Muhammad Usman

List of Publications by Year
in descending order

58 papers	1,203 citations	361413 20 h-index	414414 32 g-index
58 all docs	58 docs citations	58 times ranked	740 citing authors

#	Article	IF	Citations
1	A novel scheme for time‐fractional semi‐relativistic <scp>Vlasov‐Maxwell</scp> system based on <scp>laser‐plasma</scp> interaction with linear polarization and Landau damping instability. Numerical Methods for Partial Differential Equations, 2023, 39, 4432-4453.	3.6	7
2	A stable computational approach to analyze semi‐relativistic behavior of fractional evolutionary problems. Numerical Methods for Partial Differential Equations, 2022, 38, 122-136.	3.6	22
3	Higher‐order algorithms for stable solutions of fractional time‐dependent nonlinear telegraph equations in space. Numerical Methods for Partial Differential Equations, 2022, 38, 1293-1318.	3.6	1
4	Numerical assessment of heat and mass transportation in $$\upgamma \{\mathrm{Al}\}_{2}\{\mathrm{O}\}_{3}\{\text{-}\}\{\mathrm{H}\}_{2}\mathrm{O}/\{\mathrm{C}\}_{2}\{\mathrm{H}\}_{6}\{\mathrm{O}\}_{2}$$ nanofluids influenced by Soret and Dufour effects. Scientific Reports, 2022, 12, 3987.	3.8	23
5	Higher-Order Accurate and Conservative Hybrid Numerical Scheme for Relativistic Time-Fractional Vlasov-Maxwell System. Journal of Function Spaces, 2022, 2022, 1-12.	0.9	0
6	Crank Nicholson scheme to examine the fractional-order unsteady nanofluid flow of free convection of viscous fluids. PLoS ONE, 2022, 17, e0261860.	2.5	5
7	Atangana-Baleanu Caputo fractional-order modeling of plasma particles with circular polarization of LASER light: An extended version of Vlasov-Maxwell system. AEJ - Alexandria Engineering Journal, 2022, 61, 8641-8652.	6.4	3
8	Thermal treatment inside a partially heated triangular cavity filled with casson fluid with an inner cylindrical obstacle via FEM approach. European Physical Journal: Special Topics, 2022, 231, 2683-2694.	2.6	12
9	Magnetic Field Effect on Heat and Momentum of Fractional Maxwell Nanofluid within a Channel by Power Law Kernel Using Finite Difference Method. Complexity, 2022, 2022, 1-16.	1.6	3
10	Fractional analysis of Jeffrey fluid over a vertical plate with time-dependent conductivity and diffusivity: A low-cost spectral approach. Journal of Computational Science, 2022, 63, 101769.	2.9	10
11	Finite element analysis of water-based Ferrofluid flow in a partially heated triangular cavity. International Journal of Numerical Methods for Heat and Fluid Flow, 2021, 31, 3132-3147.	2.8	16
12	Unsteady flow and heat transfer of tangent‐hyperbolic fluid: Legendre wavelet‐based analysis. Heat Transfer, 2021, 50, 3079-3093.	3.0	19
13	Hybrid fully spectral linearized scheme for time‐fractional evolutionary equations. Mathematical Methods in the Applied Sciences, 2021, 44, 3890-3912.	2.3	14
14	Novel operational matrices-based finite difference/spectral algorithm for a class of time-fractional Burger equation in multidimensions. Chaos, Solitons and Fractals, 2021, 144, 110701.	5.1	13
15	Linearized novel operational matrices-based scheme for classes of nonlinear time-space fractional unsteady problems in 2D. Applied Numerical Mathematics, 2021, 162, 351-373.	2.1	5
16	A spectral approach to analyze the nonlinear oscillatory fractional-order differential equations. Chaos, Solitons and Fractals, 2021, 146, 110921.	5.1	22
17	Neuronal dynamics and electrophysiology fractional model: A modified wavelet approach. Physica A: Statistical Mechanics and Its Applications, 2021, 570, 125805.	2.6	4
18	Higher dimensional semi-relativistic time-fractional Vlasov-Maxwell code for numerical simulation based on linear polarization and 2D Landau damping instability. Applied Mathematics and Computation, 2021, 401, 126100.	2.2	5

