

# Ankur Jain

## List of Publications by Year in descending order

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93  
papers

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257101

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243296

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93  
all docs

93  
docs citations

93  
times ranked

1772  
citing authors

#	ARTICLE	IF	CITATIONS
1	Measurement of anisotropic thermophysical properties of cylindrical Li-ion cells. Journal of Power Sources, 2014, 252, 298-304.	4.0	208
2	Analytical and Numerical Modeling of the Thermal Performance of Three-Dimensional Integrated Circuits. IEEE Transactions on Components and Packaging Technologies, 2010, 33, 56-63.	1.4	134
3	Measurement of the Thermal Conductivity and Heat Capacity of Freestanding Shape Memory Thin Films Using the 3 $\mu$ m Method. Journal of Heat Transfer, 2008, 130, .	1.2	110
4	Experimental and theoretical analysis of a method to predict thermal runaway in Li-ion cells. Journal of Power Sources, 2016, 330, 167-174.	4.0	110
5	Nano/microscale pyroelectric energy harvesting: challenges and opportunities. International Journal of Smart and Nano Materials, 2013, 4, 229-245.	2.0	89
6	Experimental and numerical investigation of core cooling of Li-ion cells using heat pipes. Energy, 2016, 113, 852-860.	4.5	85
7	Determination of the core temperature of a Li-ion cell during thermal runaway. Journal of Power Sources, 2017, 370, 27-35.	4.0	71
8	Heat transfer enhancement in a lithium-ion cell through improved material-level thermal transport. Journal of Power Sources, 2015, 300, 123-131.	4.0	63
9	Measurement of Multiscale Thermal Transport Phenomena in Li-Ion Cells: A Review. Journal of Electrochemical Energy Conversion and Storage, 2016, 13, .	1.1	58
10	Measurements and modeling to determine the critical temperature for preventing thermal runaway in Li-ion cells. Applied Thermal Engineering, 2018, 145, 287-294.	3.0	57
11	Far-Field Interrogation of Microstrip Patch Antenna for Temperature Sensing Without Electronics. IEEE Sensors Journal, 2016, 16, 7053-7060.	2.4	54
12	An explicit analytical model for rapid computation of temperature field in a three-dimensional integrated circuit (3D IC). International Journal of Thermal Sciences, 2015, 87, 103-109.	2.6	52
13	Measurement of anisotropic thermal conductivity and inter-layer thermal contact resistance in polymer fused deposition modeling (FDM). Additive Manufacturing, 2018, 21, 84-90.	1.7	51
14	Analytical Solution for Steady-State and Transient Temperature Fields in Vertically Stacked 3-D Integrated Circuits. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2012, 2, 2031-2039.	1.4	46
15	Non-invasive measurement of internal temperature of a cylindrical Li-ion cell during high-rate discharge. International Journal of Heat and Mass Transfer, 2017, 111, 223-231.	2.5	45
16	Analytical modeling and optimization of phase change thermal management of a Li-ion battery pack. Applied Thermal Engineering, 2019, 148, 229-237.	3.0	42
17	A Review of Recent Research on Heat Transfer in Three-Dimensional Integrated Circuits (3-D ICs). IEEE Transactions on Components, Packaging and Manufacturing Technology, 2021, 11, 802-821.	1.4	41
18	Measurement of in-plane thermal conductivity and heat capacity of separator in Li-ion cells using a transient DC heating method. Journal of Power Sources, 2014, 272, 378-385.	4.0	38

