsed optical parametric generator/oscillator systems for high-resolution spectroscopy. <i>Applied Physics B: Lasers and Optics</i> , 2005, 80, 669-680.	2.2	45
13	Femtosecond two-photon LIF imaging of atomic species using a frequency-quadrupled Ti:sapphire laser. <i>Applied Physics B: Lasers and Optics</i> , 2014, 116, 7-13.	2.2	39
14	Interference-free two-photon LIF imaging of atomic hydrogen in flames using picosecond excitation. <i>Proceedings of the Combustion Institute</i> , 2009, 32, 955-962.	3.9	38
15	Photolytic-interference-free, femtosecond, two-photon laser-induced fluorescence imaging of atomic oxygen in flames. <i>Applied Physics B: Lasers and Optics</i> , 2016, 122, 1.	2.2	37
16	Time-resolved femtosecond CARS from 10 to 50 Bar: collisional sensitivity. <i>Journal of Raman Spectroscopy</i> , 2013, 44, 1344-1348.	2.5	35
17	FLEET velocimetry for combustion and flow diagnostics. <i>Applied Optics</i> , 2017, 56, 8632.	1.8	35
18	Analysis of 205-nm photolytic production of atomic hydrogen in methane flames. <i>Applied Physics B: Lasers and Optics</i> , 2009, 97, 227-242.	2.2	32

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19	Direct measurements of collisionally broadened Raman linewidths of CO <sub>2</sub> $\nu_2$ -branch transitions. <i>Journal of Chemical Physics</i> , 2013, 138, 024201.	3.0	31
20	Nitric oxide concentration measurements in atmospheric pressure flames using electronic-resonance-enhanced coherent anti-Stokes Raman scattering. <i>Applied Physics B: Lasers and Optics</i> , 2007, 88, 141-150.	2.2	29
21	Pressure, Temperature and Velocity Measurements in Underexpanded Free Jets using Laser-Induced Fluorescence Imaging. <i>AIAA Journal</i> , 2009, 47, 839-849.	2.6	28
22	Effects of quenching on electronic-resonance-enhanced coherent anti-Stokes Raman scattering of nitric oxide. <i>Applied Physics Letters</i> , 2006, 89, 104105.	3.3	27
23	Investigation of optical fibers for coherent anti-Stokes Raman scattering (CARS) spectroscopy in reacting flows. <i>Experiments in Fluids</i> , 2010, 49, 969-984.	2.4	27
24	Spatially and temporally resolved temperature and shock-speed measurements behind a laser-induced blast wave of energetic nanoparticles. <i>Journal of Applied Physics</i> , 2013, 113, 184310.	2.5	27
25	Experimental and modeling study on the effects of dimethyl methylphosphonate (DMMP) addition on H <sub>2</sub> , CH <sub>4</sub> , and C <sub>2</sub> H <sub>4</sub> ignition. <i>Combustion and Flame</i> , 2018, 191, 320-334.	5.2	27
26	Laminar flame speeds of DEMP, DMMP, and TEP added to H <sub>2</sub> - and CH <sub>4</sub> -air mixtures. <i>Proceedings of the Combustion Institute</i> , 2019, 37, 3775-3781.	3.9	27
27	Detection of acetylene by electronic resonance-enhanced coherent anti-Stokes Raman scattering. <i>Applied Physics B: Lasers and Optics</i> , 2007, 87, 731-737.	2.2	24
28	Quantitative atomic hydrogen measurements in premixed hydrogen tubular flames. <i>Combustion and Flame</i> , 2014, 161, 2924-2932.	5.2	24
29	Measurement of nitric oxide concentrations in flames by using electronic-resonance-enhanced coherent anti-Stokes Raman scattering. <i>Optics Letters</i> , 2006, 31, 3357.	3.3	23
30	Detection of atomic hydrogen in flames using picosecond two-color two-photon-resonant six-wave-mixing spectroscopy. <i>Applied Optics</i> , 2007, 46, 3921.	2.1	23
31	Perturbative theory and modeling of electronic-resonance-enhanced coherent anti-Stokes Raman scattering spectroscopy of nitric oxide. <i>Journal of Chemical Physics</i> , 2008, 128, 174308.	3.0	23