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19	Computational analysis of radiative Williamson hybrid nanofluid comprising variable thermal conductivity. Japanese Journal of Applied Physics, 2021, 60, 087004.	1.5	15
20	A Galerkin approach to analyze MHD flow of nanofluid along converging/diverging channels. Archive of Applied Mechanics, 2021, 91, 1907-1924.	2.2	33
21	Numerical Exploration via Least Squares Estimation on Three Dimensional MHD Yield Exhibiting Nanofluid Model with Porous Stretching Boundaries. Fractal and Fractional, 2021, 5, 167.	3.3	2
22	Scalable Synthesis of Sm_2O_3/Fe_2O_3 Hierarchical Oxygen Vacancy-Based Gyroid-Inspired Morphology: With Enhanced Electrocatalytic Activity for Oxygen Evolution Performance. Energy & Fuels, 2021, 35, 17820-17832.	5.1	32
23	Higher-Dimensional Fractional Order Modelling for Plasma Particles with Partial Slip Boundaries: A Numerical Study. Nanomaterials, 2021, 11, 2884.	4.1	1
24	Numerical Solutions of a Heat Transfer for Fractional Maxwell Fluid Flow with Water Based Clay Nanoparticles; A Finite Difference Approach. Fractal and Fractional, 2021, 5, 242.	3.3	5
25	Higher-order accurate and conservative hybrid numerical scheme for multi-variables time-fractional Vlasov-Maxwell system: An Atangana-Baleanu Caputo approach. AEJ - Alexandria Engineering Journal, 2021, 61, 5269-5269.	6.4	0
26	Numerical analysis of MHD flow and nanoparticle migration within a permeable space containing Non-equilibrium model. Physica A: Statistical Mechanics and Its Applications, 2020, 537, 122459.	2.6	14
27	A New Operational Matrices-Based Spectral Method for Multi-Order Fractional Problems. Symmetry, 2020, 12, 1471.	2.2	7
28	Natural convection of CuOâ€"water nanofluid filled in a partially heated corrugated cavity: KKL model approach. Communications in Theoretical Physics, 2020, 72, 085003.	2.5	14
29	Linearized stable spectral method to analyze twoâ€dimensional nonlinear evolutionary and reactionâ€diffusion models. Numerical Methods for Partial Differential Equations, 2020, , .	3.6	16
30	Fourth-Order Difference Approximation for Time-Fractional Modified Sub-Diffusion Equation. Symmetry, 2020, 12, 691.	2.2	24
31	A robust scheme based on novelâ€operational matrices for some classes of timeâ€fractional nonlinear problems arising in mechanics and mathematical physics. Numerical Methods for Partial Differential Equations, 2020, 36, 1566-1600.	3.6	22
32	Gegenbauer wavelets collocation-based scheme to explore the solution of free bio-convection of nanofluid in 3D nearby stagnation point. Neural Computing and Applications, 2019, 31, 8003-8019.	5.6	32
33	Operational-matrix-based algorithm for differential equations of fractional order with Dirichlet boundary conditions. European Physical Journal Plus, 2019, 134, 1.	2.6	20
34	Wavelet investigation of Soret and Dufour effects on stagnation point fluid flow in two dimensions with variable thermal conductivity and diffusivity. Physica Scripta, 2019, 94, 115219.	2.5	28
35	Thermal management of MHD nanofluid within the porous medium enclosed in a wavy shaped cavity with square obstacle in the presence of radiation heat source. International Journal of Heat and Mass Transfer, 2019, 139, 87-94.	4.8	58
36	An efficient analysis for N-soliton, Lump and lumpâ€"kink solutions of time-fractional (2+1)-Kadomtsevâ€"Petviashvili equation. Physica A: Statistical Mechanics and Its Applications, 2019, 528, 121320.	2.6	45

