Ranjan Das

List of Publications by Year
in descending order

112 papers	2,729 citations	136950 32 h-index	254184 43 g-index
116 all docs	116 docs citations	116 times ranked	955 citing authors

#	Article	IF	Citations
1	An inverse analysis of a transient 2-D conduction–radiation problem using the lattice Boltzmann method and the finite volume method coupled with the genetic algorithm. Journal of Quantitative Spectroscopy and Radiative Transfer, 2008, 109, 2060-2077.	2.3	109
2	An experimental and multi-objective optimization study of a forced draft cooling tower with different fills. Energy Conversion and Management, 2016, 111, 417-430.	9.2	78
3	Predicting multiple combination of parameters for designing a porous fin subjected to a given temperature requirement. Energy Conversion and Management, 2013, 66, 211-219.	9.2	75
4	Forward and inverse solutions of a conductive, convective and radiative cylindrical porous fin. Energy Conversion and Management, 2014, 87, 96-106.	9.2	71
5	An Inverse Analysis for Parameter Estimation Applied to a Non-Fourier Conduction–Radiation Problem. Heat Transfer Engineering, 2011, 32, 455-466.	1.9	63
6	Tower characteristics correlation and parameter retrieval in wet-cooling tower with expanded wire mesh packing. Applied Thermal Engineering, 2016, 96, 240-249.	6.0	63
7	Prediction of porosity and thermal diffusivity in a porous fin using differential evolution algorithm. Swarm and Evolutionary Computation, 2015, 23, 27-39.	8.1	62
8	A simplex search method for a conductive–convective fin with variable conductivity. International Journal of Heat and Mass Transfer, 2011, 54, 5001-5009.	4.8	60
9	Inverse prediction and optimization analysis of a solar pond powering a thermoelectric generator. Solar Energy, 2018, 169, 658-672.	6.1	56
10	Multiparameter Estimation in a Transient Conduction-Radiation Problem Using the Lattice Boltzmann Method and the Finite-Volume Method Coupled with the Genetic Algorithms. Numerical Heat Transfer; Part A: Applications, 2008, 53, 1321-1338.	2.1	52
11	Simultaneous optimization of performance parameters and energy consumption in induced draft cooling towers. Chemical Engineering Research and Design, 2017, 123, 1-13.	5.6	51
12	Application of decomposition method and inverse prediction of parameters in a moving fin. Energy Conversion and Management, 2014, 84, 268-281.	9.2	50
13	Retrieval of thermal properties in a transient conduction–radiation problem with variable thermal conductivity. International Journal of Heat and Mass Transfer, 2009, 52, 2749-2758.	4.8	47
14	Waste heat recovery from a biomass heat engine for thermoelectric power generation using two-phase thermosyphons. Renewable Energy, 2020, 148, 1280-1291.	8.9	46
15	Application of genetic algorithm for unknown parameter estimations in cylindrical fin. Applied Soft Computing Journal, 2012, 12, 3369-3378.	7.2	45
16	Application of artificial bee colony algorithm for inverse modelling of a solar collector. Inverse Problems in Science and Engineering, 2017, 25, 887-908.	1.2	44
17	An inverse method for optimization of geometric parameters of a Savonius-style wind turbine. Energy Conversion and Management, 2018, 155, 116-127.	9.2	44
18	Application of simulated annealing in a rectangular fin with variable heat transfer coefficient. Inverse Problems in Science and Engineering, 2013, 21, 1352-1367.	1.2	43

