Sudarshan Kumar

List of Publications by Year
in descending order

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135 papers	3,867 citations	94269 37 h-index	155451 55 g-index
139 all docs	139 docs citations	139 times ranked	1460 citing authors

#	Article	IF	Citations
1	A comprehensive review of measurements and data analysis of laminar burning velocities for various fuel+air mixtures. Progress in Energy and Combustion Science, 2018, 68, 197-267.	15.8	329
2	Studies on a new high-intensity low-emission burner. Proceedings of the Combustion Institute, 2002, 29, 1131-1137.	2.4	121
3	Compact design of planar stepped micro combustor for portable thermoelectric power generation. Energy Conversion and Management, 2018, 156, 224-234.	4.4	118
4	Experimental studies on dynamics of methaneâ€“air premixed flame in meso-scale diverging channels. Combustion and Flame, 2011, 158, 915-924.	2.8	93
5	Experimental studies on flame stabilization in a three step rearward facing configuration based micro channel combustor. Applied Thermal Engineering, 2013, 58, 363-368.	3.0	89
6	Experimental studies on a micro power generator using thermo-electric modules mounted on a micro-combustor. Energy Conversion and Management, 2015, 99, 1-7.	4.4	87
7	Thermal performance of a micro combustor with heat recirculation. Fuel Processing Technology, 2013, 109, 179-188.	3.7	79
8	Regime diagrams and characteristics of flame patterns in radial microchannels with temperature gradients. Combustion and Flame, 2008, 153, 479-489.	2.8	78
9	Thermal decomposition of ammonium perchlorateâ€”A TGAâ€“FTIRâ€“MS study: Part I. Thermochimica Acta, 2015, 610, 57-68.	1.2	77
10	Laminar Burning Velocity of Methaneâ€“Air Mixtures at Elevated Temperatures. Energy & Fuels, 2013, 27, 3460-3466.	2.5	72
11	Effect of CO content on laminar burning velocities of syngas-air premixed flames at elevated temperatures. Fuel, 2018, 214, 144-153.	3.4	66
12	Investigations of the scaling criteria for a mild combustion burner. Proceedings of the Combustion Institute, 2005, 30, 2613-2621.	2.4	65
13	Laminar Burning Velocity of Propane/CO₂/N₂â€“Air Mixtures at Elevated Temperatures. Energy & Fuels, 2012, 26, 5509-5518.	2.5	64
14	Studies on a liquid fuel based two stage flameless combustor. Proceedings of the Combustion Institute, 2013, 34, 3319-3326.	2.4	64
15	On the formation of multiple rotating Pelton-like flame structures in radial microchannels with lean methaneâ€“air mixtures. Proceedings of the Combustion Institute, 2007, 31, 3261-3268.	2.4	61
16	PREDICTION OF FLAME LIFTOFF HEIGHT OF DIFFUSION/PARTIALLY PREMIXED JET FLAMES AND MODELING OF MILD COMBUSTION BURNERS. Combustion Science and Technology, 2007, 179, 2219-2253.	1.2	59
17	Experimental and numerical analysis for high intensity swirl based ultra-low emission flameless combustor operating with liquid fuels. Proceedings of the Combustion Institute, 2015, 35, 3581-3589.	2.4	59
18	Laminar burning velocities of H2/CO/CH4/CO2/N2 -air mixtures at elevated temperatures. International Journal of Hydrogen Energy, 2019, 44, 12188-12199.	3.8	58

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19	Experimental investigations on a new high intensity dual microcombustor based thermoelectric micropower generator. Applied Energy, 2018, 228, 1173-1181.	5.1	57
20	Measurement of Laminar Burning Velocity of Liquified Petrolium Gas Air Mixtures at Elevated Temperatures. Energy & Fuels, 2012, 26, 3267-3274.	2.5	56
21	Effect of N2/CO2 dilution on laminar burning velocity of H2â€“air mixtures at high temperatures. International Journal of Hydrogen Energy, 2013, 38, 13812-13821.	3.8	54
