

# Sreenivas Jayanti

## List of Publications by Year in descending order

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145  
papers

4,527  
citations

81743

39  
h-index

128067

60  
g-index

152  
all docs

152  
docs citations

152  
times ranked

2874  
citing authors

#	ARTICLE	IF	CITATIONS
1	Electrolyte circulation effects in electrochemical performance for different flow fields of all-vanadium redox flow battery. <i>Energy Storage</i> , 2023, 5, .	2.3	1
2	Minimizing Heat Transfer Resistance in an Integrated Methanol Steam Reformer Designed Using Space-Filling Curves. <i>Industrial &amp; Engineering Chemistry Research</i> , 2022, 61, 5255-5271.	1.8	4
3	Influence of electrode design parameters on the performance of vanadium redox flow battery cells at low temperatures. <i>Journal of Power Sources</i> , 2021, 482, 228988.	4.0	17
4	Case studies of operational failures of vanadium redox flow battery stacks, diagnoses and remedial actions. <i>Journal of Energy Storage</i> , 2021, 33, 102078.	3.9	13
5	Effective splitting of serpentine flow field for applications in large-scale flow batteries. <i>Journal of Power Sources</i> , 2021, 487, 229409.	4.0	34
6	Dataset on performance of large-scale vanadium redox flow batteries with serpentine flow fields. <i>Data in Brief</i> , 2021, 35, 106835.	0.5	4
7	Comparative Study of Kilowatt-Scale Vanadium Redox Flow Battery Stacks Designed with Serpentine Flow Fields and Split Manifolds. <i>Batteries</i> , 2021, 7, 30.	2.1	9
8	Power and Energy Rating Considerations in Integration of Flow Battery with Solar PV and Residential Load. <i>Batteries</i> , 2021, 7, 62.	2.1	15
9	A land-use-constrained, generation-transmission model for electricity generation through solar photovoltaic technology: a case study of south India. <i>Clean Technologies and Environmental Policy</i> , 2021, 23, 2757-2774.	2.1	4
10	Characteristics of an Indigenously Developed 1kW Vanadium Redox Flow Battery Stack. <i>Springer Proceedings in Energy</i> , 2021, , 923-929.	0.2	3
11	Thermodynamics of Redox Flow Batteries. , 2021, , .		0
12	Effect of electrolyte convection velocity in the electrode on the performance of vanadium redox flow battery cells with serpentine flow fields. <i>Journal of Energy Storage</i> , 2020, 30, 101516.	3.9	24
13	Performance characteristics of several variants of interdigitated flow fields for flow battery applications. <i>Journal of Power Sources</i> , 2020, 467, 228225.	4.0	32
14	Optimal sizing of a fuel processor for auxiliary power applications of a fuel cell-powered passenger car. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 26005-26019.	3.8	9
15	Effect of electrode compression and operating parameters on the performance of large vanadium redox flow battery cells. <i>Journal of Power Sources</i> , 2019, 427, 231-242.	4.0	33
16	Complete Reduction of Ilmenite by CO in Chemical Looping Combustion-Multistep Kinetic Model Approach. <i>Energy &amp; Fuels</i> , 2019, 33, 6585-6590.	2.5	4
17	Fuel processor-battery-fuel cell hybrid drivetrain for extended range operation of passenger vehicles. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 15494-15510.	3.8	17
18	Effect of channel dimensions of serpentine flow fields on the performance of a vanadium redox flow battery. <i>Journal of Energy Storage</i> , 2019, 23, 148-158.	3.9	41

