Sreenivas Jayanti

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/1882668/publications.pdf Version: 2024-02-01



#	Article	IF	CITATIONS
1	Prediction of the slug-to-churn flow transition in vertical two-phase flow. International Journal of Multiphase Flow, 1992, 18, 847-860.	3.4	195
2	Flow distribution and pressure drop in parallel-channel configurations of planar fuel cells. Journal of Power Sources, 2005, 144, 94-106.	7.8	141
3	Pressure losses in laminar flow through serpentine channels in fuel cell stacks. Journal of Power Sources, 2004, 138, 1-13.	7.8	133
4	Effect of flow field on the performance of an all-vanadium redox flow battery. Journal of Power Sources, 2016, 307, 782-787.	7.8	129
5	Steam-moderated oxy-fuel combustion. Energy Conversion and Management, 2010, 51, 1981-1988.	9.2	122
6	Hydrodynamics and heat transfer in wavy annular gas-liquid flow: a computational fluid dynamics study. International Journal of Heat and Mass Transfer, 1997, 40, 2445-2460.	4.8	119
7	Pressure drop and flow distribution in multiple parallel-channel configurations used in proton-exchange membrane fuel cell stacks. Journal of Power Sources, 2006, 157, 358-367.	7.8	112
8	Flow development in vertical annular flow. Chemical Engineering Science, 2001, 56, 3221-3235.	3.8	105
9	Flow and pressure drop fluctuations in a vertical tube subject to low frequency oscillations. Nuclear Engineering and Design, 2008, 238, 178-187.	1.7	101
10	Characterization of dryout in helical coils. International Journal of Heat and Mass Transfer, 1990, 33, 1451-1463.	4.8	92
11	Deactivation and regeneration of Ni catalyst during steam reforming of model biogas: An experimental investigation. International Journal of Hydrogen Energy, 2014, 39, 297-304.	7.1	83
12	A detailed kinetic model for biogas steam reforming on Ni and catalyst deactivation due to sulfur poisoning. Applied Catalysis A: General, 2014, 471, 118-125.	4.3	81
13	Thermal management strategies for a 1ÂkWe stack of a high temperature proton exchange membrane fuel cell. Applied Thermal Engineering, 2012, 48, 465-475.	6.0	80
14	Hydrodynamics of jet mixing in vessels. Chemical Engineering Science, 2001, 56, 193-210.	3.8	79
15	Hydrodynamic analysis of flow fields for redox flow battery applications. Journal of Applied Electrochemistry, 2014, 44, 995-1006.	2.9	78
16	CFD Study of Power and Mixing Time for Paddle Mixing in Unbaffled Vessels. Chemical Engineering Research and Design, 2002, 80, 482-498.	5.6	77
17	CFD analysis of dense gas dispersion in indoor environment for risk assessment and risk mitigation. Journal of Hazardous Materials, 2012, 209-210, 177-185.	12.4	76
18	Prediction of film inversion in two-phase flow in coiled tubes. Journal of Fluid Mechanics, 1992, 236, 497-511	3.4	68

#	Article	IF	CITATIONS
19	Ex-situ experimental studies on serpentine flow field design for redox flow battery systems. Journal of Power Sources, 2014, 248, 140-146.	7.8	66
20	Structure of thin liquid films in gas-liquid horizontal flow. International Journal of Multiphase Flow, 1990, 16, 951-957.	3.4	65
21	An improved serpentine flow field with enhanced cross-flow for fuel cell applications. International Journal of Hydrogen Energy, 2011, 36, 6067-6072.	7.1	64
22	Hydrodynamics and heat transfer of wavy thin film flow. International Journal of Heat and Mass Transfer, 1996, 40, 179-190.	4.8	63
23	Convective heat transfer in single-phase flow in a vertical tube subjected to axial low frequency oscillations. Heat and Mass Transfer, 2008, 44, 857-864.	2.1	61
24	Simulation of cavity formation in underground coal gasification using bore hole combustion experiments. Energy, 2011, 36, 5854-5864.	8.8	61
