

Derek Dunn-Rankin

List of Publications by Year in descending order

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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	Personal power systems. Progress in Energy and Combustion Science, 2005, 31, 422-465.	31.2	256
2	Measurement and prediction of indoor air flow in a model room. Energy and Buildings, 2003, 35, 515-526.	6.7	249
3	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
4	Maximizing ion-driven gas flows. Journal of Electrostatics, 2006, 64, 368-376.	1.9	144
5	Miniature-scale liquid-fuel-film combustor. Proceedings of the Combustion Institute, 2002, 29, 925-931.	3.9	92
6	Characterization of ionic wind velocity. Journal of Electrostatics, 2005, 63, 711-716.	1.9	89
7	Ammonium bisulfate formation and reduced load SCR operation. Fuel, 2017, 206, 180-189.	6.4	88
8	Ammonium bisulfate formation temperature in a bench-scale single-channel air preheater. Fuel, 2011, 90, 2445-2453.	6.4	69
9	Effects of capillary spacing on EHD spraying from an array of cone jets. Journal of Aerosol Science, 2002, 33, 1471-1479.	3.8	65
10	Visualizing CH* chemiluminescence in sooting flames. Combustion and Flame, 2013, 160, 2275-2278.	5.2	63
11	Flame structure in small-scale liquid film combustors. Proceedings of the Combustion Institute, 2007, 31, 3269-3275.	3.9	56
12	Ignition by excimer laser photolysis of ozone. Combustion and Flame, 1987, 69, 171-184.	5.2	51
13	Performance of a mesoscale liquid fuel-film combustion-driven TPV power system. Progress in Photovoltaics: Research and Applications, 2009, 17, 327-336.	8.1	51
14	Numerical prediction of ion current from a small methane jet flame. Combustion and Flame, 2009, 156, 1227-1233.	5.2	49
15	Detailed characterization of DC electric field effects on small non-premixed flames. Combustion and Flame, 2015, 162, 2865-2872.	5.2	41
16	Heat Transfer in Engines: Comparison of Cars Thermal Boundary Layer Measurements and Heat Flux Measurements. , 0, , .		40
17	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
18	Combustion Characteristics of Methane Hydrate Flames. Energies, 2019, 12, 1939.	3.1	40

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19	Using numerical simulation to predict ventilation efficiency in a model room. <i>Energy and Buildings</i> , 1998, 28, 43-50.	6.7	39
20	Extinction limits and structure of counterflow nonpremixed H ₂ O-laden CH ₄ /air flames. <i>Energy</i> , 2015, 93, 442-450.	8.8	39
21	Enhancing thermal, electrical efficiencies of a miniature combustion-driven thermophotovoltaic system. <i>Progress in Photovoltaics: Research and Applications</i> , 2009, 17, 502-512.	8.1	36
22	Characterizing sooting propensity in biofuel-diesel flames. <i>Combustion and Flame</i> , 2012, 159, 2181-2191.	5.2	36
23	Stages in the Dynamics of Hydrate Formation and Consequences for Design of Experiments for Hydrate Formation in Sediments. <i>Energies</i> , 2019, 12, 3399.	3.1	34
24	Modelling electric field driven convection in small combustion plasmas and surrounding gases. <i>Combustion Theory and Modelling</i> , 2008, 12, 23-44.	1.9	32
25	Behavior of a small diffusion flame as an electrically active component in a high-voltage circuit. <i>Combustion and Flame</i> , 2012, 159, 210-220.	5.2	32
26	Numerical simulation of particle size distribution evolution during pulverized coal combustion. <i>Combustion and Flame</i> , 1987, 69, 193-209.	5.2	31
27	Numerical simulation of a tubular ion-driven wind generator. <i>Journal of Electrostatics</i> , 2007, 65, 646-654.	1.9	30
28	Particle-wall collision in a viscoelastic fluid. <i>Journal of Fluid Mechanics</i> , 2009, 633, 475-483.	3.4	30
29	Combustion in a Meso-Scale Liquid-Fuel-Film Combustor with Central-Porous Fuel Inlet. <i>Combustion Science and Technology</i> , 2008, 180, 1900-1919.	2.3	29
30	Secondary air injection in miniature liquid fuel film combustors. <i>Proceedings of the Combustion Institute</i> , 2009, 32, 3091-3098.	3.9	29
31	Spatial averaging effects in CARS thermometry of a nonpremixed flame. <i>Combustion and Flame</i> , 1998, 115, 481-486.	5.2	28
32	Temperature field measurements of small, nonpremixed flames with use of an Abel inversion of holographic interferograms. <i>Applied Optics</i> , 2003, 42, 952.	2.1	26
33	Electrical aspects of flame quenching. <i>Proceedings of the Combustion Institute</i> , 2013, 34, 3295-3301.	3.9	25
34	Experimental Investigation of a Rectilinear Droplet Stream Flame. <i>Combustion Science and Technology</i> , 1994, 100, 57-73.	2.3	24
35	Evidence for immobile transitional state of water in methane clathrate hydrates grown from surfactant solutions. <i>Chemical Engineering Science</i> , 2016, 142, 89-96.	3.8	23
36	Measurement and prediction of trajectories and collision of droplets. <i>International Journal of Multiphase Flow</i> , 1991, 17, 159-177.	3.4	22

