

Table of Contents

Application of Interval Arithmetic in Numerical Modeling of Microscale Heat Transfer B. Mochnacki and A. Piasecka-Belkhat	1
Numerical Study of External Flow over Ducts with Various Cross-Sections E. Maleki and H. Sadrhosseini	10
Continuous-Flow DNA Amplification Device Employing Microheaters J.J. Chen, T.S. Sheu and Y.J. Wang	17
An Embedded Ghost-Fluid Method for Compressible Flow in Complex Geometry M. Al-Marouf and R. Samtaney	31
Verification and Validation of a Detonation Computational Fluid Dynamics Model R.L. Wang, X. Liang, W.Z. Lin, X.Z. Liu and Y.L. Yu	40
Improvement on Aerodynamic Characteristics and Drag Reduction for Supermileage Cars with Wide View Field P.S. Wu, M.J. Young, J.Y. Wu, C.C. Wang, H.Y. Hu and C.F. Chang	47
Comparative Measurements of the Thermal Properties of Solid Materials on a New Device and Using a New Non-Stationary Method M. Kušnerová, L. Gola, J. Valíček, V. Václavík, M. Harničárová, I. Pandová and P. Košťál	63
CFD Aided Procedure for Optimizing Electrical Mobility Spectrometer R. Saifi, A. Shaygani, M. Sani and M. Said Saidi	73
Empirical Heat Transfer Correlations during Frost Deposition on a Triangular Tube Banks Arrangement R.d.C.R. da Silva, C.S. Sedano, K.A.R. Ismail and P.A. Delgado Maldonado	88
Fluid-Structure-Interaction in Rocket Thrust Chambers Simulation and Validation M.C. Haupt, D. Kowollik, K. Lindhorst and F. Hötte	97
Curvature Effect Radius Analysis in a Two Flow Leak Pipeline L.R.B. Sarmento, E.S. Barbosa, B.E. Leite, D.P.S.d.A. Tavares, C.J. de O. Buriti, S.R. de Farias Neto and A. Gilson Barbosa de Lima	118
Thermofluidodynamic Evaluation of Oil-Water Flow in the Presence of a Leak in Curved Connection: Modeling and Simulation C.J. de O. Buriti, L.R.B. Sarmento, G. Moreira, S.R. de Farias Neto and A. Gilson Barbosa de Lima	126
Numerical Simulation of Thermofluid Dynamics of Pollutants' Dispersion by Thermal Electricity Production A.J. Ferreira Gadelha, T.H. Freire de Andrade, S.R. de Farias Neto and A. Gilson Barbosa de Lima	135
Analysis of Oil-Water-Gas Three-Phase Flow in a Curved Leaking Pipe B.E. Leite, S.R. de Farias Neto, A. Gilson Barbosa de Lima and L.R.B. Sarmento	144
Analysis of Two-Phase Pressure Drop Fluctuation Characteristics in a Single Mini-Channel B.C. Zhang, Q.L. Li, Y. Wang and J.Q. Zhang	151
Numerical Evaluation of the Pressure Drop in Multiphase Flow of the Catenary Riser with the Presence of Leakage D.P.S.d.A. Tavares, L.R.B. Sarmento, E.S. Barbosa, S.R. de Farias Neto and A. Gilson Barbosa de Lima	157
Numerical Study of Different Closure Approaches for Prediction of Forced Convective Turbulent Cylindrical Cavity Flows E.D. Santos, M.P. Rodrigues, T.S.V.C. de Andrade, L.A. Isoldi, F.H.R. França and L.A.O. Rocha	166
Optimization of a Sensible Thermal Storage System by a Lumped Approach T.H. Andriotty, L.J. Rodrigues, L.A.O. Rocha and P.S. Schneider	182
Drying Characteristics of Fine-Particle Lignite in Paddle Dryers S.P. Zhang, X.Z. Liu, G. Yang and H.L. Zhang	192