22	A prototype micro-thermoelectric power generator for micro-electromechanical systems. Applied Physics Letters, 2014, 104, .	1.5	54
23	Experimental study on flame pattern formation and combustion completeness in a radial microchannel. Journal of Micromechanics and Microengineering, 2007, 17, 2398-2406.	1.5	52
24	Investigations into the flame stability limits in a backward step micro scale combustor with premixed methaneâ€“air mixtures. Journal of Micromechanics and Microengineering, 2010, 20, 095030.	1.5	51
25	Experimental and numerical investigations of flame pattern formations in a radial microchannel. Proceedings of the Combustion Institute, 2009, 32, 3059-3066.	2.4	50
26	Measurement of laminar burning velocities of methanolâ€“air mixtures at elevated temperatures. Fuel, 2016, 182, 57-63.	3.4	49
27	Measurement of laminar burning velocities of methane-air mixtures simultaneously at elevated pressures and elevated temperatures. Fuel, 2019, 257, 116120.	3.4	49
28	Thermal decomposition of ammonium perchlorateâ€”A TGA-FTIR-MS study: Part II. Thermochimica Acta, 2017, 653, 83-96.	1.2	48
29	Burning velocities of DME(dimethyl ether)-air premixed flames at elevated temperatures. Energy, 2017, 126, 34-41.	4.5	47
30	On the formation of spinning flames and combustion completeness for premixed fuelâ€“air mixtures in stepped tube microcombustors. Applied Thermal Engineering, 2013, 51, 91-101.	3.0	46
31	Towards the development of a high power density, high efficiency, micro power generator. Applied Energy, 2020, 261, 114386.	5.1	45
32	Combustion characteristics of biodiesel fuel in high recirculation conditions. Fuel Processing Technology, 2014, 118, 310-317.	3.7	44
33	Investigations on a new internally-heated tubular packed-bed methanolâ€“steam reformer. International Journal of Hydrogen Energy, 2015, 40, 5715-5725.	3.8	44
34	Experimental investigations on flame stabilization behavior in a diverging micro channel with premixed methaneâ€“air mixtures. Applied Thermal Engineering, 2010, 30, 2718-2723.	3.0	43
35	Measurement of laminar burning velocity of ethanol-air mixtures at elevated temperatures. Fuel, 2018, 231, 37-44.	3.4	43
36	Pattern formation of flames in radial microchannels with lean methane-air mixtures. Physical Review E, 2007, 75, 016208.	0.8	41

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37	Appearance of target pattern and spiral flames in radial microchannels with CH4-air mixtures. Physics of Fluids, 2008, 20, 024101.	1.6	40
38	Experimental investigations on the role of various heat sinks in developing an efficient combustion based micro power generator. Applied Thermal Engineering, 2019, 148, 22-32.	3.0	38
39	A new emission reduction approach in MILD combustion through asymmetric fuel injection. Combustion and Flame, 2018, 193, 61-75.	2.8	37
40	Experimental investigations on a new active swirl based microcombustor for an integrated micro-reformer system. Energy Conversion and Management, 2011, 52, 3206-3213.	4.4	36
41	Dynamics of Premixed Hydrogen-Air Flames in Microchannels with a Wall Temperature Gradient. Combustion Science and Technology, 2015, 187, 1620-1637.	1.2	36
42	Experimental investigations on the combustion behavior of methaneâ€“air mixtures in a micro-scale radial combustor configuration. Journal of Micromechanics and Microengineering, 2007, 17, 900-908.	1.5	34
43	A novel air injection scheme to achieve MILD combustion in a can-type gas turbine combustor. Energy, 2020, 194, 116819.	4.5	34