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37	In Situ Light Scattering Measurements of Mainstream and Sidestream Cigarette Smoke. <i>Aerosol Science and Technology</i> , 1996, 24, 85-101.	3.1	22
38	CO emission from an impinging non-premixed flame. <i>Combustion and Flame</i> , 2016, 174, 16-24.	5.2	22
39	Turbine Burners: Performance Improvement and Challenge of Flameholding. <i>AIAA Journal</i> , 2012, 50, 1645-1669.	2.6	21
40	Effects of pressure on structure and extinction limits of counterflow nonpremixed water-laden methane/air flames. <i>Energy</i> , 2017, 134, 545-553.	8.8	21
41	Experiments examining drag in linear droplet packets. <i>Experiments in Fluids</i> , 1992, 12, 157-165.	2.4	20
42	Experimental investigation of air flow around blunt aerosol samplers. <i>Journal of Aerosol Science</i> , 1997, 28, 289-305.	3.8	20
43	Location of the Schlieren Image in Premixed Flames: Axially Symmetrical Refractive Index Fields. <i>Combustion and Flame</i> , 1998, 113, 303-311.	5.2	20
44	Burning Ice—Direct Combustion of Methane Clathrates. <i>Combustion Science and Technology</i> , 2016, 188, 2137-2148.	2.3	20
45	Temperature Measurement of Glowing Embers with Color Pyrometry. <i>Fire Technology</i> , 2019, 55, 1013-1026.	3.0	20
46	Potential role of atomic carbon in diamond deposition. <i>Journal of Applied Physics</i> , 1993, 74, 6941-6947.	2.5	17
47	Electric field-controlled mesoscale burners. <i>Combustion and Flame</i> , 2008, 152, 186-193.	5.2	16
48	Particle chaining and chain dynamics in viscoelastic liquids. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2012, 179-180, 1-8.	2.4	16
49	Analytical investigation of high temperature 1 kW solid oxide fuel cell system feasibility in methane hydrate recovery and deep ocean power generation. <i>Applied Energy</i> , 2016, 179, 909-928.	10.1	16
50	Ion current and carbon monoxide release from an impinging methane/air coflow flame in an electric field. <i>Combustion and Flame</i> , 2019, 204, 250-259.	5.2	16
51	Particle Size Distribution of Nicotine in Mainstream Smoke from 2R4F, Marlboro Medium, and Quest1 Cigarettes under Different Puffing Regimens. <i>Inhalation Toxicology</i> , 2009, 21, 435-446.	1.6	15
52	Combustion of coal-water slurries Evolution of particle size distribution for coals of different rank. <i>Fuel</i> , 1987, 66, 1139-1145.	6.4	14
53	Experimental investigation of a two-dimensional cylindrical sampler. <i>Journal of Aerosol Science</i> , 1994, 25, 935-955.	3.8	14
54	Breakup control of a liquid jet by disturbance manipulation. <i>Physics of Fluids</i> , 2010, 22, 107103.	4.0	14

