

Table of Contents

Preface

Flow Analysis of Multiple Injectors in High-Power-Density HSDI CR Diesel Engines L. Piancastelli, E. Pezzuti and S. Cassani	1
Impact of Soret and Dufour Numbers on MHD Casson Fluid Flow Past an Exponentially Stretching Sheet with Non-Uniform Heat Source/Sink J.V.R. Reddy, V. Sugunamma and N. Sandeep	14
Thermal Radiation and Heat Source Effects on MHD Non-Newtonian Fluid Flow over a Slandering Stretching Sheet with Cross-Diffusion P.V. Kumar, S.M. Ibrahim and G. Lorenzini	28
Modeling Thermal Conductivity Ratio of CuO/Ethylene Glycol Nanofluid by Using Artificial Neural Network M. Alhuyi Nazari, M.H. Ahmadi, G. Lorenzini, H. Maddah, M. Fahim Alavi and R. Ghasempour	39
Energetic Study of Gasification System for Bio-Waste as Renewable Energy Resource: Case Study M. Mirzaei, M.H. Ahmadi, M. Ghazvini, E. Sobhani, G. Lorenzini and N. Khalilpoor	44
Unsteady Hydromagnetic Boundary Layer Flow of a Nanofluid over a Stretching Sheet: Using Cattaneo-Christov Heat Flux Model G. Vinod Kumar, S.V.K. Varma and R.V.M.S.S. Kiran Kumar	61
MHD Three Dimensional Flow of Casson Fluid over an Unsteady Exponentially Stretching Sheet with Slip Conditions M.K. Murthy	77
Cross-Diffusion Effects on MHD Cattaneo-Christov Flow of Casson Fluid Past a Convective Linear/Non-Linear Stretching Sheet B. Ramadevi, J.V.R. Reddy and V. Sugunamma	96
Effect of Viscous Dissipation on Three Dimensional Flow of a Nanofluid by Considering a Gyrotactic Microorganism in the Presence of Convective Condition B.J. Gireesha, K.G. Kumar, N.G. Rudraswamy and S. Manjunatha	114
Dual Solutions for Unsteady Stagnation-Point Flow of Prandtl Nanofluid Past a Stretching/shrinking Plate B. Mahanthesh and B.J. Gireesha	124
MHD Natural Convection Slip Flow through Vertical Porous Plates with Time-Periodic Boundary Conditions S.O. Adesanya, L. Rundora, R.S. Lebelo and K.C. Moloji	135
Effect of Viscous Dissipation on Upper - Convected Maxwell Fluid with Cattaneo-Christov Heat Flux Model Using Spectral Relaxation Method K. Gangadhar, C. Suresh Kumar, S.M. Ibrahim and G. Lorenzini	146
Mixed Convection 3D Radiating Flow and Mass Transfer of Eyring-Powell Nanofluid with Convective Boundary Condition P.B. Sampath Kumar, B. Mahanthesh, B.J. Gireesha and S. Manjunatha	158
Numerical Investigation of Chemical Reaction and Heat Source on Radiating MHD Stagnation Point Flow of Carreau Nanofluid with Suction/Injection K.J. Reddy, N.P. Madhusudhana Reddy, R.K. Konijeti and A. Dasore	171
Effects of Variable Fluid Properties on MHD Non-Darcy Convective Flow from Vertical Plate with Heat Generation and Chemical Reaction R. Suresh Babu, B.R. Kumar, B. Mallikarjuna and P.A. Dinesh	190
Numerical Investigation of Two-Phase Mixed Convection Flow of Particulate Oldroyd-B Fluid with Non-Linear Thermal Radiation and Convective Boundary Condition B.J. Gireesha, B. Mahanthesh and K.L. Krupalakshmi	204
Soret and Dufour Effects on Viscoelastic Radiative and Heat Absorbing Nanofluid Driven by a Stretched Sheet with Inclined Magnetic Field R. Sharma, S.M. Hussain and G. Mishra	223
Melting Heat Transfer in Magnetohydrodynamic Carreau Fluid over a Thermally Stratified Parabolic Surface G. Kumaran, P. Lakshminarayana, B.A. Reddy and N. Sandeep	246

Cross Diffusion Effects on Heat and Mass Transfer Micropolar Fluid Flow Past a Stretching Surface	
B.R. Kumar, M.S. Kumar, N. Sandeep and R. Sivaraj	265
Non-Uniform Heat Source/Sink and Joule Heating Effects on Chemically Radiative MHD Mixed Convective Flow of Micropolar Fluid over a Stretching Sheet in Porous Medium	
G.C. Kumar, K.J. Reddy, R.K. Konijeti and M.N. Reddy	281
Slip Effects on MHD Convective Two-Phaseparticulate Suspension Flow in a Divergent Channel	
S. Ramprasad, S.H.C.V. Subba Bhatta and B. Mallikarjuna	303
Homotopy Analysis Method for Radiation and Hydrodynamic-Thermal Slips Effects on MHD Flow and Heat Transfer Impinging on Stretching Sheet	
F. Mabood, G. Lorenzini, N. Pochai and S. Shateyi	317
Effects of Mixed Convection on the Oscillatory Flow of a Couple Stress Fluid through a Vertical Plate with Variable Fluid Properties	
R. Suresh Babu, B.R. Kumar and P.A. Dinesh	328
Numerical Study of Micropolar Fluid Flow Past an Impervious Sphere	
D.V. Jayalakshamma, P.A. Dinesh and D.V. Chandrashekhar	344
Thermodynamic Analysis of the Performance of an Irreversible PEMFC	
C.J. Li, Y. Liu and Z. Ma	350
Combined Effects of Electric Field and Magnetic Field on Electro Hydrodynamic Dispersion of Macromolecular Components in Biological Bearing	
C. Nagaraj, P.A. Dinesh and G.K. Kalavathi	361
Turbulent Heat Transfer and Fluid Flow over Complex Geometry Fins	
Y. Menni, A. Azzi and A.J. Chamkha	378
Finite-Element Analysis of Fully Developed Mixed Convection through a Vertical Channel in the Presence of Heat Generation/Absorption with a First-Order Chemical Reaction	
P. Mallikarjun, R.V. Murthy, U.S. Mahabaleswar, A.J. Chamkha and G. Lorenzini	394
Ferrofluid Convection in a Lid-Driven Cavity	
F. Selimefendigil and A.J. Chamkha	407
Casson Liquid Flow due to Porous Stretching Sheet with Suction/Injection	
V.K.P. Nanjundaswamy, U.S. Mahabaleswar, P. Mallikarjun, M.M. Nezhad and G. Lorenzini	420