44	Development of high intensity low emission combustor for achieving flameless combustion of liquid fuels. Propulsion and Power Research, 2013, 2, 139-147.	2.0	33
45	Temperature and radiative characteristics of cylindrical porous Niâ€“Al burners. International Journal of Heat and Mass Transfer, 2016, 98, 277-284.	2.5	33
46	Investigations on the Formation of Planar Flames in Mesoscale Divergent Channels and Prediction of Burning Velocity at High Temperatures. Combustion Science and Technology, 2013, 185, 645-660.	1.2	32
47	Development of a numerical model for performance prediction of an integrated microcombustor-thermoelectric power generator. Energy, 2020, 192, 116624.	4.5	32
48	Experimental Investigations on Lifted Spray Flames for a Range of Coflow Conditions. Combustion Science and Technology, 2012, 184, 44-63.	1.2	31
49	Dynamics of premixed methane/air mixtures in a heated microchannel with different wall temperature gradients. RSC Advances, 2017, 7, 2066-2073.	1.7	30
50	Numerical Studies on Flame Stabilization Behavior of Premixed Methane-Air Mixtures in Diverging Mesoscale Channels. Combustion Science and Technology, 2011, 183, 779-801.	1.2	29
51	Investigations on Emission Characteristics of Liquid Fuels in a Swirl Combustor. Combustion Science and Technology, 2015, 187, 469-488.	1.2	29
52	Application of CFD and the Kriging method for optimizing the performance of a generic scramjet combustor. Acta Astronautica, 2014, 101, 111-119.	1.7	28
53	Effect OF CO 2 /N 2 dilution on laminar burning velocity of liquid petroleum gas-air mixtures at elevated temperatures. Energy, 2016, 100, 145-153.	4.5	28
54	On the effect of spray parameters on CO and NO x emissions in a liquid fuel fired flameless combustor. Fuel, 2017, 199, 229-238.	3.4	28

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55	Laminar Burning Velocity of n-Propanol and Air Mixtures at Elevated Mixture Temperatures. Energy & Fuels, 2018, 32, 6363-6370.	2.5	27
56	Numerical investigations of unsteady flame propagation in stepped microtubes. RSC Advances, 2015, 5, 100879-100890.	1.7	26
57	Flame anchoring regime of filtrational gas combustion: Theory and experiment. Proceedings of the Combustion Institute, 2017, 36, 4383-4389.	2.4	26
58	Investigations on flame dynamics of premixed H₂â€“air mixtures in microscale tubes. RSC Advances, 2016, 6, 50358-50367.	1.7	25
59	Machine learning model to predict the laminar burning velocities of H2/CO/CH4/CO2/N2/air mixtures at high pressure and temperature conditions. International Journal of Hydrogen Energy, 2020, 45, 3216-3232.	3.8	25
60	Influence of liquid properties on atomization characteristics of flow-blurring injector at ultra-low flow rates. Energy, 2019, 171, 1-13.	4.5	24
61	Hypersonic flow over a multi-step afterbody. Shock Waves, 2005, 14, 421-424.	1.0	23
62	Experimental investigation on flame pattern formations of DMEâ€“air mixtures in a radial microchannel. Combustion and Flame, 2010, 157, 1637-1642.	2.8	22
63	Experimental Investigations on Laminar Burning Velocity Variation of Methyl Formateâ€“Air Mixtures at Elevated Temperatures. Energy & Fuels, 2018, 32, 12936-12948.	2.5	22
64	Development of an ultra-high capacity hydrocarbon fuel based micro thermoelectric power generator. Energy, 2020, 206, 118099.	4.5	21
65	Experimental Investigations on Laminar Burning Velocities of n-Heptane + Air Mixtures at Higher Mixture Temperatures Using Externally Heated Diverging Channel Method. Energy & Fuels, 2020, 34, 2405-2416.	2.5	21
66	Methanol reformation for hydrogen production from a single channel with cavities. International Journal of Hydrogen Energy, 2013, 38, 13216-13229.	3.8	20
