Derek Dunn-Rankin

List of Publications by Year
in descending order

111 papers	2,952 citations	201674 27 h-index	197818 49 g-index
115 all docs	115 docs citations	115 times ranked	2164 citing authors

#	Article	IF	Citations
1	Liquid Fuel Nonpremixed Swirl-Type Tubular Flame Burner. Combustion Science and Technology, 2023, 195, 1-12.	2.3	4
2	PLIF and chemiluminescence in a small laminar coflow methane-air diffusion flame at elevated pressures. Combustion and Flame, 2022, 243, 112067.	5.2	7
3	Experimental studies on combined production of CH₄and safe long-term storage of CO₂in the form of solid hydrate in sediment. Physical Chemistry Chemical Physics, 2021, 23, 23313-23324.	2.8	7
4	Flame Propagation in a Narrow Closed Channel: Effects of Aspect Ratios, Blockage Ratio, and Mixture Reactivity on Flame Speed and Pressure Dynamics. Combustion Science and Technology, 2020, 192, 986-996.	2.3	1
5	Preface to the 26th ICDERS Special Issue. Combustion Science and Technology, 2019, 191, 605-606.	2.3	0
6	Stages in the Dynamics of Hydrate Formation and Consequences for Design of Experiments for Hydrate Formation in Sediments. Energies, 2019, 12, 3399.	3.1	34
7	Combustion Characteristics of Methane Hydrate Flames. Energies, 2019, 12, 1939.	3.1	40
8	Emissions from Solid Fuel Cook Stoves in the HimalayaRegion. Energies, 2019, 12, 1089.	3.1	13
9	Ion current and carbon monoxide release from an impinging methane/air coflow flame in an electric field. Combustion and Flame, 2019, 204, 250-259.	5.2	16
10	Temperature Measurement of Glowing Embers with Color Pyrometry. Fire Technology, 2019, 55, 1013-1026.	3.0	20
11	FEMTOSECOND DIGITAL HOLOGRAPHY IN THE NEAR-NOZZLE REGION OF A DODECANE SPRAY. Atomization and Sprays, 2019, 29, 251-267.	0.8	8
12	Non-premixed axisymmetric flames driven by ion currents. Combustion and Flame, 2019, 199, 365-376.	5.2	10
13	Electric Field Induced Changes of a Diffusion Flame and Heat Transfer near an Impinging Surface. Energies, 2018, 11, 1235.	3.1	14
14	Temperature profiles and extinction limits of a coflow water-vapor laden methane/air diffusion flame. Experiments in Fluids, 2018, 59, 1.	2.4	11
15	Non-premixed swirl-type tubular flames burning liquid fuels. Journal of Fluid Mechanics, 2018, 846, 210-239.	3.4	2
16	Ammonium bisulfate formation and reduced load SCR operation. Fuel, 2017, 206, 180-189.	6.4	88
17	Effects of pressure on structure and extinction limits of counterflow nonpremixed water-laden methane/air flames. Energy, 2017, 134, 545-553.	8.8	21
18	Characterizing I-V Curves for Non-Premixed Methane Flames Stabilized on Different Burner Configurations. Combustion Science and Technology, 2017, 189, 1739-1750.	2.3	7