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55	A transport model for nicotine in the tracheobronchial and pulmonary region of the lung. <i>Inhalation Toxicology</i> , 2010, 22, 42-48.	1.6	14
56	Ultra-short pulsed off-axis digital holography for imaging dynamic targets in highly scattering conditions. <i>Applied Optics</i> , 2017, 56, 3736.	2.1	14
57	Electric Field Induced Changes of a Diffusion Flame and Heat Transfer near an Impinging Surface. <i>Energies</i> , 2018, 11, 1235.	3.1	14
58	Influence of ash on particle size distribution evolution during coal combustion. <i>Combustion and Flame</i> , 1988, 74, 207-218.	5.2	13
59	Using coherent anti-Stokes Raman spectroscopy to probe the temperature field of a combusting droplet stream. <i>Applied Optics</i> , 1991, 30, 2672.	2.1	13
60	Engineering Design in Industry: Teaching Students and Faculty to Apply Engineering Science in Design. <i>Journal of Engineering Education</i> , 1998, 87, 219-222.	3.0	13
61	Overpressures from nondetonating, baffle-accelerated turbulent flames in tubes. <i>Combustion and Flame</i> , 2000, 120, 504-514.	5.2	13
62	N ₂ CARS thermometry and O ₂ LIF concentration measurements in a flame under electrically induced microbuoyancy. <i>Combustion and Flame</i> , 2003, 133, 241-254.	5.2	13
63	Inducing gas flow and swirl in tubes using ionic wind from corona discharges. <i>Experiments in Fluids</i> , 2006, 40, 231-237.	2.4	13
64	Hybrid femtosecond/picosecond pure-rotational coherent anti-Stokes Raman scattering with chirped probe pulses. <i>Journal of Raman Spectroscopy</i> , 2017, 48, 1881-1886.	2.5	13
65	Evaporation of a droplet larger than the Kolmogorov length scale immersed in a relative mean flow. <i>International Journal of Multiphase Flow</i> , 2017, 88, 63-68.	3.4	13
66	Emissions from Solid Fuel Cook Stoves in the Himalaya Region. <i>Energies</i> , 2019, 12, 1089.	3.1	13
67	The role of dispersants in CWS agglomeration during combustion. <i>Fuel</i> , 1991, 70, 84-89.	6.4	12
68	Turbulent combustion in a curving, contracting channel with a cavity stabilized flame. <i>Proceedings of the Combustion Institute</i> , 2009, 32, 2973-2981.	3.9	11
69	Temperature profiles and extinction limits of a coflow water-vapor laden methane/air diffusion flame. <i>Experiments in Fluids</i> , 2018, 59, 1.	2.4	11
70	Kinetic Model for Simulating the Evolution of Particle Size Distributions During Char Combustion. <i>Combustion Science and Technology</i> , 1988, 58, 297-314.	2.3	10
71	Effect of droplet-induced breakdown on CARS temperature measurements. <i>Applied Optics</i> , 1990, 29, 3150.	2.1	10
72	The Effects of Bluntness and Orientation on Two-Dimensional Samplers in Calm Air. <i>Aerosol Science and Technology</i> , 1993, 19, 371-380.	3.1	10