67	Experimental and Computational Determination of Laminar Burning Velocity of Liquefied Petroleum Gas-Air Mixtures at Elevated Temperatures. Journal of Engineering for Gas Turbines and Power, 2013, 135, .	0.5	20
68	Effect of Wall Thermal Boundary Conditions on Flame Dynamics of CH₄-Air and H₂-Air Mixtures in Straight Microtubes. Combustion Science and Technology, 2017, 189, 150-168.	1.2	20
69	Flame behavior in heated porous sand bed. Proceedings of the Combustion Institute, 2007, 31, 2117-2124.	2.4	19
70	Effects of CO2/N2 dilution on laminar burning velocity of stoichiometric DME-air mixture at elevated temperatures. Journal of Hazardous Materials, 2017, 333, 215-221.	6.5	19
71	Demarcation of reaction effects on laminar burning velocities of diluted syngasâ€“air mixtures at elevated temperatures. International Journal of Chemical Kinetics, 2019, 51, 95-104.	1.0	19
72	Measurement of laminar burning velocity of n-pentanolâ€¯+â€¯air mixtures at elevated temperatures and a skeletal kinetic model. Fuel, 2019, 237, 10-17.	3.4	18

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73	Impact of alkylbenzenes in formulated surrogate fuel on characteristics of compression ignition engine. Fuel, 2020, 266, 116981.	3.4	18
74	Experimental investigations on laminar burning velocity variation of CH4+H2+air mixtures at elevated temperatures. International Journal of Hydrogen Energy, 2022, 47, 16686-16697.	3.8	17
75	Applicability of aromatic selection towards newer formulated fuels for regulated and unregulated emissions reduction in CI engine. Fuel Processing Technology, 2020, 209, 106548.	3.7	16
76	Effect of hole pattern on the structure of small scale perorated plate burner flames. Fuel, 2018, 216, 722-733.	3.4	15
77	Testing of formulated fuel with variable aromatic type and contents in a compression-ignition engine. Fuel Processing Technology, 2020, 208, 106413.	3.7	15
78	A new approach to model turbulent lifted CH4/air flame issuing in a vitiated coflow using conditional moment closure coupled with an extinction model. Combustion and Flame, 2014, 161, 197-209.	2.8	14
79	Experimental Investigations on Stabilization Mechanism of Lifted Kerosene Spray Flames. Combustion Science and Technology, 2017, 189, 1241-1259.	1.2	14
80	Distributed combustion mode in a can-type gas turbine combustor â€“ A numerical and experimental study. Applied Energy, 2020, 277, 115573.	5.1	14
81	Laminar burning velocity measurements of iso-octaneÂ+Âair mixtures at higher unburnt mixture temperatures. Fuel, 2021, 288, 119652.	3.4	14
82	Experimental and numerical investigations on the laminar burning velocity of n-butanolâ€¯+â€¯air mixtures at elevated temperatures. Fuel, 2019, 249, 36-44.	3.4	13
83	Novel flame dynamics in rich mixture of premixed propaneâ€“air in a planar microcombustor. Physics of Fluids, 2020, 32, .	1.6	13
84	First step towards atomization at ultra-low flow rates using conventional twin-fluid atomizer. Experimental Thermal and Fluid Science, 2019, 109, 109844.	1.5	12
85	Effect of Engine Parameters on the Performance of Dual-Fuel CI Engines with Producer Gasâ€”A Review. Energy & Fuels, 2021, 35, 16377-16402.	2.5	12
86	Flame dynamics in a stepped micro-combustor for non-adiabatic wall conditions. Thermal Science and Engineering Progress, 2019, 13, 100394.	1.3	11
87	Effect of CO₂/N₂ Dilution on Characteristics of Liquid Fuel Combustion in Flameless Combustion Mode. Combustion Science and Technology, 2022, 194, 721-744.	1.2	11
88	Oscillating and rotating flame patterns in radial microchannels. Proceedings of the Combustion Institute, 2013, 34, 3427-3434.	2.4	10