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19	Hybrid femtosecond/picosecond pureâ€rotational coherent antiâ€Stokes Raman scattering with chirped probe pulses. Journal of Raman Spectroscopy, 2017, 48, 1881-1886.	2.5	13
20	Evaporation of a droplet larger than the Kolmogorov length scale immersed in a relative mean flow. International Journal of Multiphase Flow, 2017, 88, 63-68.	3.4	13
21	Impinging nonpremixed coflow methaneâ€“air flames with unity Lewis number. Proceedings of the Combustion Institute, 2017, 36, 1411-1419.	3.9	3
22	Ultra-short pulsed off-axis digital holography for imaging dynamic targets in highly scattering conditions. Applied Optics, 2017, 56, 3736.	2.1	14
23	Spatially and temporally resolved diagnostics of dense sprays using gated, femtosecond, digital holography. , 2017, , .		1
24	Burning Iceâ€”Direct Combustion of Methane Clathrates. Combustion Science and Technology, 2016, 188, 2137-2148.	2.3	20
25	CO emission from an impinging non-premixed flame. Combustion and Flame, 2016, 174, 16-24.	5.2	22
26	Analytical investigation of high temperature 1 kW solid oxide fuel cell system feasibility in methane hydrate recovery and deep ocean power generation. Applied Energy, 2016, 179, 909-928.	10.1	16
27	Preface to the Special Issue. Combustion Science and Technology, 2016, 188, 1691-1692.	2.3	0
28	Evidence for immobile transitional state of water in methane clathrate hydrates grown from surfactant solutions. Chemical Engineering Science, 2016, 142, 89-96.	3.8	23
29	Detailed characterization of DC electric field effects on small non-premixed flames. Combustion and Flame, 2015, 162, 2865-2872.	5.2	41
30	Extinction limits and structure of counterflow nonpremixed H2O-laden CH4/air flames. Energy, 2015, 93, 442-450.	8.8	39
31	Preface to the Special Issue. Combustion Science and Technology, 2014, 186, 1273-1274.	2.3	0
32	Professor Felix J. Weinberg, FRS (1928â€“2012). Combustion and Flame, 2013, 160, 993-994.	5.2	1
33	Visualizing CH* chemiluminescence in sooting flames. Combustion and Flame, 2013, 160, 2275-2278.	5.2	63
34	Electrical aspects of flame quenching. Proceedings of the Combustion Institute, 2013, 34, 3295-3301.	3.9	25
35	Miniature Fuel Film Combustor: Swirl Vane Design and Combustor Characterization. Combustion Science and Technology, 2013, 185, 1464-1481.	2.3	5
36	Particle chaining and chain dynamics in viscoelastic liquids. Journal of Non-Newtonian Fluid Mechanics, 2012, 179-180, 1-8.	2.4	16

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37	Turbine Burners: Performance Improvement and Challenge of Flameholding. AIAA Journal, 2012, 50, 1645-1669.	2.6	21
38	Simulating Gravity in Microgravity Combustion Using Electric Fields. Combustion Science and Technology, 2012, 184, 1891-1902.	2.3	10
39	Behavior of a small diffusion flame as an electrically active component in a high-voltage circuit. Combustion and Flame, 2012, 159, 210-220.	5.2	32
40	Characterizing sooting propensity in biofuelâ€“diesel flames. Combustion and Flame, 2012, 159, 2181-2191.	5.2	36
41	MODELING THE BREAKUP OF LIQUID JETS SUBJECTED TO PURE AND COMPOSITE DISTURBANCES. Atomization and Sprays, 2012, 22, 543-559.	0.8	2
42	Controlled Continuous Patterning of Polymeric Nanofibers on Three-Dimensional Substrates Using Low-Voltage Near-Field Electrospinning. Nano Letters, 2011, 11, 1831-1837.	9.1	209
43	A Tubular-Flame Combustor for Thermophotovoltaic Power Systems. , 2011, , .		1
44	Small-Scale HCCI Engine Operation. Combustion Science and Technology, 2011, 183, 928-946.	2.3	3
45	Probing Dense Sprays with Gated, Picosecond, Digital Particle Field Holography. International Journal of Spray and Combustion Dynamics, 2011, 3, 351-366.	1.0	9
46	Syngas formation in methane flames and carbon monoxide release during quenching. Combustion and Flame, 2011, 158, 273-280.	5.2	6
47	Ammonium bisulfate formation temperature in a bench-scale single-channel air preheater. Fuel, 2011, 90, 2445-2453.	6.4	69
48	COMPARISON OF WATER-IN-OIL EMULSION ATOMIZATION CHARACTERISTICS FOR LOW- AND HIGH-CAPACITY PRESSURE-SWIRL NOZZLES. Atomization and Sprays, 2011, 21, 391-410.	0.8	2
49	Breakup control of a liquid jet by disturbance manipulation. Physics of Fluids, 2010, 22, 107103.	4.0	14
50	A transport model for nicotine in the tracheobronchial and pulmonary region of the lung. Inhalation Toxicology, 2010, 22, 42-48.	1.6	14
51	Particle-wall collision in a viscoelastic fluid. Journal of Fluid Mechanics, 2009, 633, 475-483.	3.4	30
52	Performance of a mesoscale liquid fuelâ€film combustionâ€driven TPV power system. Progress in Photovoltaics: Research and Applications, 2009, 17, 327-336.	8.1	51
53	Enhancing thermal, electrical efficiencies of a miniature combustionâ€driven thermophotovoltaic system. Progress in Photovoltaics: Research and Applications, 2009, 17, 502-512.	8.1	36
54	Turbulent combustion in a curving, contracting channel with a cavity stabilized flame. Proceedings of the Combustion Institute, 2009, 32, 2973-2981.	3.9	11