32	Laser-induced fluorescence detection of hydroxyl (OH) radical by femtosecond excitation. <i>Optics Letters</i> , 2011, 36, 1776.	3.3	23
33	Femtosecond two-photon laser-induced fluorescence of krypton for high-speed flow imaging. <i>Optics Letters</i> , 2017, 42, 711.	3.3	21
34	Point and planar ultraviolet excitation/detection of hydroxyl-radical laser-induced fluorescence through long optical fibers. <i>Optics Letters</i> , 2011, 36, 1818.	3.3	20
35	Laser-induced-breakdown-spectroscopy-based detection of metal particles released into the air during combustion of solid propellants. <i>Applied Optics</i> , 2018, 57, 1910.	1.8	20
36	Femtosecond Laser Electronic Excitation Tagging (FLEET) Fundamental Pulse Energy and Spectral Response. , 2014, , .		19

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37	Femtosecond, two-photon laser-induced-fluorescence imaging of atomic oxygen in an atmospheric-pressure plasma jet. <i>Plasma Sources Science and Technology</i> , 2015, 24, 032004.	3.1	19
38	Effects of pressure variations on electronic-resonance-enhanced coherent anti-Stokes Raman scattering of nitric oxide. <i>Optics Communications</i> , 2007, 274, 441-446.	2.1	18
39	Chirped-probe-pulse femtosecond coherent anti-Stokes Raman scattering concentration measurements. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2013, 30, 188.	2.1	18
40	Effects of O <sub>2</sub> –CO <sub>2</sub> polarization beating on femtosecond coherent anti-Stokes Raman scattering (fs-CARS) spectroscopy of O <sub>2</sub> . <i>Applied Physics B: Lasers and Optics</i> , 2011, 102, 141-147.	2.2	17
41	Minor-species structure of premixed cellular tubular flames. <i>Proceedings of the Combustion Institute</i> , 2015, 35, 1107-1114.	3.9	17
42	Temperature profile measurements in the near-substrate region of low-pressure diamond-forming flames. <i>Combustion and Flame</i> , 2002, 130, 261-276.	5.2	16
43	Gas-phase thermometry using delayed-probe-pulse picosecond coherent anti-Stokes Raman scattering spectra of H <sub>2</sub> . <i>Applied Optics</i> , 2011, 50, A38.	2.1	16
44	Effect of H-atom concentration on soot formation in premixed ethylene/air flames. <i>Proceedings of the Combustion Institute</i> , 2019, 37, 1289-1296.	3.9	16
45	Effect of particle morphology on dust cloud dynamics. <i>Powder Technology</i> , 2021, 379, 89-95.	4.2	16
46	Application of high-speed, species-specific chemiluminescence imaging for laminar flame speed and Markstein length measurements in spherically expanding flames. <i>Experimental Thermal and Fluid Science</i> , 2021, 129, 110477.	2.7	15
47	Single-laser-shot femtosecond coherent anti-Stokes Raman scattering thermometry at 1000Hz in unsteady flames. <i>Proceedings of the Combustion Institute</i> , 2011, 33, 839-845.	3.9	14
48	High-speed digital in-line holography for in-situ dust cloud characterization in a minimum ignition energy device. <i>Powder Technology</i> , 2020, 376, 612-621.	4.2	14
49	Investigation of optical fibers for gas-phase, ultraviolet laser-induced-fluorescence (UV-LIF) spectroscopy. <i>Applied Optics</i> , 2012, 51, 4047.	1.8	13
50	Single-shot thermometry using fiber-based picosecond coherent anti-Stokes Raman scattering (CARS) spectroscopy. <i>Journal of Raman Spectroscopy</i> , 2013, 44, 1330-1335.	2.5	13
51	Hydroxyl radical planar imaging in flames using femtosecond laser pulses. <i>Applied Physics B: Lasers and Optics</i> , 2019, 125, 1.	2.2	13
52	Hypervelocity impact response of monolithic UHMWPE and HDPE plates. <i>International Journal of Impact Engineering</i> , 2022, 161, 104081.	5.0	13
53	Development of High-Spectral-Resolution Planar Laser-Induced Fluorescence Imaging Diagnostics for High-Speed Gas Flows. <i>AIAA Journal</i> , 2008, 46, 17-20.	2.6	12