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19	Study of gas-liquid upward annular flow through a contraction. <i>Annals of Nuclear Energy</i> , 2019, 129, 169-180.	0.9	6
20	A mechanistic model for expansion loss coefficient in upward vertical annular flow. <i>Applied Mathematical Modelling</i> , 2018, 60, 552-570.	2.2	6
21	<i>Computational Fluid Dynamics for Engineers and Scientists.</i> , 2018, , .		10
22	CFD Simulation of Flow Through the Reconstructed Microstructure of Fibrous Gas Diffusion Layer in a Polymer Electrolyte Membrane Fuel Cell. <i>Chemical Product and Process Modeling</i> , 2018, 13, .	0.5	3
23	Experimental studies of permeability measurement and hydrodynamics study of all-Vanadium redox flow battery. <i>Materials Today: Proceedings</i> , 2018, 5, 23169-23176.	0.9	2
24	Heat transfer enhancement due to internal circulation within a rising fluid drop. <i>Thermal Science and Engineering Progress</i> , 2018, 8, 385-396.	1.3	10
25	Improving efficiency of CCS-enabled IGCC power plant through the use of recycle flue gas for coal gasification. <i>Clean Technologies and Environmental Policy</i> , 2018, 20, 1207-1218.	2.1	5
26	Stack Design Considerations for Vanadium Redox Flow Battery. <i>INAE Letters</i> , 2018, 3, 149-157.	1.0	25
27	Shape optimization of flow split ducting elements using an improved Box complex method. <i>Engineering Optimization</i> , 2017, 49, 199-215.	1.5	2
28	Water neutrality and waste heat management in ethanol reformer - HTPEMFC integrated system for on-board hydrogen generation. <i>Applied Energy</i> , 2017, 199, 169-179.	5.1	8
29	Effect of electrode intrusion on pressure drop and electrochemical performance of an all-vanadium redox flow battery. <i>Journal of Power Sources</i> , 2017, 360, 548-558.	4.0	48
30	Flow Control in T-Junction Using CFD Based Optimization. <i>Lecture Notes in Mechanical Engineering</i> , 2017, , 687-696.	0.3	0
31	High Energy Efficiency With Low-Pressure Drop Configuration for an All-Vanadium Redox Flow Battery. <i>Journal of Electrochemical Energy Conversion and Storage</i> , 2016, 13, .	1.1	10
32	Auto-ignition temperature and burning rate of potassium pool fire in a confined enclosure. <i>Combustion and Flame</i> , 2016, 168, 286-295.	2.8	3
33	Peclet number analysis of cross-flow in porous gas diffusion layer of polymer electrolyte membrane fuel cell (PEMFC). <i>Environmental Science and Pollution Research</i> , 2016, 23, 20120-20130.	2.7	17
34	Detailed plant layout studies of oxy-enriched CO <sub>2</sub> pulverized coal combustion-based power plant with CO <sub>2</sub> enrichment. <i>Clean Technologies and Environmental Policy</i> , 2016, 18, 1985-1996.	2.1	6
35	Flow apportionment algorithm for optimization of power plant ducting. <i>Applied Thermal Engineering</i> , 2016, 94, 715-726.	3.0	1
36	A high-efficiency, auto-thermal system for on-board hydrogen production for low temperature PEM fuel cells using dual reforming of ethanol. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 13800-13810.	3.8	31

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37	Synergetic and inhibition effects in carbon dioxide gasification of blends of coals and biomass fuels of Indian origin. <i>Bioresource Technology</i> , 2016, 209, 157-165.	4.8	58
38	Evaluation of CO <sub>2</sub> gasification kinetics for low-rank Indian coals and biomass fuels. <i>Journal of Thermal Analysis and Calorimetry</i> , 2016, 123, 467-478.	2.0	28
39	Effect of flow field on the performance of an all-vanadium redox flow battery. <i>Journal of Power Sources</i> , 2016, 307, 782-787.	4.0	129
40	An automated procedure for the optimal positioning of guide plates in a flow manifold using Box complex method. <i>Applied Thermal Engineering</i> , 2015, 76, 292-300.	3.0	9
41	Viability of fuel switching of a gas-fired power plant operating in chemical looping combustion mode. <i>Energy</i> , 2015, 81, 213-221.	4.5	11
42	Comparative analysis of four gas-fired, carbon capture-enabled power plant layouts. <i>Clean Technologies and Environmental Policy</i> , 2015, 17, 2143-2156.	2.1	10
43	Effect of impeller type and density difference on the draw down of low density microspheres. <i>Chemical Engineering Research and Design</i> , 2015, 104, 571-578.	2.7	4
44	Syngas-fueled, chemical-looping combustion-based power plant lay-out for clean energy generation. <i>Clean Technologies and Environmental Policy</i> , 2015, 17, 237-247.	2.1	13
45	Shape Optimisation of Curved Interconnecting Ducts. <i>Defence Science Journal</i> , 2015, 65, 300.	0.5	7
46	Heat-affected zone analysis of high ash coals during ex situ experimental simulation of underground coal gasification. <i>Fuel</i> , 2014, 123, 167-174.	3.4	26
47	Deactivation and regeneration of Ni catalyst during steam reforming of model biogas: An experimental investigation. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 297-304.	3.8	83
48	A detailed kinetic model for biogas steam reforming on Ni and catalyst deactivation due to sulfur poisoning. <i>Applied Catalysis A: General</i> , 2014, 471, 118-125.	2.2	81
49	Thermal management of high temperature polymer electrolyte membrane fuel cell stacks in the power range of 10-100 kW. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 20127-20138.	3.8	13
50	Hydrodynamic analysis of flow fields for redox flow battery applications. <i>Journal of Applied Electrochemistry</i> , 2014, 44, 995-1006.	1.5	78
51	Numerical simulation of the hydrodynamics of a liquid solid circulating fluidized bed. <i>Powder Technology</i> , 2014, 251, 61-70.	2.1	16
52	Ex-situ experimental studies on serpentine flow field design for redox flow battery systems. <i>Journal of Power Sources</i> , 2014, 248, 140-146.	4.0	66
53	Experimental and modelling studies of gas-liquid vertical annular flow through a diverging section. <i>International Journal of Multiphase Flow</i> , 2014, 67, 180-190.	1.6	12
54	Parametric study of an external coolant system for a high temperature polymer electrolyte membrane fuel cell. <i>Applied Thermal Engineering</i> , 2013, 58, 155-164.	3.0	28