25	Time-dependent behaviour of the liquid film in horizontal annular flow. International Journal of Multiphase Flow, 1990, 16, 1097-1116.	3.4	59
26	Ultrasonic coal-wash for de-sulfurization. Ultrasonics Sonochemistry, 2011, 18, 718-726.	8.2	59
27	To churn or not to churn. International Journal of Multiphase Flow, 1993, 19, 527-529.	3.4	58
28	Synergetic and inhibition effects in carbon dioxide gasification of blends of coals and biomass fuels of Indian origin. Bioresource Technology, 2016, 209, 157-165.	9.6	58
29	Prediction of dryout and post-dryout heat transfer at high pressures using a one-dimensional three-fluid model. International Journal of Heat and Mass Transfer, 2004, 47, 4895-4910.	4.8	56
30	Theoretical investigation of the diameter effect on flooding in countercurrent flow. International Journal of Multiphase Flow, 1996, 22, 307-324.	3.4	54
31	Assessment of the effect of high ash content in pulverized coal combustion. Applied Mathematical Modelling, 2007, 31, 934-953.	4.2	51
32	Effect of tube diameter on flooding. International Journal of Multiphase Flow, 2001, 27, 797-816.	3.4	49
33	Integration of underground coal gasification with a solid oxide fuel cell system for clean coal utilization. International Journal of Hydrogen Energy, 2012, 37, 1677-1688.	7.1	49
34	Micro-kinetic modeling of NH3 decomposition on Ni and its application to solid oxide fuel cells. Chemical Engineering Science, 2011, 66, 5184-5191.	3.8	48
35	Effect of electrode intrusion on pressure drop and electrochemical performance of an all-vanadium redox flow battery. Journal of Power Sources, 2017, 360, 548-558.	7.8	48
36	Laboratory scale studies on simulated underground coal gasification of high ash coals for carbon-neutral power generation. Energy, 2012, 46, 351-358.	8.8	46

#	Article	IF	CITATIONS
37	Feasibility of using ultrasound-assisted process for sulfur and ash removal from coal. Chemical Engineering and Processing: Process Intensification, 2011, 50, 236-246.	3.6	45
38	A conceptual model of a high-efficiency, stand-alone power unit based on a fuel cell stack with an integrated auto-thermal ethanol reformer. Applied Energy, 2013, 110, 295-303.	10.1	44
39	Computational Study of Particle-Eddy Interaction in Sedimentation Tanks. Journal of Environmental Engineering, ASCE, 2004, 130, 37-49.	1.4	42
40	Effect of channel dimensions of serpentine flow fields on the performance of a vanadium redox flow battery. Journal of Energy Storage, 2019, 23, 148-158.	8.1	41
41	Effect of channel-to-channel cross-flow on local flooding in serpentine flow-fields. Journal of Power Sources, 2008, 180, 227-231.	7.8	39
42	Comprehensive one-dimensional, semi-analytical, mathematical model for liquid-feed polymer electrolyte membrane direct methanol fuel cells. Journal of Power Sources, 2009, 188, 367-378.	7.8	39
43	Experimental and numerical study of a rotating wheel air classifier. AICHE Journal, 2005, 51, 776-790.	3.6	38
44	Mixing of power-law fluids using anchors: Metzner-Otto concept revisited. AICHE Journal, 2003, 49, 30-40.	3.6	36
45	Investigation of High-Frequency, High-Intensity Ultrasonics for Size Reduction and Washing of Coal in Aqueous Medium. Industrial & Engineering Chemistry Research, 2011, 50, 13210-13219.	3.7	35
46	A multidimensional model for annular gas–liquid flow. Chemical Engineering Science, 2004, 59, 3577-3589.	3.8	34
47	Flame structure and NO generation in oxy-fuel combustion at high pressures. Energy Conversion and Management, 2009, 50, 1116-1123.	9.2	34