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55	Secondary air injection in miniature liquid fuel film combustors. Proceedings of the Combustion Institute, 2009, 32, 3091-3098.	3.9	29
56	Numerical prediction of ion current from a small methane jet flame. Combustion and Flame, 2009, 156, 1227-1233.	5.2	49
57	Particle Size Distribution of Nicotine in Mainstream Smoke from 2R4F, Marlboro Medium, and Quest1 Cigarettes under Different Puffing Regimens. Inhalation Toxicology, 2009, 21, 435-446.	1.6	15
58	UCI Liquid Film Miniature Combustor. , 2009, , .		1
59	CONTROLLING LIQUID JET BREAKUP WITH PRACTICAL PIEZOELECTRIC DEVICES. Small Group Research, 2009, 19, 135-155.	2.7	3
60	Electric field-controlled mesoscale burners. Combustion and Flame, 2008, 152, 186-193.	5.2	16
61	Progress in miniature liquid film combustors: Double chamber and central porous fuel inlet designs. Experimental Thermal and Fluid Science, 2008, 32, 1118-1131.	2.7	40
62	Combustion in a Meso-Scale Liquid-Fuel-Film Combustor with Central-Porous Fuel Inlet. Combustion Science and Technology, 2008, 180, 1900-1919.	2.3	29
63	Selected Presentations from the Twenty-First International Colloquium on the Dynamics of Explosions and Reactive Systems. Combustion Science and Technology, 2008, 180, 1693-1694.	2.3	0
64	Modelling electric field driven convection in small combustion plasmas and surrounding gases. Combustion Theory and Modelling, 2008, 12, 23-44.	1.9	32
65	Particle-Wall Interaction in a Viscoelastic Fluid. AIP Conference Proceedings, 2008, , .	0.4	0
66	Introduction and Perspectives. , 2008, , 1-18.		10
67	Numerical simulation of a tubular ion-driven wind generator. Journal of Electrostatics, 2007, 65, 646-654.	1.9	30
68	Flame structure in small-scale liquid film combustors. Proceedings of the Combustion Institute, 2007, 31, 3269-3275.	3.9	56
69	In-flight thermal control of molten metal droplet streams. International Journal of Heat and Mass Transfer, 2007, 50, 4554-4558.	4.8	10
70	Maximizing ion-driven gas flows. Journal of Electrostatics, 2006, 64, 368-376.	1.9	144
71	Using Large Electric Fields to Control Transport in Microgravity. Annals of the New York Academy of Sciences, 2006, 1077, 570-584.	3.8	7
72	Canceling Buoyancy of Gaseous Fuel Flames in a Gravitational Environment Using an Ion-Driven Wind. Annals of the New York Academy of Sciences, 2006, 1077, 585-601.	3.8	6

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73	Inducing gas flow and swirl in tubes using ionic wind from corona discharges. Experiments in Fluids, 2006, 40, 231-237.	2.4	13
74	Characterization of ionic wind velocity. Journal of Electrostatics, 2005, 63, 711-716.	1.9	89
75	Personal power systems. Progress in Energy and Combustion Science, 2005, 31, 422-465.	31.2	256
76	N2 CARS thermometry and O2 LIF concentration measurements in a flame under electrically induced microbuoyancy. Combustion and Flame, 2003, 133, 241-254.	5.2	13
77	Measurement and prediction of indoor air flow in a model room. Energy and Buildings, 2003, 35, 515-526.	6.7	249
78	Temperature field measurements of small, nonpremixed flames with use of an Abel inversion of holographic interferograms. Applied Optics, 2003, 42, 952.	2.1	26
79	Crossed Two-Beam Coherent Anti-Stokes Raman Spectroscopy in Dispersive Media. Applied Spectroscopy, 2003, 57, 93-99.	2.2	4
80	Effects of capillary spacing on EHD spraying from an array of cone jets. Journal of Aerosol Science, 2002, 33, 1471-1479.	3.8	65
81	Experimental Study of a Hybrid Electrohydrodynamic, Air-Assisted Liquid Atomizer. , 2002, , .		1
82	Miniature-scale liquid-fuel-film combustor. Proceedings of the Combustion Institute, 2002, 29, 925-931.	3.9	92
83	TOWARD A CONTROL MODEL FOR MANIPULATING THE BREAKUP OF A LIQUID JET. Atomization and Sprays, 2001, 11, 415-431.	0.8	4
84	Overpressures from nondetonating, baffle-accelerated turbulent flames in tubes. Combustion and Flame, 2000, 120, 504-514.	5.2	13
85	Location of the Schlieren Image in Premixed Flames: Axially Symmetrical Refractive Index Fields. Combustion and Flame, 1998, 113, 303-311.	5.2	20
86	Spatial averaging effects in CARS thermometry of a nonpremixed flame. Combustion and Flame, 1998, 115, 481-486.	5.2	28
87	Using numerical simulation to predict ventilation efficiency in a model room. Energy and Buildings, 1998, 28, 43-50.	6.7	39
88	Engineering Design in Industry: Teaching Students and Faculty to Apply Engineering Science in Design. Journal of Engineering Education, 1998, 87, 219-222.	3.0	13
89	Experimental investigation of air flow around blunt aerosol samplers. Journal of Aerosol Science, 1997, 28, 289-305.	3.8	20
90	In Situ Light Scattering Measurements of Mainstream and Sidestream Cigarette Smoke. Aerosol Science and Technology, 1996, 24, 85-101.	3.1	22