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55	Effect of spacer grids on CHF in nuclear rod bundles. Nuclear Engineering and Design, 2013, 261, 66-75.	0.8	22
56	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.	5.1	44
57	A model for the prediction of safe heat flux from a downward-facing hot patch. Nuclear Engineering and Design, 2013, 265, 45-52.	0.8	0
58	Heuristic shape optimization of gas ducting in process and power plants. Chemical Engineering Research and Design, 2013, 91, 999-1008.	2.7	7
59	Assessment of retrofitting possibility of an Indian pulverized coal boiler for operation with Indian coals in oxy-coal combustion mode with CO <sub>2</sub> sequestration. Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, 2012, 226, 1003-1013.	0.8	12
60	Optimized enriched CO <sub>2</sub> recycle oxy-fuel combustion for high ash coals. Fuel, 2012, 102, 32-40.	3.4	29
61	Thermal management strategies for a 1ÂkWe stack of a high temperature proton exchange membrane fuel cell. Applied Thermal Engineering, 2012, 48, 465-475.	3.0	80
62	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
63	Laboratory scale studies on simulated underground coal gasification of high ash coals for carbon-neutral power generation. Energy, 2012, 46, 351-358.	4.5	46
64	Flame structure investigations of oxy-fuel combustion. Fuel, 2012, 93, 52-58.	3.4	28
65	Experimental studies of flame extinction in a swirl-stabilized oxy-fuel burner. Fuel, 2012, 93, 75-81.	3.4	10
66	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.	3.8	49
67	Underground coal-air gasification based solid oxide fuel cell system. Applied Energy, 2012, 94, 406-414.	5.1	25
68	CFD analysis of dense gas dispersion in indoor environment for risk assessment and risk mitigation. Journal of Hazardous Materials, 2012, 209-210, 177-185.	6.5	76
69	Evaluation of the Effect of the Concentration of CO <sub>2</sub> on the Overall Reactivity of Drop Tube Furnace Derived Indian Sub-bituminous Coal Chars during CO <sub>2</sub> /O <sub>2</sub> Combustion. Industrial & Engineering Chemistry Research, 2011, 50, 12865-12871.	1.8	11
70	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.	1.8	35
71	Simulation of cavity formation in underground coal gasification using bore hole combustion experiments. Energy, 2011, 36, 5854-5864.	4.5	61
72	Cross-over and performance modeling of liquid-feed Polymer Electrolyte Membrane Direct Ethanol Fuel Cells. International Journal of Hydrogen Energy, 2011, 36, 14648-14658.	3.8	32

