

# Satyam Panchal

## List of Publications by Year in descending order

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Version: 2024-02-01

54  
papers

4,348  
citations

87886

38  
h-index

197805

49  
g-index

54  
all docs

54  
docs citations

54  
times ranked

1752  
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermal design and simulation of mini-channel cold plate for water cooled large sized prismatic lithium-ion battery. Applied Thermal Engineering, 2017, 122, 80-90.	6.0	280
2	A novel battery thermal management system using nano-enhanced phase change materials. Energy, 2021, 219, 119564.	8.8	263
3	Numerical analysis of different fin structures in phase change material module for battery thermal management system and its optimization. International Journal of Heat and Mass Transfer, 2020, 163, 120434.	4.8	200
4	Thermal modeling and validation of temperature distributions in a prismatic lithium-ion battery at different discharge rates and varying boundary conditions. Applied Thermal Engineering, 2016, 96, 190-199.	6.0	197
5	Experimental and theoretical investigations of heat generation rates for a water cooled LiFePO <sub>4</sub> battery. International Journal of Heat and Mass Transfer, 2016, 101, 1093-1102.	4.8	195
6	Electrochemical thermal modeling and experimental measurements of 18650 cylindrical lithium-ion battery during discharge cycle for an EV. Applied Thermal Engineering, 2018, 135, 123-132.	6.0	188
7	A comprehensive equivalent circuit model for lithium-ion batteries, incorporating the effects of state of health, state of charge, and temperature on model parameters. Journal of Energy Storage, 2021, 43, 103252.	8.1	149
8	Investigation on thermal performance of water-cooled Li-ion pouch cell and pack at high discharge rate with U-turn type microchannel cold plate. International Journal of Heat and Mass Transfer, 2020, 155, 119728.	4.8	134
9	Comparative Study of Equivalent Circuit Models Performance in Four Common Lithium-Ion Batteries: LFP, NMC, LMO, NCA. Batteries, 2021, 7, 51.	4.5	126
10	Cycling degradation testing and analysis of a LiFePO <sub>4</sub> battery at actual conditions. International Journal of Energy Research, 2017, 41, 2565-2575.	4.5	125
11	Experimental and theoretical investigation of temperature distributions in a prismatic lithium-ion battery. International Journal of Thermal Sciences, 2016, 99, 204-212.	4.9	116
12	Concept Review of a Cloud-Based Smart Battery Management System for Lithium-Ion Batteries: Feasibility, Logistics, and Functionality. Batteries, 2022, 8, 19.	4.5	116
13	Transient electrochemical heat transfer modeling and experimental validation of a large sized LiFePO <sub>4</sub> /graphite battery. International Journal of Heat and Mass Transfer, 2017, 109, 1239-1251.	4.8	111
14	A Review of Range Extenders in Battery Electric Vehicles: Current Progress and Future Perspectives. World Electric Vehicle Journal, 2021, 12, 54.	3.0	106
15	Numerical investigation on thermal behaviour of 5Å—5 cell configured battery pack using phase change material and fin structure layout. Journal of Energy Storage, 2021, 43, 103234.	8.1	89
16	Design of a Hybrid Electric Vehicle Powertrain for Performance Optimization Considering Various Powertrain Components and Configurations. Vehicles, 2021, 3, 20-32.	3.1	85
17	Simulation of cooling plate effect on a battery module with different channel arrangement. Journal of Energy Storage, 2022, 49, 104113.	8.1	83
18	A Review of Lithium-Ion Battery Thermal Runaway Modeling and Diagnosis Approaches. Processes, 2022, 10, 1192.	2.8	79

#	ARTICLE	IF	CITATIONS
19	A novel heat dissipation structure based on flat heat pipe for battery thermal management system. International Journal of Energy Research, 2022, 46, 15961-15980.	4.5	79
20	Effect of integrating the hysteresis component to the equivalent circuit model of Lithium-ion battery for dynamic and non-dynamic applications. Journal of Energy Storage, 2020, 32, 101785.	8.1	77
21	Mathematical Heat Transfer Modeling and Experimental Validation of Lithium-Ion Battery Considering: Tab and Surface Temperature, Separator, Electrolyte Resistance, Anode-Cathode Irreversible and Reversible Heat. Batteries, 2020, 6, 61.	4.5	74
22	Python-based scikit-learn machine learning models for thermal and electrical performance prediction of high-capacity lithium-ion battery. International Journal of Energy Research, 2022, 46, 786-794.	4.5	73
23	Numerical modeling and experimental investigation of a prismatic battery subjected to water cooling. Numerical Heat Transfer; Part A: Applications, 2017, 71, 626-637.	2.1	72
24	Coupled Electrochemical-Thermal Simulations and Validation of Minichannel Cold-Plate Water-Cooled Prismatic 20 Ah LiFePO <sub>4</sub> Battery. Electrochem, 2021, 2, 643-663.	3.3	71
25	High Reynolds Number Turbulent Model for Micro-Channel Cold Plate Using Reverse Engineering Approach for Water-Cooled Battery in Electric Vehicles. Energies, 2020, 13, 1638.	3.1	70
26	Comparison of lumped and 1D electrochemical models for prismatic 20Ah LiFePO <sub>4</sub> battery sandwiched between minichannel cold-plates. Applied Thermal Engineering, 2021, 199, 117586.	6.0	69
27	Soft Sensors for State of Charge, State of Energy, and Power Loss in Formula Student Electric Vehicle. Applied System Innovation, 2021, 4, 78.	4.6	66
28	Experimental temperature distributions in a prismatic lithium-ion battery at varying conditions. International Communications in Heat and Mass Transfer, 2016, 71, 35-43.	5.6	65
29	Investigation of Individual Cells Replacement Concept in Lithium-Ion Battery Packs with Analysis on Economic Feasibility and Pack Design Requirements. Processes, 2021, 9, 2263.	2.8	65
30	Numerical study on sensitivity analysis of factors influencing liquid cooling with double cold-plate for lithium-ion pouch cell. International Journal of Energy Research, 2021, 45, 2533-2559.	4.5	60
31	Modeling and Analysis of Heat Dissipation for Liquid Cooling Lithium-Ion Batteries. Energies, 2021, 14, 4187.	3.1	60
32	Critical thickness of nano-enhanced RT-42 paraffin based battery thermal management system for electric vehicles: A numerical study. Journal of Energy Storage, 2022, 52, 104757.	8.1	57
33	Thermal Management of Lithium-Ion Pouch Cell with Indirect Liquid Cooling using Dual Cold Plates Approach. SAE International Journal of Alternative Powertrains, 0, 4, 293-307.	0.8	54
34	Experimental and simulated temperature variations in a LiFePO <sub>4</sub> -20 Ah battery during discharge process. Applied Energy, 2016, 180, 504-515.	10.1	54
35	One dimensional fast computational partial differential model for heat transfer in lithium-ion batteries. Journal of Energy Storage, 2021, 37, 102471.	8.1	51
36	Numerical investigation on thermal management system for lithium ion battery using phase change material. Materials Today: Proceedings, 2022, 66, 1726-1733.	1.8	51