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91	DROPLET STREAM DYNAMICS AT HIGH AMBIENT PRESSURE. Atomization and Sprays, 1996, 6, 485-497.	0.8	9
92	Experimental Investigation ofa Rectilinear Droplet Stream Flame. Combustion Science and Technology, 1994, 100, 57-73.	2.3	24
93	Experimental investigation of a two-dimensional cylindrical sampler. Journal of Aerosol Science, 1994, 25, 935-955.	3.8	14
94	The Effects of Bluntness and Orientation on Two-Dimensional Samplers in Calm Air. Aerosol Science and Technology, 1993, 19, 371-380.	3.1	10
95	Potential role of atomic carbon in diamond deposition. Journal of Applied Physics, 1993, 74, 6941-6947.	2.5	17
96	Predicted Aerosol Aspiration Efficiency for Infants, Children, and Adults. Journal of Occupational and Environmental Hygiene, 1993, 8, 639-644.	0.4	0
97	CARS Temperature Measurements in a Droplet Stream Flame. Combustion Science and Technology, 1992, 83, 97-114.	2.3	7
98	LOW-COST WIND TUNNEL FOR AEROSOL INHALATION STUDIES. AIHA Journal, 1992, 53, 232-236.	0.4	9
99	Inhaled Particle Mass per Unit Body Mass per Unit Time. Journal of Occupational and Environmental Hygiene, 1992, 7, 246-252.	0.4	6
100	Experiments examining drag in linear droplet packets. Experiments in Fluids, 1992, 12, 157-165.	2.4	20
101	Using coherent anti-Stokes Raman spectroscopy to probe the temperature field of a combusting droplet stream. Applied Optics, 1991, 30, 2672.	2.1	13
102	Measurement and prediction of trajectories and collision of droplets. International Journal of Multiphase Flow, 1991, 17, 159-177.	3.4	22
103	The role of dispersants in CWS agglomeration during combustion. Fuel, 1991, 70, 84-89.	6.4	12
104	Effect of droplet-induced breakdown on CARS temperature measurements. Applied Optics, 1990, 29, 3150.	2.1	10
105	Influence of ash on particle size distribution evolution during coal combustion. Combustion and Flame, 1988, 74, 207-218.	5.2	13
106	Using Mie scattering for measuring size changes of individual particles. Journal of Physics E: Scientific Instruments, 1988, 21, 378-383.	0.7	2
107	Kinetic Model for Simulating the Evolution of Particle Size Distributions During Char Combustion. Combustion Science and Technology, 1988, 58, 297-314.	2.3	10
108	Combustion of coalâ€"water slurriesEvolution of particle size distribution for coals of different rank. Fuel, 1987, 66, 1139-1145.	6.4	14

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109	Ignition by excimer laser photolysis of ozone. Combustion and Flame, 1987, 69, 171-184.	5.2	51
110	Numerical simulation of particle size distribution evolution during pulverized coal combustion. Combustion and Flame, 1987, 69, 193-209.	5.2	31
111	Heat Transfer in Engines: Comparison of Cars Thermal Boundary Layer Measurements and Heat Flux Measurementsâ€. , 0, , .		40