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73	Micro-kinetic modeling of NH <sub>3</sub> decomposition on Ni and its application to solid oxide fuel cells. <i>Chemical Engineering Science</i> , 2011, 66, 5184-5191.	1.9	48
74	On the occurrence of two-stage combustion in alkali metals. <i>Combustion and Flame</i> , 2011, 158, 1000-1007.	2.8	10
75	Feasibility of using ultrasound-assisted process for sulfur and ash removal from coal. <i>Chemical Engineering and Processing: Process Intensification</i> , 2011, 50, 236-246.	1.8	45
76	Numerical study of on-board fuel reforming in a catalytic plate reactor for solid-oxide fuel cells. <i>Chemical Engineering Science</i> , 2011, 66, 490-498.	1.9	8
77	An improved serpentine flow field with enhanced cross-flow for fuel cell applications. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 6067-6072.	3.8	64
78	Ultrasonic coal-wash for de-sulfurization. <i>Ultrasonics Sonochemistry</i> , 2011, 18, 718-726.	3.8	59
79	Steam-moderated oxy-fuel combustion. <i>Energy Conversion and Management</i> , 2010, 51, 1981-1988.	4.4	122
80	Effect of air flow on liquid water transport through a hydrophobic gas diffusion layer of a polymer electrolyte membrane fuel cell. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 6872-6886.	3.8	34
81	Experimental studies on burning behaviour of liquid sodium in a shallow pool. <i>Nuclear Engineering and Design</i> , 2010, 240, 3462-3466.	0.8	7
82	Flame structure and NO generation in oxy-fuel combustion at high pressures. <i>Energy Conversion and Management</i> , 2009, 50, 1116-1123.	4.4	34
83	Comprehensive one-dimensional, semi-analytical, mathematical model for liquid-feed polymer electrolyte membrane direct methanol fuel cells. <i>Journal of Power Sources</i> , 2009, 188, 367-378.	4.0	39
84	Dynamics of liquid sodium pool spreading under sodium fire conditions. <i>Nuclear Engineering and Design</i> , 2009, 239, 1354-1361.	0.8	10
85	A hydrodynamic network model for interdigitated flow fields. <i>International Journal of Hydrogen Energy</i> , 2009, 34, 8289-8301.	3.8	34
86	Convective heat transfer in single-phase flow in a vertical tube subjected to axial low frequency oscillations. <i>Heat and Mass Transfer</i> , 2008, 44, 857-864.	1.2	61
87	Flow and pressure drop fluctuations in a vertical tube subject to low frequency oscillations. <i>Nuclear Engineering and Design</i> , 2008, 238, 178-187.	0.8	101
88	Effect of channel-to-channel cross-flow on local flooding in serpentine flow-fields. <i>Journal of Power Sources</i> , 2008, 180, 227-231.	4.0	39
89	A reduced efficiency approach-based process model for a circulating air classifier. <i>Chemical Engineering and Processing: Process Intensification</i> , 2008, 47, 1887-1900.	1.8	13
90	Equilibrium considerations in aerosol formation during sodium combustion. <i>Nuclear Engineering and Design</i> , 2008, 238, 2739-2745.	0.8	8

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91	Optimization of a Coal-Fired Furnace for Oxy Fuel Combustion. , 2008, , .		2
92	Shape Optimization of Power Plant Ducting Using CFD. , 2008, , .		0
93	A New Stable Operating Regime for Oxyfuel Combustion. , 2008, , .		2
94	Burning Profile of High Ash Indian Coals in Oxy-Fuel Environment. , 2008, , .		4
95	Energy Considerations in the Spreading of LNG on Sea Water. , 2008, , .		0
96	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
97	An Eulerian/Lagrangian study of solid suspension in stirred tanks. AIChE Journal, 2007, 53, 2461-2469.	1.8	22
98	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.	2.5	11
99	Assessment of the effect of high ash content in pulverized coal combustion. Applied Mathematical Modelling, 2007, 31, 934-953.	2.2	51
100	Studies on critical heat flux in flow boiling at near critical pressures. International Journal of Heat and Mass Transfer, 2006, 49, 259-268.	2.5	18
101	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.	4.0	112
102	Flow maldistribution in interdigitated channels used in PEM fuel cells. Journal of Power Sources, 2006, 159, 595-604.	4.0	29
103	CHURN FLOW. , 2006, c, .		0
104	Flow distribution and pressure drop in parallel-channel configurations of planar fuel cells. Journal of Power Sources, 2005, 144, 94-106.	4.0	141
105	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.	2.5	24
106	Experimental and numerical study of a rotating wheel air classifier. AIChE Journal, 2005, 51, 776-790.	1.8	38
107	On axial coherence of interfacial waves in countercurrent flow. AIChE Journal, 2005, 51, 2098-2102.	1.8	0
108	Effect of Taylor vortices on mass transfer from a rotating cylinder. AIChE Journal, 2005, 51, 2885-2898.	1.8	15