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19	Conjugate Heat Transfer Analysis of Thermal Management of a Li-Ion Battery Pack. Journal of Electrochemical Energy Conversion and Storage, 2018, 15, .	1.1	34
20	Investigation of the Impact of Flow of Vented Gas on Propagation of Thermal Runaway in a Li-Ion Battery Pack. Journal of the Electrochemical Society, 2021, 168, 060555.	1.3	33
21	Enhancement of thermal transport in Gel Polymer Electrolytes with embedded BN/Al <sub>2</sub> O <sub>3</sub> nano- and micro-particles. Journal of Power Sources, 2017, 362, 219-227.	4.0	32
22	Analytical modeling of temperature distribution in an anisotropic cylinder with circumferentially-varying convective heat transfer. International Journal of Heat and Mass Transfer, 2014, 79, 1027-1033.	2.5	28
23	Nozzle-integrated pre-deposition and post-deposition heating of previously deposited layers in polymer extrusion based additive manufacturing. Additive Manufacturing, 2019, 28, 719-726.	1.7	28
24	Determination of temperature distribution in three-dimensional integrated circuits (3D ICs) with unequally-sized die. Applied Thermal Engineering, 2013, 56, 176-184.	3.0	26
25	Semi-analytical thermal modeling of transverse and longitudinal fins in a cylindrical phase change energy storage system. International Journal of Thermal Sciences, 2020, 153, 106352.	2.6	26
26	An experimentally validated method for temperature prediction during cyclic operation of a Li-ion cell. International Journal of Heat and Mass Transfer, 2017, 112, 89-96.	2.5	24
27	Investigation of process-structure-property relationships in polymer extrusion based additive manufacturing through in situ high speed imaging and thermal conductivity measurements. Additive Manufacturing, 2018, 23, 132-139.	1.7	23
28	Theoretical modeling and optimization of fin-based enhancement of heat transfer into a phase change material. International Journal of Heat and Mass Transfer, 2019, 145, 118698.	2.5	23
29	Improvement in build-direction thermal conductivity in extrusion-based polymer additive manufacturing through thermal annealing. Additive Manufacturing, 2019, 26, 242-249.	1.7	23
30	Prediction of thermal runaway and thermal management requirements in cylindrical Li-ion cells in realistic scenarios. International Journal of Energy Research, 2019, 43, 1827-1838.	2.2	23
31	Experimental and theoretical investigation of heat transfer in platform bed during polymer extrusion based additive manufacturing. Polymer Testing, 2019, 73, 439-446.	2.3	22
32	Post-Process Effects of Isothermal Annealing and Initially Applied Static Uniaxial Loading on the Ultimate Tensile Strength of Fused Filament Fabrication Parts. Materials, 2020, 13, 352.	1.3	22
33	Measurement and modeling of filament temperature distribution in the standoff gap between nozzle and bed in polymer-based additive manufacturing. Additive Manufacturing, 2018, 24, 224-231.	1.7	21
34	Local thermal non-equilibrium (LTNE) model for developed flow in porous media with spatially-varying Biot number. International Journal of Heat and Mass Transfer, 2021, 164, 120538.	2.5	21
35	Improved Thermal Performance of a Li-Ion Cell through Heat Pipe Insertion. Journal of the Electrochemical Society, 2017, 164, A961-A967.	1.3	20
36	Void reduction in fused filament fabrication (FFF) through <i>in situ</i> nozzle-integrated compression rolling of deposited filaments. Virtual and Physical Prototyping, 2021, 16, 146-159.	5.3	19

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37	Thermal Management Effectiveness and Efficiency of a Fin Surrounded by a Phase Change Material (PCM). International Journal of Heat and Mass Transfer, 2022, 191, 122630.	2.5	19
38	Non-invasive, transient determination of the core temperature of a heat-generating solid body. Scientific Reports, 2016, 6, 35886.	1.6	18
39	Multi-Mode Heat Transfer Simulations of the Onset and Propagation of Thermal Runaway in a Pack of Cylindrical Li-Ion Cells. Journal of the Electrochemical Society, 2021, 168, 020504.	1.3	18
40	Modeling of steady-state and transient thermal performance of a Li-ion cell with an axial fluidic channel for cooling. International Journal of Energy Research, 2015, 39, 573-584.	2.2	17
41	Microfluidic control of axonal guidance. Scientific Reports, 2014, 4, 6457.	1.6	17
42	Solution of the Phase Change Stefan Problem With Time-Dependent Heat Flux Using Perturbation Method. Journal of Heat Transfer, 2019, 141, .	1.2	17
43	Die/wafer stacking with reciprocal design symmetry (RDS) for mask reuse in three-dimensional (3D) integration technology. , 2009, , .		16
44	The impact of thermal properties on performance of phase change based energy storage systems. Applied Thermal Engineering, 2019, 162, 114154.	3.0	15
45	Interstratum Connection Design Considerations for Cost-Effective 3-D System Integration. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2010, 18, 450-460.	2.1	14
46	Experimental and Numerical Investigation of Interdie Thermal Resistance in Three-Dimensional Integrated Circuits. Journal of Electronic Packaging, Transactions of the ASME, 2017, 139, .	1.2	14
47	Measurement of radial thermal conductivity of a cylinder using a time-varying heat flux method. International Journal of Thermal Sciences, 2018, 129, 301-308.	2.6	14
48	Conditionally Exact Closed-Form Solution for Moving Boundary Problems in Heat and Mass Transfer in the Presence of Advection. International Journal of Heat and Mass Transfer, 2021, 180, 121802.	2.5	14
49	Measurement of out-of-plane thermal conductivity of substrates for flexible electronics and displays. Microelectronic Engineering, 2015, 142, 36-39.	1.1	13
50	Imaginary Eigenvalues in Multilayer One-Dimensional Thermal Conduction Problem with Linear Temperature-Dependent Heat Generation. International Journal of Heat and Mass Transfer, 2021, 170, 120993.	2.5	13
51	Theoretical model for diffusion-reaction based drug delivery from a multilayer spherical capsule. International Journal of Heat and Mass Transfer, 2022, 183, 122072.	2.5	13
52	An iterative, analytical method for solving conjugate heat transfer problems. International Journal of Heat and Mass Transfer, 2015, 90, 1232-1240.	2.5	12
53	Temperature distribution in a multi-layer cylinder with circumferentially-varying convective heat transfer boundary conditions. International Journal of Thermal Sciences, 2021, 160, 106673.	2.6	12
54	Theoretical analysis of phase change heat transfer and energy storage in a spherical phase change material with encapsulation. International Journal of Heat and Mass Transfer, 2022, 185, 122348.	2.5	12