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73	In-flight thermal control of molten metal droplet streams. International Journal of Heat and Mass Transfer, 2007, 50, 4554-4558.	4.8	10
74	Introduction and Perspectives. , 2008, , 1-18.		10
75	Simulating Gravity in Microgravity Combustion Using Electric Fields. Combustion Science and Technology, 2012, 184, 1891-1902.	2.3	10
76	Non-premixed axisymmetric flames driven by ion currents. Combustion and Flame, 2019, 199, 365-376.	5.2	10
77	LOW-COST WIND TUNNEL FOR AEROSOL INHALATION STUDIES. AIHA Journal, 1992, 53, 232-236.	0.4	9
78	Probing Dense Sprays with Gated, Picosecond, Digital Particle Field Holography. International Journal of Spray and Combustion Dynamics, 2011, 3, 351-366.	1.0	9
79	DROPLET STREAM DYNAMICS AT HIGH AMBIENT PRESSURE. Atomization and Sprays, 1996, 6, 485-497.	0.8	9
80	FEMTOSECOND DIGITAL HOLOGRAPHY IN THE NEAR-NOZZLE REGION OF A DODECANE SPRAY. Atomization and Sprays, 2019, 29, 251-267.	0.8	8
81	CARS Temperature Measurements in a Droplet Stream Flame. Combustion Science and Technology, 1992, 83, 97-114.	2.3	7
82	Using Large Electric Fields to Control Transport in Microgravity. Annals of the New York Academy of Sciences, 2006, 1077, 570-584.	3.8	7
83	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
84	Experimental studies on combined production of CH ₄ and safe long-term storage of CO ₂ in the form of solid hydrate in sediment. Physical Chemistry Chemical Physics, 2021, 23, 23313-23324.	2.8	7
85	PLIF and chemiluminescence in a small laminar coflow methane-air diffusion flame at elevated pressures. Combustion and Flame, 2022, 243, 112067.	5.2	7
86	Inhaled Particle Mass per Unit Body Mass per Unit Time. Journal of Occupational and Environmental Hygiene, 1992, 7, 246-252.	0.4	6
87	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
88	Syngas formation in methane flames and carbon monoxide release during quenching. Combustion and Flame, 2011, 158, 273-280.	5.2	6
89	Miniature Fuel Film Combustor: Swirl Vane Design and Combustor Characterization. Combustion Science and Technology, 2013, 185, 1464-1481.	2.3	5
90	Crossed Two-Beam Coherent Anti-Stokes Raman Spectroscopy in Dispersive Media. Applied Spectroscopy, 2003, 57, 93-99.	2.2	4

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91	Liquid Fuel Nonpremixed Swirl-Type Tubular Flame Burner. Combustion Science and Technology, 2023, 195, 1-12.	2.3	4
92	TOWARD A CONTROL MODEL FOR MANIPULATING THE BREAKUP OF A LIQUID JET. Atomization and Sprays, 2001, 11, 415-431.	0.8	4
93	Small-Scale HCCI Engine Operation. Combustion Science and Technology, 2011, 183, 928-946.	2.3	3
94	Impinging nonpremixed coflow methane-air flames with unity Lewis number. Proceedings of the Combustion Institute, 2017, 36, 1411-1419.	3.9	3
95	CONTROLLING LIQUID JET BREAKUP WITH PRACTICAL PIEZOELECTRIC DEVICES. Small Group Research, 2009, 19, 135-155.	2.7	3
96	Using Mie scattering for measuring size changes of individual particles. Journal of Physics E: Scientific Instruments, 1988, 21, 378-383.	0.7	2
97	Non-premixed swirl-type tubular flames burning liquid fuels. Journal of Fluid Mechanics, 2018, 846, 210-239.	3.4	2
98	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
99	MODELING THE BREAKUP OF LIQUID JETS SUBJECTED TO PURE AND COMPOSITE DISTURBANCES. Atomization and Sprays, 2012, 22, 543-559.	0.8	2
100	Experimental Study of a Hybrid Electrohydrodynamic, Air-Assisted Liquid Atomizer. , 2002, , .		1
101	UCI Liquid Film Miniature Combustor. , 2009, , .		1
102	A Tubular-Flame Combustor for Thermophotovoltaic Power Systems. , 2011, , .		1
103	Professor Felix J. Weinberg, FRS (1928-2012). Combustion and Flame, 2013, 160, 993-994.	5.2	1
104	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
105	Spatially and temporally resolved diagnostics of dense sprays using gated, femtosecond, digital holography. , 2017, , .		1
106	Predicted Aerosol Aspiration Efficiency for Infants, Children, and Adults. Journal of Occupational and Environmental Hygiene, 1993, 8, 639-644.	0.4	0
107	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
108	Particle-Wall Interaction in a Viscoelastic Fluid. AIP Conference Proceedings, 2008, , .	0.4	0

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109	Preface to the Special Issue. Combustion Science and Technology, 2014, 186, 1273-1274.	2.3	0
110	Preface to the Special Issue. Combustion Science and Technology, 2016, 188, 1691-1692.	2.3	0
111	Preface to the 26th ICDEERS Special Issue. Combustion Science and Technology, 2019, 191, 605-606.	2.3	0