89	Combustion of methylcyclohexane at elevated temperatures to investigate burning velocity for surrogate fuel development. Journal of Hazardous Materials, 2021, 406, 124627.	6.5	10
90	Formulation of a three-component gasoline surrogate model using laminar burning velocity data at elevated mixture temperatures. Fuel, 2021, 306, 121581.	3.4	10

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91	Laminar burning velocities of LCV syngas-air mixtures at high temperature and pressure conditions. Fuel, 2020, 279, 118475.	3.4	9
92	Experimental investigation to assess the efficacy of gasoline surrogates with engine testing. Fuel, 2022, 324, 124493.	3.4	9
93	Glow-plug-assisted combustion of nitromethane sprays in a constant volume chamber. Applied Thermal Engineering, 2015, 76, 462-474.	3.0	8
94	Solution Precursor Plasma Spray (SPPS) technique of catalyst coating for hydrogen production in a single channel with cavities plate type methanol based microreformer. Chemical Engineering Journal, 2015, 277, 168-175.	6.6	8
95	Experimental investigations on the stabilization of lifted kerosene spray flames with coflow air. Combustion Science and Technology, 2018, 190, 1689-1709.	1.2	8
96	Experimental investigation and correlation development for engine emissions with polycyclic aromatic blended formulated fuels. Fuel, 2021, 303, 121280.	3.4	8
97	Modeling of Lifted Methane Jet Flames in a Vitiated Coflow Using a New Flame Extinction Model. Combustion Science and Technology, 2010, 182, 1961-1978.	1.2	7
98	Numerical investigations on behaviour bifurcation of premixed H₂-air flames in mesoscale tubes. Combustion Theory and Modelling, 2019, 23, 969-993.	1.0	7
99	Regimes of combustion of a premixed mixture of gases in a heated microchannel with the wall temperature smoothly increasing in the downstream direction. Combustion, Explosion and Shock Waves, 2014, 50, 25-31.	0.3	6
100	Predictions of lift-off height of turbulent methane and propane flames issuing in cold surroundings using conditional moment closure coupled with an extinction model. Combustion and Flame, 2015, 162, 1164-1166.	2.8	6
101	Design and calibration of a new compact radiative heat-flux gauge (RHFG) for combustion applications. Sensors and Actuators A: Physical, 2013, 203, 62-68.	2.0	5
102	Slag Prediction in Submerged Rocket Nozzle Through Two-Phase CFD Simulations. Defence Science Journal, 2015, 65, 99-106.	0.5	5
103	Combustion characteristics of syngas laminar microjet diffusion flames. Journal of the Taiwan Institute of Chemical Engineers, 2020, 115, 47-59.	2.7	4
104	Investigations on Combustion and Emissions Characteristics of Aromatic Fuel Blends in a Distributed Combustor. Energy & Fuels, 2021, 35, 3150-3163.	2.5	4
105	Flame dynamics of premixed CH₄/H₂/air flames in a microchannel with a wall temperature gradient. Combustion Theory and Modelling, 2022, 26, 989-1013.	1.0	4
106	Development and Validation of Power Performance Prediction Chart for Conversion of Diesel Engine to Dual Fuel Engine. , 2014, , .		3
107	Effect of hydrocarbon addition on tip opening of hydrogen-air bunsen flames. International Journal of Hydrogen Energy, 2021, 46, 5763-5775.	3.8	3
108	Laminar Burning Velocity Measurements of Toluene + Air Mixtures and Ternary Surrogate Formulation at Elevated Temperatures. Energy & Fuels, 2022, 36, 6420-6432.	2.5	3

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109	Optimization of aromatic species in formulated fuel for simultaneous reduction of PM and NOx emissions from combustion engines. Journal of the Energy Institute, 2022, 103, 94-103.	2.7	3