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55	Theoretical modeling of endovascular drug delivery into a multilayer arterial wall from a drug-coated balloon. <i>International Journal of Heat and Mass Transfer</i> , 2022, 187, 122572.	2.5	12
56	Molecular dynamics simulations of separator-cathode interfacial thermal transport in a Li-ion cell. <i>Surfaces and Interfaces</i> , 2020, 21, 100674.	1.5	11
57	Measurement of the in-plane temperature field on the build plate during polymer extrusion additive manufacturing using infrared thermometry. <i>Polymer Testing</i> , 2020, 92, 106866.	2.3	11
58	Computationally-efficient thermal simulations of large Li-ion battery packs using submodeling technique. <i>International Journal of Heat and Mass Transfer</i> , 2021, 165, 120616.	2.5	10
59	Multilayer one-dimensional Convection-Diffusion-Reaction (CDR) problem: Analytical solution and imaginary eigenvalue analysis. <i>International Journal of Heat and Mass Transfer</i> , 2021, 177, 121465.	2.5	10
60	Theoretical modeling of heat transfer in a multilayer rectangular body with spatially-varying convective heat transfer boundary condition. <i>International Journal of Thermal Sciences</i> , 2021, 170, 107156.	2.6	10
61	Analytical Model Based Prediction of State-of-Charge (SoC) of a Lithium-Ion Cell under Time-Varying Charge/Discharge Currents. <i>Journal of the Electrochemical Society</i> , 2020, 167, 120544.	1.3	10
62	Analytical Modeling of Solid Phase Diffusion in Single-Layer and Composite Electrodes Under Time-Dependent Flux Boundary Condition. <i>Journal of the Electrochemical Society</i> , 2020, 167, 060528.	1.3	9
63	An iterative analytical model for aging analysis of Li-ion cells. <i>Journal of Power Sources</i> , 2022, 517, 230667.	4.0	9
64	Improved print quality in fused filament fabrication through localized dispensing of hot air around the deposited filament. <i>Additive Manufacturing</i> , 2021, 40, 101917.	1.7	8
65	Investigation of the Impact of Radiative Shielding by Internal Partitions Walls on Propagation of Thermal Runaway in a Matrix of Cylindrical Li-Ion Cells. <i>Journal of the Electrochemical Society</i> , 2021, 168, 120507.	1.3	8
66	Eigenfunction-based solution for solid-liquid phase change heat transfer problems with time-dependent boundary conditions. <i>International Journal of Heat and Mass Transfer</i> , 2022, 189, 122693.	2.5	8
67	Accelerating the numerical solution of thermal runaway in Li-ion batteries. <i>Journal of Power Sources</i> , 2022, 538, 231531.	4.0	8
68	Discrete Element Modeling (DEM) simulations of powder bed densification using horizontal compactors in metal additive manufacturing. <i>Powder Technology</i> , 2022, 405, 117557.	2.1	8
69	Drug diffusion and release from a bioerodible spherical capsule. <i>International Journal of Pharmaceutics</i> , 2022, 616, 121442.	2.6	7
70	Eigenfunction-based solution for one-dimensional solid-liquid phase change heat transfer problems with advection. <i>International Journal of Thermal Sciences</i> , 2022, 172, 107262.	2.6	6
71	Contactless, non-intrusive core temperature measurement of a solid body in steady-state. <i>International Journal of Heat and Mass Transfer</i> , 2016, 101, 779-788.	2.5	5
72	Analytical modeling of solution-phase diffusion in porous composite electrodes under time-dependent flux boundary conditions using Green's function method. <i>Ionics</i> , 2021, 27, 213-224.	1.2	5