48	A hydrodynamic network model for interdigitated flow fields. International Journal of Hydrogen Energy, 2009, 34, 8289-8301.	7.1	34
49	Effect of air flow on liquid water transport through a hydrophobic gas diffusion layer of a polymer electrolyte membrane fuel cell. International Journal of Hydrogen Energy, 2010, 35, 6872-6886.	7.1	34
50	Effective splitting of serpentine flow field for applications in large-scale flow batteries. Journal of Power Sources, 2021, 487, 229409.	7.8	34
51	Effect of electrode compression and operating parameters on the performance of large vanadium redox flow battery cells. Journal of Power Sources, 2019, 427, 231-242.	7.8	33
52	Cross-over and performance modeling of liquid-feed Polymer Electrolyte Membrane Direct Ethanol Fuel Cells. International Journal of Hydrogen Energy, 2011, 36, 14648-14658.	7.1	32
53	Performance characteristics of several variants of interdigitated flow fields for flow battery applications. Journal of Power Sources, 2020, 467, 228225.	7.8	32
54	Pressure Losses and Flow Maldistribution in Ducts with Sharp Bends. Chemical Engineering Research and Design, 2004, 82, 321-331.	5.6	31

#	Article	IF	CITATIONS
55	A high-efficiency, auto-thermal system for on-board hydrogen production for low temperature PEM fuel cells using dual reforming of ethanol. International Journal of Hydrogen Energy, 2016, 41, 13800-13810.	7.1	31
56	Flow maldistribution in interdigitated channels used in PEM fuel cells. Journal of Power Sources, 2006, 159, 595-604.	7.8	29
57	Optimized enriched CO2 recycle oxy-fuel combustion for high ash coals. Fuel, 2012, 102, 32-40.	6.4	29
58	Flame structure investigations of oxy-fuel combustion. Fuel, 2012, 93, 52-58.	6.4	28
59	Parametric study of an external coolant system for a high temperature polymer electrolyte membrane fuel cell. Applied Thermal Engineering, 2013, 58, 155-164.	6.0	28
60	Evaluation of CO2 gasification kinetics for low-rank Indian coals and biomass fuels. Journal of Thermal Analysis and Calorimetry, 2016, 123, 467-478.	3.6	28
61	Heat-affected zone analysis of high ash coals during ex situ experimental simulation of underground coal gasification. Fuel, 2014, 123, 167-174.	6.4	26
62	Observation of flooding in the taylor bubble of co-current upwards slug flow. International Journal of Multiphase Flow, 1993, 19, 531-534.	3.4	25
63	Underground coal-air gasification based solid oxide fuel cell system. Applied Energy, 2012, 94, 406-414.	10.1	25
64	Stack Design Considerations for Vanadium Redox Flow Battery. INAE Letters, 2018, 3, 149-157.	1.0	25
65	Calculation of dry out and post-dry out heat transfer in rod bundles using a three field model. International Journal of Heat and Mass Transfer, 2005, 48, 1825-1839.	4.8	24
66	Effect of electrolyte convection velocity in the electrode on the performance of vanadium redox flow battery cells with serpentine flow fields. Journal of Energy Storage, 2020, 30, 101516.	8.1	24
67	High-quality dryout in helical coils. Nuclear Engineering and Design, 1990, 122, 105-118.	1.7	23
68	On the nature of ephemeral waves in vertical annular flow. International Journal of Multiphase Flow, 1996, 22, 325-333.	3.4	23
69	Mixing of pseudoplastic fluids using helical ribbon impellers. AICHE Journal, 2003, 49, 2768-2772.	3.6	23
70	An Eulerian/Lagrangian study of solid suspension in stirred tanks. AICHE Journal, 2007, 53, 2461-2469.	3.6	22
71	Effect of spacer grids on CHF in nuclear rod bundles. Nuclear Engineering and Design, 2013, 261, 66-75.	1.7	22
72	Studies on critical heat flux in flow boiling at near critical pressures. International Journal of Heat and Mass Transfer, 2006, 49, 259-268.	4.8	18