#	ARTICLE	IF	CITATIONS
19	Predicting geometry of rectangular and hyperbolic fin profiles with temperature-dependent thermal properties using decomposition and evolutionary methods. Energy Conversion and Management, 2013, 74, 535-547.	9.2	40
20	Inverse analysis applied to retrieval of parameters and reconstruction of temperature field in a transient conduction–radiation heat transfer problem involving mixed boundary conditions. International Communications in Heat and Mass Transfer, 2010, 37, 52-57.	5.6	39
21	Exergy optimization of cooling tower for HGSHP and HVAC applications. Energy Conversion and Management, 2017, 136, 418-430.	9.2	39
22	Response surface based experimental analysis and thermal resistance model of a thermoelectric power generation system. Applied Thermal Engineering, 2019, 159, 113935.	6.0	37
23	Application of Adomian decomposition method and inverse solution for a fin with variable thermal conductivity and heat generation. International Journal of Heat and Mass Transfer, 2013, 66, 496-506.	4.8	36
24	Application of homotopy analysis method and inverse solution of a rectangular wet fin. Energy Conversion and Management, 2014, 80, 305-318.	9.2	36
25	A feedback model to predict parameters for controlling the performance of a mechanical draft cooling tower. Applied Thermal Engineering, 2016, 105, 519-530.	6.0	36
26	Prediction of Heat Generation in a Porous Fin from Surface Temperature. Journal of Thermophysics and Heat Transfer, 2017, 31, 781-790.	1.6	36
27	Lattice Boltzmann Method Applied to the Analysis of Transient Conduction-Radiation Problems in a Cylindrical Medium. Numerical Heat Transfer; Part A: Applications, 2009, 56, 42-59.	2.1	35
28	Approximate Analytical Method for Porous Stepped Fins with Temperature-Dependent Heat Transfer Parameters. Journal of Thermophysics and Heat Transfer, 2016, 30, 661-672.	1.6	35
29	Direct and inverse approaches for analysis and optimization of fins under sensible and latent heat load. International Journal of Heat and Mass Transfer, 2018, 124, 331-343.	4.8	35
30	An improved constrained inverse optimization method for mechanical draft cooling towers. Applied Thermal Engineering, 2017, 114, 573-582.	6.0	34
31	Heat transfer improvement of a wet fin under transient response with a unique design arrangement aspect. International Journal of Heat and Mass Transfer, 2018, 127, 1239-1251.	4.8	34
32	Energy Saving Potential of a Combined Solar and Natural Gas-Assisted Vapor Absorption Building Cooling System. Journal of Solar Energy Engineering, Transactions of the ASME, 2019, 141, .	1.8	34
33	Comparative assessment of different air–conditioning systems for nearly/net zero–energy buildings. International Journal of Energy Research, 2020, 44, 3526-3546.	4.5	34
34	Thermodynamic activity of a ternary nanofluid flow passing through a permeable slipped surface with heat source and sink. Waves in Random and Complex Media, 0, , 1-21.	2.7	34
35	Experimental Analysis of a Novel Solar Pond Driven Thermoelectric Energy System. Journal of Energy Resources Technology, Transactions of the ASME, 2020, 142, .	2.3	33
36	Adomian decomposition method for a stepped fin with all temperature-dependent modes of heat transfer. International Journal of Heat and Mass Transfer, 2015, 82, 447-459.	4.8	32