54	CO Imaging in piloted liquid-spray flames using femtosecond two-photon LIF. <i>Proceedings of the Combustion Institute</i> , 2019, 37, 1305-1312.	3.9	11

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55	Detailed calculation of hydroxyl (OH) radical two-photon absorption via broadband ultrafast excitation. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2012, 29, 40.	2.1	10
56	Simultaneous measurement of CO and OH in flames using a single broadband, femtosecond laser pulse. <i>Combustion and Flame</i> , 2020, 214, 358-360.	5.2	10
57	Investigation of particle density on dust cloud dynamics in a minimum ignition energy apparatus using digital in-line holography. <i>Powder Technology</i> , 2021, 384, 297-303.	4.2	10
58	Ignition delay time and laminar flame speed measurements of mixtures containing diisopropyl-methylphosphonate (DIMP). <i>Combustion and Flame</i> , 2020, 215, 66-77.	5.2	9
59	Resolving flame thickness using high-speed chemiluminescence imaging of OH* and CH* in spherically expanding methane-air flames. <i>Proceedings of the Combustion Institute</i> , 2021, 38, 2101-2108.	3.9	9
60	Shock-tube studies of Sarin surrogates. <i>Shock Waves</i> , 2019, 29, 441-449.	1.9	8
61	Three-photon-excited laser-induced fluorescence detection of atomic hydrogen in flames. <i>Optics Letters</i> , 2019, 44, 5945.	3.3	8
62	Structure and mixing of a transient flow of helium injected into an established flow of nitrogen: two dimensional measurement and simulation. <i>Experiments in Fluids</i> , 2009, 46, 559-575.	2.4	6
63	Electronic-resonance-enhanced coherent anti-Stokes Raman scattering of nitric oxide: Saturation and Stark effects. <i>Journal of Chemical Physics</i> , 2010, 133, 084310.	3.0	6
64	Investigation of optical fibers for high-repetition-rate, ultraviolet planar laser-induced fluorescence of OH. <i>Applied Optics</i> , 2013, 52, 3108.	1.8	6
65	Optical ray tracing method for simulating beam-steering effects during laser diagnostics in turbulent media. <i>Applied Optics</i> , 2017, 56, E106.	2.1	6
66	Detection of carbon monoxide (CO) in sooting hydrocarbon flames using femtosecond two-photon laser-induced fluorescence (fs-TPLIF). <i>Applied Physics B: Lasers and Optics</i> , 2018, 124, 1.	2.2	6
67	Simultaneous imaging of H and OH in flames using a single broadband femtosecond laser source. <i>Proceedings of the Combustion Institute</i> , 2021, 38, 1813-1821.	3.9	6
68	OH, PAH, and sooting imaging in piloted liquid-spray flames of diesel and diesel surrogate. <i>Combustion and Flame</i> , 2021, 231, 111479.	5.2	6
69	Spectroscopic investigation of high-pressure femtosecond two-photon laser-induced fluorescence of carbon monoxide up to 20 atm. <i>Applied Optics</i> , 2019, 58, C23.	1.8	6
70	Collision-independent detection of molecular two-photon excitation by time-resolved parametric four-wave mixing. <i>Journal of Raman Spectroscopy</i> , 2016, 47, 1124-1129.	2.5	5
71	Ultrashort-pulse laser-induced breakdown spectroscopy for detecting airborne metals during energetic reactions. <i>Applied Optics</i> , 2019, 58, C79.	1.8	5
72	Hydroxyl radical planar laser-induced fluorescence imaging in flames using frequency-tripled femtosecond laser pulses. <i>Optics Letters</i> , 2020, 45, 4690.	3.3	5

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73	Piloted Liquid Spray Flames: A Numerical and Experimental Study. <i>Combustion Science and Technology</i> , 2020, 192, 1887-1909.	2.3	4