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73	Dual-purpose thermal management of Li-ion cells using solid-state thermoelectric elements. International Journal of Energy Research, 2021, 45, 4303-4313.	2.2	5
74	Derivation of multiple but finite number of imaginary eigenvalues for a two-layer diffusion-reaction problem. International Journal of Heat and Mass Transfer, 2022, 194, 123037.	2.5	5
75	Experimental and numerical investigation of heat transfer in Li-ion battery pack of a hoverboard. International Journal of Energy Research, 2019, 43, 1802-1814.	2.2	4
76	Unsteady convective heat transfer from a flat plate with heat flux that varies in space and time. International Journal of Heat and Mass Transfer, 2021, 172, 121084.	2.5	4
77	Theoretical analysis of unsteady convective heat transfer from a flat plate with time-varying and spatially-varying temperature distribution. International Journal of Heat and Mass Transfer, 2022, 183, 122061.	2.5	4
78	Analytical solution of the convection-diffusion-reaction-source (CDRS) equation using Green's function technique. International Communications in Heat and Mass Transfer, 2022, 131, 105869.	2.9	4
79	Diffusion and reaction in a two-dimensional multilayer body: Analytical solution and imaginary eigenvalue analysis. International Journal of Heat and Mass Transfer, 2022, 196, 123163.	2.5	4
80	Theoretical modeling of a phase change heat transfer problem with a pre-melted or pre-solidified region. International Journal of Heat and Mass Transfer, 2019, 136, 635-643.	2.5	3
81	Solution Phase Limited Diffusion Modeling in a Li-ion Cell Subject to Concentration-Dependent Pore Wall Flux. Journal of the Electrochemical Society, 2021, 168, 090511.	1.3	3
82	Increasing perpendicular alignment in extruded filament by an orifice embedded 3D printing nozzle. Virtual and Physical Prototyping, 2022, 17, 1-18.	5.3	3
83	Analytical Solution for Temperature Distribution in a Multilayer Body With Spatially Varying Convective Heat Transfer Boundary Conditions on Both Ends. Journal of Heat Transfer, 2021, 143, .	1.2	3
84	Modeling the Effect of In Situ Nozzle-Integrated Compression Rolling on the Void Reduction and Filaments-Filament Adhesion in Fused Filament Fabrication (FFF). Multiscale Science and Engineering, 0, , 1.	0.9	3
85	Raceways, rebates, and retrofits: an exploration of several American cities' policies to facilitate electric vehicle purchase and usage. International Journal of Urban Sustainable Development, 2020, , 1-11.	1.0	2
86	Measurement of thermal conductivity of millimeter-sized wires using the fin effect. Applied Thermal Engineering, 2020, 178, 115482.	3.0	2
87	Theoretical analysis of transient solution phase concentration field in a porous composite electrode with time-dependent flux boundary condition. Journal of Applied Electrochemistry, 2021, 51, 1241-1252.	1.5	2
88	Analytical modeling of conjugate heat transfer between a bed of phase change material and laminar convective flow. International Journal of Heat and Mass Transfer, 2022, 183, 122180.	2.5	1
89	(Invited) Analytical Methods for Understanding Multiscale Thermal Transport in Li-Ion Batteries Towards Improved Safety and Performance. ECS Meeting Abstracts, 2018, , .	0.0	0
90	(Invited) Exact and Approximate Methods for Analytical Modeling of Thermal and Electrochemical Transport in Li-Ion Batteries. ECS Meeting Abstracts, 2019, , .	0.0	0

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91	Early Design Stage Evaluation of Thermal Performance of Battery Heat Acquisition System of a Hybrid Electric Aircraft. Journal of Electrochemical Energy Conversion and Storage, 2020, 17, .	1.1	0
92	Analytical modeling of Li-ion diffusion in a three-layer electrode-separator-electrode stack with time-dependent current. Ionics, 0, , 1.	1.2	0
93	Local Thermal Nonequilibrium (LTNE) Modeling of a Partially Porous Channel With Spatial Variation in Biot Number. Journal of Heat Transfer, 2022, 144, .	1.2	0