#	Article	IF	CITATIONS
73	Peclet number analysis of cross-flow in porous gas diffusion layer of polymer electrolyte membrane fuel cell (PEMFC). Environmental Science and Pollution Research, 2016, 23, 20120-20130.	5.3	17
74	Fuel processor-battery-fuel cell hybrid drivetrain for extended range operation of passenger vehicles. International Journal of Hydrogen Energy, 2019, 44, 15494-15510.	7.1	17
75	Influence of electrode design parameters on the performance of vanadium redox flow battery cells at low temperatures. Journal of Power Sources, 2021, 482, 228988.	7.8	17
76	The prediction of turbulent flows over roughened surfaces and its application to interpretation of mechanisms of horizontal annular flow. Proceedings of the Royal Society A, 1990, 431, 71-88.	0.9	16
77	Numerical simulation of the hydrodynamics of a liquid solid circulating fluidized bed. Powder Technology, 2014, 251, 61-70.	4.2	16
78	Effect of Taylor vortices on mass transfer from a rotating cylinder. AICHE Journal, 2005, 51, 2885-2898.	3.6	15
79	Thermal Coupling Studies of a High Temperature Proton Exchange Membrane Fuel Cell Stack and a Metal Hydride Hydrogen Storage System. Energy Procedia, 2012, 29, 254-264.	1.8	15
80	Power and Energy Rating Considerations in Integration of Flow Battery with Solar PV and Residential Load. Batteries, 2021, 7, 62.	4.5	15
81	Experimental study of air–water countercurrent annular flow under post-flooding conditions. International Journal of Multiphase Flow, 2002, 28, 51-67.	3.4	13
82	A reduced efficiency approach-based process model for a circulating air classifier. Chemical Engineering and Processing: Process Intensification, 2008, 47, 1887-1900.	3.6	13
83	Thermal management of high temperature polymer electrolyte membrane fuel cell stacks in the power range of 1–10ÂkWe. International Journal of Hydrogen Energy, 2014, 39, 20127-20138.	7.1	13
84	Syngas-fueled, chemical-looping combustion-based power plant lay-out for clean energy generation. Clean Technologies and Environmental Policy, 2015, 17, 237-247.	4.1	13
85	Case studies of operational failures of vanadium redox flow battery stacks, diagnoses and remedial actions. Journal of Energy Storage, 2021, 33, 102078.	8.1	13
86	CHURN FLOW. Multiphase Science and Technology, 1994, 8, 471-521.	0.5	13
87	Assessment of retrofitting possibility of an Indian pulverized coal boiler for operation with Indian coals in oxy-coal combustion mode with CO ₂ sequestration. Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, 2012, 226, 1003-1013.	1.4	12
88	Experimental and modelling studies of gas–liquid vertical annular flow through a diverging section. International Journal of Multiphase Flow, 2014, 67, 180-190.	3.4	12
89	Pressure drop studies on two-phase flow in a uniformly heated vertical tube at pressures up to the critical point. International Journal of Heat and Mass Transfer, 2007, 50, 1879-1891.	4.8	11
90	Evaluation of the Effect of the Concentration of CO ₂ on the Overall Reactivity of Drop Tube Furnace Derived Indian Sub-bituminous Coal Chars during CO ₂ /O ₂ Combustion. Industrial & Engineering Chemistry Research, 2011, 50, 12865-12871.	3.7	11

#	Article	IF	CITATIONS
91	Viability of fuel switching of a gas-fired power plant operating in chemical looping combustion mode. Energy, 2015, 81, 213-221.	8.8	11
92	Dynamics of liquid sodium pool spreading under sodium fire conditions. Nuclear Engineering and Design, 2009, 239, 1354-1361.	1.7	10
93	On the occurrence of two-stage combustion in alkali metals. Combustion and Flame, 2011, 158, 1000-1007.	5.2	10
94	Experimental studies of flame extinction in a swirl-stabilized oxy-fuel burner. Fuel, 2012, 93, 75-81.	6.4	10