74	High-Speed Hydroxyl and Methylidyne Chemiluminescence Imaging Diagnostics in Spherically Expanding Flames. <i>AIAA Journal</i> , 0, , 1-9.	2.6	4
75	Femtosecond pump-probe studies of atomic hydrogen superfluorescence in flames. <i>Applied Physics Letters</i> , 2020, 116, 201102.	3.3	4
76	Combustible Dust Cloud Characterization Using Multiple Laser Diagnostic Methods. , 2021, , .		3
77	Laser applications to chemical, security, and environmental analysis: introduction to the feature issue. <i>Applied Optics</i> , 2017, 56, LAC1.	2.1	2
78	High-Speed OH* and CH* Chemiluminescence Imaging and OH Planar Laser-Induced Fluorescence (PLIF) in Spherically Expanding Flames. , 2019, , .		2
79	High-sensitivity impulsive stimulated Raman spectrometer with fast data acquisition. <i>Journal of Raman Spectroscopy</i> , 2021, 52, 664-669.	2.5	2
80	Picosecond Laser-Based Fiber-Coupled CARS Spectroscopy for Gas-Phase Thermometry. , 2010, , .		1
81	Femtosecond TALIF Imaging of Atomic Hydrogen in Pulsed, Non-Equilibrium Plasmas. , 2014, , .		1
82	Shock-Tube Studies of Tri-Ethyl-Phosphate (TEP) Kinetics at High Temperatures. , 2017, , .		1
83	Characterization of Emissions from Metalized Energetic Formulations Using Laser-Induced Breakdown Spectroscopy. , 2017, , .		1
84	Spectroscopic Characterization of Reactions Involving Counter-WMD Simulants. , 2017, , .		1
85	Ultrashort-Pulse LIBS for Detecting Airborne Metal Particles from Energetic Material Reactions. , 2018, , .		1
86	Structure and Dynamics of Liquid-Fueled Piloted Spray Flames. , 2018, , .		1
87	Laminar Flame Speed Measurements from Chemiluminescence of OH* and CH* in CH <sub>4</sub> -Air Flames. , 2019, , .		1
88	Fs-TALIF imaging of atomic species in non-equilibrium plasmas at moderate pressures. , 2014, , .		1
89	Laser Imaging of Transient Mixing in Simulated Rocket Chambers. , 2006, , .		0
90	Electronic-Resonance-Enhanced (ERE) Coherent Anti-Stokes Raman Scattering (CARS) Detection of Minor Species in Reacting Flows. , 2007, , .		0

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91	Laser Imaging of Transient Injection and Mixing in a Simulated Rocket Chamber. , 2007, , .		0
92	Development of High-Spectral-Resolution Planar Laser-Induced Fluorescence Imaging Diagnostics for High-Speed Gas Flow. , 2008, , .		0
93	Temperature Measurements in Flames at 1000 Hz Using Femtosecond Coherent Anti-Stokes Raman Spectroscopy. , 2010, , .		0
94	Electronic-Resonance-Enhanced Coherent Anti-Stokes Raman Scattering of Nitric Oxide: Non-Perturbative Time- Dependent Modeling. , 2010, , .		0
95	Concentration Measurements in CO/N2 and Ar/N2 Gas Mixtures using Femtosecond Coherent Anti-Stokes Raman Scattering. , 2011, , .		0
96	High-Bandwidth, Spatially Resolved Thermometry in Reacting Flows Using Femtosecond-CARS Line Imaging. , 2011, , .		0
97	Advances in Fiber-Based Picosecond Coherent Anti-Stokes Raman Scattering Thermometry in Reacting Flows. , 2011, , .		0
98	High-speed imaging of OH radicals in flames using fiber-coupled UV-PLIF. , 2012, , .		0
99	Development of an All-Fiber-Coupled, Pulsed, Ultraviolet Laser-Induced-Fluorescence (UV-LIF) Detection System for OH Radicals in Practical Combustion Devices. , 2012, , .		0
100	Advances in Single-Laser-Shot Femtosecond Coherent Anti-Stokes Raman Scattering Concentration and Temperature Measurements. , 2012, , .		0
101	Fiber-Coupled High-Speed OH-PLIF Imaging in Turbulent Flames. , 2012, , .		0
102	High-Data-Rate One-Dimensional Thermometry Using Femtosecond CARS. , 2012, , .		0
103	Multi-Photon Fluorescence Imaging of Flame Species Using Femtosecond Excitation. , 2012, , .		0
104	Noninvasive Ultrafast Imaging Diagnostics in Low-Temperature Plasmas. , 2014, , .		0