#	Article	IF	Citations
37	Forward and inverse nonlinear heat transfer analysis for optimization of a constructal T-shape fin under dry and wet conditions. International Journal of Heat and Mass Transfer, 2019, 137, 461-475.	4.8	32
38	A simulated annealing-based inverse computational fluid dynamics model for unknown parameter estimation in fluid flow problem. International Journal of Computational Fluid Dynamics, 2012, 26, 499-513.	1.2	31
39	Estimation of critical dimensions for a trapezoidal-shaped steel fin using hybrid differential evolution algorithm. Neural Computing and Applications, 2017, 28, 1683-1693.	5.6	31
40	Application of artificial bee colony algorithm for maximizing heat transfer in a perforated fin. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2018, 232, 38-48.	2.5	31
41	Experimental study of a combined biomass and solar energy-based fully grid-independent air-conditioning system. Clean Technologies and Environmental Policy, 2021, 23, 1889-1912.	4.1	30
42	Wall profile optimisation of a salt gradient solar pond using a generalized model. Solar Energy, 2019, 184, 356-371.	6.1	27
43	A Novel Design of Triple-Hybrid Absorption Radiant Building Cooling System With Desiccant Dehumidification. Journal of Energy Resources Technology, Transactions of the ASME, 2019, 141, .	2.3	27
44	A fin design employing an inverse approach using simplex search method. Heat and Mass Transfer, 2013, 49, 1029-1038.	2.1	26
45	Differential Transform Method for Thermal Analysis of Exponential Fins under Sensible and Latent Heat Transfer. Procedia Engineering, 2015, 127, 287-294.	1.2	26
46	Identification of design parameters in a solar collector using inverse heat transfer analysis. Energy Conversion and Management, 2014, 88, 27-39.	9.2	25
47	Effect of ground heat extraction on stability and thermal performance of solar ponds considering imperfect heat transfer. Solar Energy, 2020, 198, 596-604.	6.1	25
48	Identification of materials in a hyperbolic annular fin for a given temperature requirement. Inverse Problems in Science and Engineering, 2016, 24, 213-233.	1.2	22
49	A fully analytical model of a box solar cooker with sensible thermal storage. Solar Energy, 2022, 233, 531-542.	6.1	22
50	Inverse modeling of a solar collector involving Fourier and non-Fourier heat conduction. Applied Mathematical Modelling, 2014, 38, 5126-5148.	4.2	20
51	Estimation of operating parameters of a reheat regenerative power cycle using simplex search and differential evolution based inverse methods. Energy Conversion and Management, 2015, 91, 204-218.	9.2	20
52	Estimation of Internal Heat Generation in a Fin Involving All Modes of Heat Transfer Using Golden Section Search Method. Heat Transfer Engineering, 2018, 39, 58-71.	1.9	20
53	Boundary Surface Heat Fluxes in a Square Enclosure with an Embedded Design Element. Journal of Thermophysics and Heat Transfer, 2010, 24, 845-849.	1.6	19
54	Concept of Triple Heat Exchanger-Assisted Solar Pond Through an Improved Analytical Model. Journal of Solar Energy Engineering, Transactions of the ASME, 2019, 141, .	1.8	19

#	Article	IF	Citations
55	Surface wettability change on TF nanocoated surfaces during pool boiling heat transfer of refrigerant R-141b. Heat and Mass Transfer, 2020, 56, 3273-3287.	2.1	19
56	Optimization of Heat Fluxes on the Heater and the Design Surfaces of a Radiating-Conducting Medium. Numerical Heat Transfer; Part A: Applications, 2009, 56, 846-860.	2.1	18
57	Inverse analysis of an internal reforming solid oxide fuel cell system using simplex search method. Applied Mathematical Modelling, 2013, 37, 6994-7015.	4.2	18
58	Application of Simplex Search Method for Predicting Unknown Parameters in an Annular Fin Subjected to Thermal Stresses. Journal of Thermal Stresses, 2014, 37, 236-251.	2.0	18
59	Application of homotopy perturbation method and inverse prediction of thermal parameters for an annular fin subjected to thermal load. Journal of Thermal Stresses, 2016, 39, 298-313.	2.0	18
60	A novel combined power and cooling cycle design and a modified conditional exergy destruction approach. Energy Conversion and Management, 2021, 233, 113943.	9.2	18
61	Transient study of a solar pond under heat extraction from non-convective and lower convective zones considering finite effectiveness of exchangers. Solar Energy, 2021, 223, 437-448.	6.1	18
62	A novel variable refrigerant flow system with solar regeneration-based desiccant-assisted ventilation. Solar Energy, 2022, 238, 84-104.	6.1	18
63	Inverse analysis of Navier–Stokes equations using simplex search method. Inverse Problems in Science and Engineering, 2012, 20, 445-462.	1.2	17
64	Transient thermal modelling and optimization of a solar collector-type pond considering an improved decay of radiative intensity. International Journal of Thermal Sciences, 2019, 139, 440-449.	4.9	17
65	Significance of surface modification on nucleate pool boiling heat transfer characteristics of refrigerant R-141b. International Journal of Heat and Mass Transfer, 2021, 170, 120994.	4.8	17
66	Estimation of parameters in a fin with temperature-dependent thermal conductivity and radiation. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2016, 230, 474-485.	2.5	16
67	Estimation of feasible materials and thermal conditions in a trapezoidal fin using genetic algorithm. Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 2016, 230, 2356-2368.	1.3	16
68	Improved Quantification of Exergy Destruction in Mechanical Cooling Tower Considering All Tower Inlet Parameters. Journal of Heat Transfer, 2018, 140, .	2.1	16
69	Performance analysis of a solar still driven by a packed bed thermal storage tank during off-sunshine period. Journal of Energy Storage, 2021, 44, 103381.	8.1	16
70	Prediction of performance coefficients of a three-bucket Savonius rotor using artificial neural network. Journal of Renewable and Sustainable Energy, 2010, 2, 043107.	2.0	15
71	Application of Simulated Annealing for Simultaneous Estimation of Parameters in a Cylindrical Fin. Numerical Heat Transfer; Part A: Applications, 2012, 61, 699-716.	2.1	14
72	Feasibility study of different materials for attaining similar temperature distributions in a fin with variable properties. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2016, 230, 292-303.	2.5	14