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37	Natural convection effects on heat and mass transfer of slip flow of time-dependent Prandtl fluid. Journal of Computational Design and Engineering, 2019, 6, 584-592.	3.1	45
38	Rotating flow of nanofluid due to exponentially stretching surface: An optimal study. Journal of Algorithms and Computational Technology, 2019, 13, 174830261988136.	0.7	21
39	Fluid flow and heat transfer investigation of blood with nanoparticles through porous vessels in the presence of magnetic field. Journal of Algorithms and Computational Technology, 2019, 13, 174830181878866.	0.7	7
40	Numerical investigation of fractional-order unsteady natural convective radiating flow of nanofluid in a vertical channel. AIMS Mathematics, 2019, 4, 1416-1429.	1.6	51
41	Shape effects of MoS2 nanoparticles on rotating flow of nanofluid along a stretching surface with variable thermal conductivity: A Galerkin approach. International Journal of Heat and Mass Transfer, 2018, 124, 706-714.	4.8	118
42	Heat and fluid flow of water and ethylene-glycol based Cu-nanoparticles between two parallel squeezing porous disks: LSGM approach. International Journal of Heat and Mass Transfer, 2018, 123, 888-895.	4.8	47
43	A study of heat transfer analysis for squeezing flow of a Casson fluid via differential transform method. Neural Computing and Applications, 2018, 30, 3253-3264.	5.6	26
44	Differential transform method for unsteady nanofluid flow and heat transfer. AEJ - Alexandria Engineering Journal, 2018, 57, 1867-1875.	6.4	43
45	Comparison of Lagrange multipliers for telegraph equations. Ain Shams Engineering Journal, 2018, 9, 2323-2328.	6.1	19
46	Least square study of heat transfer of water based Cu and Ag nanoparticles along a converging/diverging channel. Journal of Molecular Liquids, 2018, 249, 856-867.	4.9	66
47	Melting heat transfer analysis of Sisko fluid over a moving surface with nonlinear thermal radiation via Collocation method. International Journal of Heat and Mass Transfer, 2018, 126, 1034-1042.	4.8	41
48	Compact Ultra-Wide Band MIMO Antenna System for Lower 5G Bands. Wireless Communications and Mobile Computing, 2018, 2018, 1-6.	1.2	30
49	Thermal and velocity slip effects on MHD mixed convection flow of Williamson nanofluid along a vertical surface: Modified Legendre wavelets approach. Physica E: Low-Dimensional Systems and Nanostructures, 2018, 104, 130-137.	2.7	34
50	Exploration of uniform heat flux on the flow and heat transportation of ferrofluids along a smooth plate: Comparative investigation. International Journal of Biomathematics, 2018, 11, 1850048.	2.9	27
51	An efficient algorithm based on Gegenbauer wavelets for the solutions of variable-order fractional differential equations. European Physical Journal Plus, 2018, 133, 1.	2.6	40
52	A Study of Heat and Mass Transfer of Nanofluids Arising in Biosciences Using Buongiorno's Model. International Journal of Computational Methods, 2017, 14, 1750018.	1.3	7
53	Examination of carbon-water nanofluid flow with thermal radiation under the effect of Marangoni convection. Engineering Computations, 2017, 34, 2330-2343.	1.4	30
54	Tri-prong scheme for regularized long wave equation. Journal of the Association of Arab Universities for Basic and Applied Sciences, 2016, 20, 68-77.	1.0	6

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55	On MHD flow of an incompressible viscous fluid. Journal of the Egyptian Mathematical Society, 2014, 22, 214-219.	1.2	7
56	A semi‐relativistic time‐fractional Vlasov‐Maxwell code for numerical simulation based on circular polarization and Landau damping instability. Numerical Methods for Partial Differential Equations, 0, , .	3.6	0
57	Entropy generation and mixed convection of <i>CuO</i>‐water near an oblique stagnation point: modified Chebyshev wavelets approach. Waves in Random and Complex Media, 0, , 1-24.	2.7	3
58	Theoretical investigation of time-dependent Oldroyd-B nanofluid flow containing gyrotactic microorganisms due to stretching cylinder. Waves in Random and Complex Media, 0, , 1-19.	2.7	3