105	An Optical Ray Tracing Method for Analyzing Beam-Steering Effects During Laser Diagnostics in Turbulent Media. , 2016, , .		0
106	Laminar Flame Speeds of Dilute Triethyl Phosphate in H <sub>2</sub> - and CH <sub>4</sub> -Air Mixtures. , 2017, , .		0
107	Mixture Fraction Imaging Using Femtosecond TPLIF of Krypton. , 2017, , .		0
108	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

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109	Spatially Resolved Atomic Hydrogen Concentration Measurements in Sooting Hydrocarbon Flames Using Femtosecond Two-Photon LIF. , 2017, , .		0
110	Investigation of Soot Formation Near Flame-Wall Interaction Region in Rich Ethylene/Air Flames. , 2018, , .		0
111	Investigation of Multi-Photon Excitation Schemes for Detecting Atomic Hydrogen in Flames. , 2018, , .		0
112	Investigation of Flow-Flame Interactions in Kerosene Piloted Liquid-Spray Flames Using Simultaneous OH and PAH PLIF. , 2020, , .		0
113	High-Speed OH PLIF Imaging in Flames Using Third Harmonic of an Amplified Femtosecond Laser. , 2021, , .		0
114	Investigation of Two-Color Laser-Induced Fluorescence (TC-LIF) and Two-Color Six-Wave Mixing Spectroscopy (TC-SWM) for Detection of Atomic Hydrogen. , 2006, , .		0
115	Interference-Free Laser-Induced Fluorescence Imaging of Atomic Hydrogen in Flames. , 2008, , .		0
116	Effects of Molecular Interference on Femtosecond-CARS Spectroscopy. , 2010, , .		0
117	Chirped-Probe-Pulse Femtosecond Coherent Anti-Stokes Raman Scattering for Single-Laser-Pulse Flame Temperature Measurements. , 2010, , .		0
118	Theory of Chirped-Probe Pulse Single-Shot Femtosecond Coherent Anti-Stokes Raman Scattering Thermometry in Flames at 1000 Hz. , 2010, , .		0
119	Kilohertz-Rate, One-Dimensional Thermometry in Reacting Flows Using Femtosecond-CARS Line Imaging. , 2011, , .		0
120	Space- and Time-Resolved Temperature Measurement Behind a Blast Wave Produced by Laser Ignition of Energetic Nanomaterials. , 2012, , .		0
121	Kilohertz-Rate Femtosecond-Multi-Photon-Excited Fluorescence Imaging of Atomic Species in Gas-Phase Reacting Flows. , 2012, , .		0
122	Advances in Fiber-Coupled Laser Diagnostics for Practical Combustion Measurements. , 2012, , .		0
123	Interference-Free, High-Repetition-Rate Imaging of Atomic-Hydrogen in Flames Using Femtosecond, Two-Photon-Excited, Laser-Induced Fluorescence (fs-TPLIF). , 2012, , .		0
124	An Efficient Frequency-Quadrupling Scheme for Generating Femtosecond UV Radiation Near 200 nm. , 2013, , .		0
125	Minor Species Measurements in Premixed Cellular Tubular Flames. , 2014, , .		0
126	Two-Photon Laser Induced Fluorescence of Krypton Using Femtosecond Pulses. , 2017, , .		0



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127	Investigation of Femtosecond Two-Photon LIF of CO at Elevated Pressures. , 2018, , .		0
128	Two- and Three-Photon LIF Detection of Atomic Hydrogen Using Femtosecond Laser Pulses. , 2018, , .		0
129	Chemical Species Imaging in Flames Using Frequency-Tripled Tunable Amplified Femtosecond Laser Pulses. , 2020, , .		0
130	Femtosecond Pure Rotational Chirped-Probe-Pulse CARS for singleshot thermometry in flames. , 2020, , .		0
131	Emission Spectra of Hydrocarbon Flames Doped with Phosphorus-Containing Compounds. , 2022, , .		0
132	Emission Spectra of Hydrocarbon Flames Doped with Phosphorus-Containing Compounds. Journal of Thermophysics and Heat Transfer, 0, , 1-9.	1.6	0
133	Study of Impulsive Stimulated Raman Scattering Effects Using the Femtosecond Pump-Probe Z-Scan Technique. Applied Sciences (Switzerland), 2021, 11, 11667.	2.5	0