#	ARTICLE	IF	CITATIONS
73	Eigenfunctions and genetic algorithm based improved strategies for performance analysis and geometric optimization of a two-zone solar pond. Solar Energy, 2020, 211, 949-961.	6.1	14
74	A differential evolution algorithm for maximizing heat dissipation in stepped fins. Neural Computing and Applications, 2018, 30, 3081-3093.	5.6	13
75	Effect of peripheral heat conduction in salt-gradient solar ponds. Journal of Energy Storage, 2021, 33, 102084.	8.1	13
76	Estimating magnetic field strength in a porous fin from a surface temperature response. Electronics Letters, 2020, 56, 1011-1013.	1.0	13
77	Simultaneous Reconstruction of Thermal Field and Retrieval of Parameters in a Cylindrical Enclosure. Numerical Heat Transfer; Part A: Applications, 2008, 54, 983-998.	2.1	12
78	A combined cycle plant with air and fuel recuperator for captive power application. Part 2: Inverse analysis and parameter estimation. Energy Conversion and Management, 2014, 79, 778-789.	9.2	12
79	Assessment of desiccant assisted compression and absorption based air-conditioning systems for hot-dry and composite climates. Journal of Physics: Conference Series, 2019, 1240, 012087.	0.4	12
80	Experimental Study on a New Small-Scale Absorption System: Response Surface and Inverse Analyses. Journal of Energy Resources Technology, Transactions of the ASME, 2021, 143, .	2.3	12
81	Revisiting Gradient Layer Heat Extraction in Solar Ponds Through a Realistic Approach. Journal of Solar Energy Engineering, Transactions of the ASME, 2020, 142, .	1.8	12
82	Three-Parameter Estimation Study in a Radial Fin Geometry Using FDM-Based Simplex Method. Heat Transfer Engineering, 2014, 35, 1309-1319.	1.9	11
83	Energy cogeneration study of red mulberry (*Morus rubra*)-based biomass. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 2020, 42, 979-1000.	2.3	10
84	New Forward and Inverse Solutions for Wet Fins Generalized Profiles With All Nonlinear Phenomena. Journal of Heat Transfer, 2021, 143, .	2.1	10
85	Laminar Combined Convection in Finite Circular Rod Bundles. Journal of Heat Transfer, 1984, 106, 563-569.	2.1	9
86	Investigation of thermal and electrical performance in a salt gradient solar pond. Journal of Physics: Conference Series, 2019, 1240, 012111.	0.4	9
87	Improved Exergy Evaluation of Ammonia-Water Absorption Refrigeration System Using Inverse Method. Journal of Energy Resources Technology, Transactions of the ASME, 2021, 143, .	2.3	9
88	Use of Cuckoo Search Algorithm for Performance Evaluation of Split Elliptic Shaped Fins for Enhanced Rate of Heat Transfer. Journal of Heat Transfer, 2021, 143, .	2.1	8
89	An Estimate of Heat Generation, Electric, and Magnetic Parameters From Temperature Fields in Porous Fins for Electronic Cooling Systems. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2021, 11, 1250-1257.	2.5	8
90	Inverse Heat Transfer Study of a Nonlinear Straight Porous Fin Using Hybrid Optimization. , 2014, , .		6