#	ARTICLE	IF	CITATIONS
37	Thermal and electrical performance assessments of lithium-ion battery modules for an electric vehicle under actual drive cycles. <i>Electric Power Systems Research</i> , 2018, 163, 18-27.	3.6	49
38	Design and simulation of a lithium-ion battery at large C-rates and varying boundary conditions through heat flux distributions. <i>Measurement: Journal of the International Measurement Confederation</i> , 2018, 116, 382-390.	5.0	48
39	Heat and mass transfer modeling and investigation of multiple LiFePO <sub>4</sub> /graphite batteries in a pack at low C-rates with water-cooling. <i>International Journal of Heat and Mass Transfer</i> , 2019, 135, 368-377.	4.8	44
40	Cooling Performance Characteristics of 20 Ah Lithium-Ion Pouch Cell with Cold Plates along Both Surfaces. <i>Energies</i> , 2018, 11, 2550.	3.1	41
41	Performance Study on the Effect of Coolant Inlet Conditions for a 20 Ah LiFePO <sub>4</sub> Prismatic Battery with Commercial Mini Channel Cold Plates. <i>Electrochem</i> , 2022, 3, 259-275.	3.3	39
42	Experimental investigation and simulation of temperature distributions in a 16Ah-LiMnNiCoO <sub>2</sub> battery during rapid discharge rates. <i>Heat and Mass Transfer</i> , 2017, 53, 937-946.	2.1	37
43	Uneven temperature and voltage distributions due to rapid discharge rates and different boundary conditions for series-connected LiFePO <sub>4</sub> batteries. <i>International Communications in Heat and Mass Transfer</i> , 2017, 81, 210-217.	5.6	36
44	A Conceptualized Hydrail Powertrain: A Case Study of the Union Pearson Express Route. <i>World Electric Vehicle Journal</i> , 2019, 10, 32.	3.0	30
45	Influence of the Fly Ash Material Inoculants on the Tensile and Impact Characteristics of the Aluminum AA 5083/7.5SiC Composites. <i>Materials</i> , 2021, 14, 2452.	2.9	30
46	Combined influence of concentration-dependent properties, local deformation and boundary confinement on the migration of Li-ions in low-expansion electrode particle during lithiation. <i>Journal of Energy Storage</i> , 2022, 52, 104908.	8.1	30
47	Investigation and simulation of electric train utilizing hydrogen fuel cell and lithium-ion battery. <i>Sustainable Energy Technologies and Assessments</i> , 2021, 46, 101234.	2.7	27
48	Measurement of Temperature Gradient (dT/dy) and Temperature Response (dT/dt) of a Prismatic Lithium-Ion Pouch Cell with LiFePO <sub>4</sub> Cathode Material. , 0, , .		26
49	Degradation Testing and Modeling of 200Ah LiFePO <sub>4</sub> Battery. , 0, , .		25
50	Modeling and Evaluation of Li-Ion Battery Performance Based on the Electric Vehicle Field Tests. , 0, , .		19
51	Experimental Measurements of Thermal Characteristics of LiFePO <sub>4</sub> Battery. , 0, , .		18
52	Numerical Analysis of Binding Yarn Float Length for 3D Auxetic Structures. <i>Physica Status Solidi (B): Basic Research</i> , 2020, 257, 2000440.	1.5	18
53	Experimental study of flow through compressor Cascade. <i>Case Studies in Thermal Engineering</i> , 2017, 10, 234-243.	5.7	15
54	Numerical Investigations on Magnetohydrodynamic Pump Based Microchannel Cooling System for Heat Dissipating Element. <i>Symmetry</i> , 2020, 12, 1713.	2.2	6