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109	An Improved Model to Predict Flooding/Dehydration in PEM Fuel Cells. , 2005, , .		0
110	Pressure Losses and Flow Maldistribution in Ducts with Sharp Bends. Chemical Engineering Research and Design, 2004, 82, 321-331.	2.7	31
111	The case of an oscillating manometer with variable density and dissipation: experimental and numerical study. Nuclear Engineering and Design, 2004, 229, 59-73.	0.8	3
112	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.	2.5	56
113	Pressure losses in laminar flow through serpentine channels in fuel cell stacks. Journal of Power Sources, 2004, 138, 1-13.	4.0	133
114	A multidimensional model for annular gas-liquid flow. Chemical Engineering Science, 2004, 59, 3577-3589.	1.9	34
115	Computational Study of Particle-Eddy Interaction in Sedimentation Tanks. Journal of Environmental Engineering, ASCE, 2004, 130, 37-49.	0.7	42
116	Mixing of power-law fluids using anchors: Metzner-Otto concept revisited. AIChE Journal, 2003, 49, 30-40.	1.8	36
117	Mixing of pseudoplastic fluids using helical ribbon impellers. AIChE Journal, 2003, 49, 2768-2772.	1.8	23
118	Investigation of postflooding conditions in countercurrent gas-liquid flow. AIChE Journal, 2002, 48, 212-220.	1.8	7
119	Experimental study of air-water countercurrent annular flow under post-flooding conditions. International Journal of Multiphase Flow, 2002, 28, 51-67.	1.6	13
120	CFD Study of Power and Mixing Time for Paddle Mixing in Unbaffled Vessels. Chemical Engineering Research and Design, 2002, 80, 482-498.	2.7	77
121	Effect of tube diameter on flooding. International Journal of Multiphase Flow, 2001, 27, 797-816.	1.6	49
122	Flow development in vertical annular flow. Chemical Engineering Science, 2001, 56, 3221-3235.	1.9	105
123	Hydrodynamics of jet mixing in vessels. Chemical Engineering Science, 2001, 56, 193-210.	1.9	79
124	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.	2.5	119
125	On the nature of ephemeral waves in vertical annular flow. International Journal of Multiphase Flow, 1996, 22, 325-333.	1.6	23
126	Response of turbulent flow to abrupt changes in surface roughness and its relevance in horizontal annular flow. Applied Mathematical Modelling, 1996, 20, 244-251.	2.2	6



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127	Theoretical investigation of the diameter effect on flooding in countercurrent flow. International Journal of Multiphase Flow, 1996, 22, 307-324.	1.6	54
128	Hydrodynamics and heat transfer of wavy thin film flow. International Journal of Heat and Mass Transfer, 1996, 40, 179-190.	2.5	63
129	TURBULENT FLOW IN A PIPE WITH INTERMITTENT ROUGH PATCHES: AN ANALOGUE OF ANNULAR TWO-PHASE FLOW. Chemical Engineering Communications, 1996, 141-142, 237-259.	1.5	4
130	CHURN FLOW. Multiphase Science and Technology, 1994, 8, 471-521.	0.2	13
131	To churn or not to churn. International Journal of Multiphase Flow, 1993, 19, 527-529.	1.6	58
132	Observation of flooding in the taylor bubble of co-current upwards slug flow. International Journal of Multiphase Flow, 1993, 19, 531-534.	1.6	25
133	Prediction of film inversion in two-phase flow in coiled tubes. Journal of Fluid Mechanics, 1992, 236, 497-511.	1.4	68
134	Prediction of the slug-to-churn flow transition in vertical two-phase flow. International Journal of Multiphase Flow, 1992, 18, 847-860.	1.6	195
135	A numerical study of bifurcation in laminar flow in curved ducts. International Journal for Numerical Methods in Fluids, 1992, 14, 253-266.	0.9	9
136	On the paradox concerning friction factor ratio in laminar flow in coils. Proceedings of the Royal Society A, 1991, 432, 291-299.	1.0	8
137	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
138	Fluid flow in curved ducts. International Journal for Numerical Methods in Fluids, 1990, 10, 569-589.	0.9	9
139	Characterization of dryout in helical coils. International Journal of Heat and Mass Transfer, 1990, 33, 1451-1463.	2.5	92
140	Structure of thin liquid films in gas-liquid horizontal flow. International Journal of Multiphase Flow, 1990, 16, 951-957.	1.6	65
141	Time-dependent behaviour of the liquid film in horizontal annular flow. International Journal of Multiphase Flow, 1990, 16, 1097-1116.	1.6	59
142	High-quality dryout in helical coils. Nuclear Engineering and Design, 1990, 122, 105-118.	0.8	23
143	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.	1.0	16
144	Preliminary Analysis of a Small, Inherently Safe Boiling Water Reactor. Nuclear Technology, 1987, 79, 51-65.	0.7	1

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145	Numerical Simulation of Coal Combustion in a Tangential Pulverized Boiler: Effect of Burner Vertical Tilt Angle. Arabian Journal for Science and Engineering, 0, , 1.	1.7	5