#	Article	IF	Citations
91	Inverse analysis of conductive-convective wet triangular fin for predicting thermal properties and fin dimensions. Inverse Problems in Science and Engineering, 2014, 22, 1367-1393.	1.2	6
92	INVERSE PREDICTION AND APPLICATION OF HOMOTOPY PERTURBATION METHOD FOR EFFICIENT DESIGN OF AN ANNULAR FIN WITH VARIABLE THERMAL CONDUCTIVITY AND HEAT GENERATION. Mathematical Modelling and Analysis, 2016, 21, 699-717.	1.5	6
93	A golden section search method for the identification of skin subsurface abnormalities. Inverse Problems in Science and Engineering, 2018, 26, 183-202.	1.2	6
94	Evaluation of the Effectiveness of Base Insulation on the Productivity of a Packed Bed Solar Air Heater. Journal of Thermal Science and Engineering Applications, 2022, 14, .	1.5	6
95	Inverse study of double-glazed solar collector using hybrid evolutionary algorithm. , 2014, , .		5
96	Generalized inverse analysis for fins of different profiles with all temperature-dependent parameters. Heat and Mass Transfer, 2016, 52, 1605-1619.	2.1	5
97	Closed-form solution for a rectangular stepped fin involving all variable thermal parameters and nonlinear boundary conditions. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2017, 231, 992-1010.	2.5	5
98	Estimation of riverbank soil erodibility parameters using genetic algorithm. Sadhana - Academy Proceedings in Engineering Sciences, 2017, 42, 1953-1963.	1.3	5
99	Application of Simulated Annealing for Inverse Analysis of a Single-Glazed Solar Collector. Advances in Intelligent Systems and Computing, 2015, , 267-275.	0.6	5
100	Wall Energy Loss and Entropy Generation in Solar Ponds Using One-Dimensional and Two-Dimensional Transient Analyses. Journal of Energy Resources Technology, Transactions of the ASME, 2022, 144, .	2.3	5
101	Intrinsic Cluster Detection Using Adaptive Grids. , 2007, , .		4
102	Quantification of thermal energy generation in annular hyperbolic porous-finned heat sinks using inverse optimization. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 0, , 095440892110243.	2.5	4
103	Effect of turbidity on choice of zonal thicknesses in solar ponds under various performance evaluation criteria. Journal of Cleaner Production, 2022, 364, 132643.	9.3	4
104	Retrieval of controlling parameter in induced draft cooling tower using inverse method. , 2016, , .		3
105	Adomian Decomposition Method for a stepped fin space radiator with internal heat generation. , 2015, , .		2
106	Inverse analysis of a radial porous fin using genetic algorithm. , 2015, , .		2
107	Enhancement of collection efficiency for capturing submicron particles emitted from biomass burning: a novel design of semi-circular corrugated plate electrostatic precipitator. Biomass Conversion and Biorefinery, 2023, 13, 17059-17074.	4.6	2
108	Predicting Dimensions of a Rectangular Fin Satisfying a Given Internal Heat Generation Using Inverse Method. , 2015, , .		1

#	Article	IF	Citations
109	A Switched Capacitor Based Realization of Fractional Order Low-Pass Filters. , 2015, , .		1
110	Application of Hybrid Optimization Algorithm for Solving Inverse Problem in Cylindrical Fin. , 2015, , .		0
111	Parameter estimation of a space radiator using differential evolution algorithm. , 2016, , .		0
112	Parameter Estimation in a Biological System Using Differential Evolution Algorithm. , 2018, , .		0