110	Laminar Burning Velocity of LPG-Air Mixture at Elevated Temperatures. , 2012, , .		2
111	Evaluation of Fuel and Air Mixing in a Scramjet Engine Using an Asymmetric Strut-Based Fuel Injection Using CFD. Combustion Science and Technology, 2022, 194, 898-918.	1.2	2
112	EXPERIMENTAL INVESTIGATIONS INTO LIQUID BREAKUP MORPHOLOGY AND SPRAY CHARACTERISTICS OF A CROSS-FLOW INJECTOR. Atomization and Sprays, 2021, 31, 63-86.	0.3	2
113	Parametric Studies on Thermo-electric Power Generation Using Micro Combustor. , 2018, , 589-597.		2
114	Prototype development of a new self-aspirating liquid-fueled microcombustor. Combustion Science and Technology, 0, , 1-21.	1.2	2
115	Effect of Burner Wall Material on Microjet Hydrogen Diffusion Flames near Extinction: A Numerical Study. Energies, 2021, 14, 8266.	1.6	2
116	Analysis of Non Recoverable Stall & Other Instabilities Using Moore Greitzer Model. , 2008, , .		1
117	Theoretical analysis of the effect of water and ethanol injection on axial compressor instabilities. Applied Thermal Engineering, 2011, 31, 1703-1711.	3.0	1
118	Studies on Optimization of a Liquid Fuel Based Low Emission Combustor. , 2012, , .		1
119	Common Design of Jet Pump for Gasoline and Diesel Based Vehicles. , 0, , .		1
120	Role of H₂/CO Addition to Flame Instabilities and Their Control in a Stepped Microcombustor. Combustion Science and Technology, 2021, 193, 2704-2723.	1.2	1
121	Impact of Fuel Formulation with Particular Selection of Aromatics on Compression Engine Performance and Emission Control. , 2021, , .		1
122	Experimental Studies on Flame Stabilization in Backward Facing Step Micro-Combustors. , 2011, , .		0
123	Efficiency of Microcombustion System with Thermoelectric Generator Combined with Countercurrent Heat Exchanger. Key Engineering Materials, 0, 685, 422-426.	0.4	0
124	Evaluating the efficiency of thermo-electric conversion of heat from gas combustion in a small-scale system with counterflow heat exchange. Thermophysics and Aeromechanics, 2016, 23, 581-589.	0.1	0
125	Laminar Burning Velocity Measurements at Elevated Pressure and Temperatures and the Challenges in Kinetic Scheme Optimization. Green Energy and Technology, 2022, , 291-307.	0.4	0
126	Microcombustion-based portable power generators. , 2021, , .		0

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127	Model Order Identification of Combustion Instability Using Lipschitz Indices. , 2019, , .		0
128	Numerical Investigation on Combustion Characteristics of Premixed H2/Air in Stepped Micro-Combustors. Lecture Notes in Mechanical Engineering, 2021, , 863-872.	0.3	0
129	A Three-Dimensional Numerical Model to Predict the Performance of a Microcombustion-Based Thermoelectric Generator. Lecture Notes in Mechanical Engineering, 2021, , 853-862.	0.3	0
130	Review of Laminar Burning Velocity of Methaneâ€“Air Mixtures at High Pressure and Temperature Conditions. Lecture Notes in Mechanical Engineering, 2021, , 663-670.	0.3	0
131	Numerical Investigation on the Effect of Wall Preheating on Flame Stability of Stepped Microcombustor. Lecture Notes in Mechanical Engineering, 2021, , 883-893.	0.3	0
132	Numerical Investigation on Flame Dynamics of Premixed Hydrogenâ€“Air Flame in a Sudden Convergingâ€“Diverging Microscale Tube. Lecture Notes in Mechanical Engineering, 2021, , 873-882.	0.3	0
133	Experimental and Numerical Studies on Combustion-Based Small-Scale Power Generators. Green Energy and Technology, 2021, , 221-247.	0.4	0
134	10.1063/5.0020518.3. , 2020, , .		0
135	10.1063/5.0020518.2. , 2020, , .		0