95	Comparative analysis of four gas-fired, carbon capture-enabled power plant layouts. Clean Technologies and Environmental Policy, 2015, 17, 2143-2156.	4.1	10
96	High Energy Efficiency With Low-Pressure Drop Configuration for an All-Vanadium Redox Flow Battery. Journal of Electrochemical Energy Conversion and Storage, 2016, 13, .	2.1	10
97	Computational Fluid Dynamics for Engineers and Scientists. , 2018, , .		10
98	Heat transfer enhancement due to internal circulation within a rising fluid drop. Thermal Science and Engineering Progress, 2018, 8, 385-396.	2.7	10
99	Fluid flow in curved ducts. International Journal for Numerical Methods in Fluids, 1990, 10, 569-589.	1.6	9
100	A numerical study of bifurcation in laminar flow in curved ducts. International Journal for Numerical Methods in Fluids, 1992, 14, 253-266.	1.6	9
101	An automated procedure for the optimal positioning of guide plates in a flow manifold using Box complex method. Applied Thermal Engineering, 2015, 76, 292-300.	6.0	9
102	Optimal sizing of a fuel processor for auxiliary power applications of a fuel cell-powered passenger car. International Journal of Hydrogen Energy, 2020, 45, 26005-26019.	7.1	9
103	Comparative Study of Kilowatt-Scale Vanadium Redox Flow Battery Stacks Designed with Serpentine Flow Fields and Split Manifolds. Batteries, 2021, 7, 30.	4.5	9
104	On the paradox concerning friction factor ratio in laminar flow in coils. Proceedings of the Royal Society A, 1991, 432, 291-299.	0.9	8
105	Equilibrium considerations in aerosol formation during sodium combustion. Nuclear Engineering and Design, 2008, 238, 2739-2745.	1.7	8
106	Numerical study of on-board fuel reforming in a catalytic plate reactor for solid-oxide fuel cells. Chemical Engineering Science, 2011, 66, 490-498.	3.8	8
107	Water neutrality and waste heat management in ethanol reformer - HTPEMFC integrated system for on-board hydrogen generation. Applied Energy, 2017, 199, 169-179.	10.1	8
108	Investigation of postflooding conditions in countercurrent gas–liquid flow. AICHE Journal, 2002, 48, 212-220.	3.6	7

#	Article	IF	CITATIONS
109	Experimental studies on burning behaviour of liquid sodium in a shallow pool. Nuclear Engineering and Design, 2010, 240, 3462-3466.	1.7	7
110	Heuristic shape optimization of gas ducting in process and power plants. Chemical Engineering Research and Design, 2013, 91, 999-1008.	5.6	7
111	Shape Optimisation of Curved Interconnecting Ducts. Defence Science Journal, 2015, 65, 300.	0.8	7
112	Response of turbulent flow to abrupt changes in surface roughness and its relevance in horizontal annular flow. Applied Mathematical Modelling, 1996, 20, 244-251.	4.2	6
113	Detailed plant layout studies of oxy-enriched CO2 pulverized coal combustion-based power plant with CO2 enrichment. Clean Technologies and Environmental Policy, 2016, 18, 1985-1996.	4.1	6
114	A mechanistic model for expansion loss coefficient in upward vertical annular flow. Applied Mathematical Modelling, 2018, 60, 552-570.	4.2	6
115	Study of gas-liquid upward annular flow through a contraction. Annals of Nuclear Energy, 2019, 129, 169-180.	1.8	6
116	Improving efficiency of CCS-enabled IGCC power plant through the use of recycle flue gas for coal gasification. Clean Technologies and Environmental Policy, 2018, 20, 1207-1218.	4.1	5
117	Numerical Simulation of Coal Combustion in a Tangential Pulverized Boiler: Effect of Burner Vertical Tilt Angle. Arabian Journal for Science and Engineering, 0, , 1.	3.0	5
118	Prediction of onset of nucleate boiling, net vapour generation and subcooled CHF in coiled tubes. Heat and Mass Transfer, 1991, 26, 301-305.	0.2	4
119	TURBULENT FLOW IN A PIPE WITH INTERMITTENT ROUGH PATCHES: AN ANALOGUE OF ANNULAR TWO-PHASE FLOW. Chemical Engineering Communications, 1996, 141-142, 237-259.	2.6	4
120	Burning Profile of High Ash Indian Coals in Oxy-Fuel Environment. , 2008, , .		4
121	Effect of impeller type and density difference on the draw down of low density microspheres. Chemical Engineering Research and Design, 2015, 104, 571-578.	5.6	4
122	Complete Reduction of Ilmenite by CO in Chemical Looping Combustion—Multistep Kinetic Model Approach. Energy & Fuels, 2019, 33, 6585-6590.	5.1	4
123	Dataset on performance of large-scale vanadium redox flow batteries with serpentine flow fields. Data in Brief, 2021, 35, 106835.	1.0	4
124	A land-use-constrained, generation–transmission model for electricity generation through solar photovoltaic technology: a case study of south India. Clean Technologies and Environmental Policy, 2021, 23, 2757-2774.	4.1	4
125	Minimizing Heat Transfer Resistance in an Integrated Methanol Steam Reformer Designed Using Space-Filling Curves. Industrial & Engineering Chemistry Research, 2022, 61, 5255-5271.	3.7	4
126	The case of an oscillating manometer with variable density and dissipation: experimental and numerical study. Nuclear Engineering and Design, 2004, 229, 59-73.	1.7	3

#	Article	IF	CITATIONS
127	Auto-ignition temperature and burning rate of potassium pool fire in a confined enclosure. Combustion and Flame, 2016, 168, 286-295.	5.2	3
128	CFD Simulation of Flow Through the Reconstructed Microstructure of Fibrous Gas Diffusion Layer in a Polymer Electrolyte Membrane Fuel Cell. Chemical Product and Process Modeling, 2018, 13, .	0.9	3
129	Characteristics of an Indigenously Developed 1ÂKW Vanadium Redox Flow Battery Stack. Springer Proceedings in Energy, 2021, , 923-929.	0.3	3
130	Simplified Model to Predict Incipient Flooding/Dehydration in Proton Exchange Membrane Fuel Cells. Journal of Fuel Cell Science and Technology, 2007, 4, 357-364.	0.8	2
131	Optimization of a Coal-Fired Furnace for Oxy Fuel Combustion. , 2008, , .		2
132	A New Stable Operating Regime for Oxyfuel Combustion. , 2008, , .		2
133	Shape optimization of flow split ducting elements using an improved Box complex method. Engineering Optimization, 2017, 49, 199-215.	2.6	2
134	Experimental studies of permeability measurement and hydrodynamics study of all-Vanadium redox flow battery. Materials Today: Proceedings, 2018, 5, 23169-23176.	1.8	2
135	Preliminary Analysis of a Small, Inherently Safe Boiling Water Reactor. Nuclear Technology, 1987, 79, 51-65.	1.2	1
136	Flow apportionment algorithm for optimization of power plant ducting. Applied Thermal Engineering, 2016, 94, 715-726.	6.0	1
137	Electrolyte circulation effects in electrochemical performance for different flow fields of allâ€vanadium redox flow battery. Energy Storage, 2023, 5, .	4.3	1
138	On axial coherence of interfacial waves in countercurrent flow. AICHE Journal, 2005, 51, 2098-2102.	3.6	0
139	Shape Optimization of Power Plant Ducting Using CFD. , 2008, , .		0
140	Energy Considerations in the Spreading of LNG on Sea Water. , 2008, , .		0
141	A model for the prediction of safe heat flux from a downward-facing hot patch. Nuclear Engineering and Design, 2013, 265, 45-52.	1.7	0
142	Flow Control in T-Junction Using CFD Based Optimization. Lecture Notes in Mechanical Engineering, 2017, , 687-696.	0.4	0
143	An Improved Model to Predict Flooding/Dehydration in PEM Fuel Cells. , 2005, , .		0

#	Article	IF	CITATIONS
145	Thermodynamics of Redox Flow Batteries. , 2021, , .		0