

# Index to Volume 7, 1986

March 1986, Number 1, 1-80  
June 1986, Number 2, 81-160

September 1986, Number 3, 161-240  
December 1986, Number 4, 241-320

## Authors

Acharya, S. 96  
Adrian, R. J. 127  
Agarwell, P. K. 307  
Al-Daini, A. J. 69  
Attar, A. 96  
Barrow, H. 162  
Bejan, A. 109  
Blake, K. R. 109  
Bruad, K. G. 96  
Calvert, J. R. 164  
Chaddock, J. B. 278  
Chen, Cha'o-Kuang 291  
Chen, D. K. 231  
Chen, Z. H. 231  
Cheng, K. J. 278  
Clayton, B. R. 208  
Cleaver, J. W. 291  
Cooper, P. I. 61  
Davies, T. W. 242  
Doerffer, S. 49  
Dumargue, P. 223  
El-Sayed (Abdel Azim), A. F. 146  
Fairweather, M. 89  
Filis, P. 258  
Firouzian, M. 21  
Flack, R. D. 11  
Flood, G. J. 61  
Giel, P. W. 183  
Gokce, H. 191  
Gupta, C. P. 301  
Hargrave, G. K. 89  
Horton, H. P. 37  
Hounkanlin, M. A. 223  
Kakatsios, X. K. 199  
Kilham, J. K. 89  
Kostrzewsky, G. J. 11  
Kouremenos, D. A. 199  
Koyama, H. 99  
Langer, G. 37  
Lasser, R. 146  
Lewkowicz, A. K. 102  
Ligrani, P. M. 266  
Lim, F. K. 102  
Lush, P. A. 283  
Marcillat, J. F. 169  
Mikielewicz, J. 49  
Morsi, Y. S. M. 208  
Nakayama, A. 99  
Neve, R. S. 28  
Nezhati, K. 164  
Okhio, C. B. 37  
Ombaka, O. O. 155  
Owen, J. M. 21  
Ozgen, C. 191  
Phillips, R. E. 183  
Pignatell, J. F. 169  
Pincombe, J. R. 21  
Poulikakos, S. 109, 258  
Raghunathan, S. 155  
Roach, P. E. 117  
Rogers, R. H. 21  
Rouleau, W. T. 146  
Saini, J. S. 301  
Salami, L. A. 247  
Schmidt, F. W. 183  
Selimos, B. 109  
Sheridan, J. C. 61  
Singh, B. 307  
Skipp, S. R. 283

Solanki, S. C. 301  
Somer, T. G. 191  
Stratman, R. A. 179  
Subba Reddy Gorla, R. 179  
Subramanian, E. 3  
Takeda, Y. 313  
Thomas, R. N. 11  
Tindall, A. T. R. 82  
Tong, T. W. 3  
Vallis, E. A. 82  
Wang, D. F. 183  
Wong, King-Leung 291  
Worthington, D. R. E. 242  
Zhao, Z. S. 231  
Zhuo, N. 231

## Titles

A comparison of experimental and predicted results for laminar natural convection in an enclosure, F. W. Schmidt, P. W. Giel, R. E. Phillips, D. F. Wang 183  
An alternating direction implicit method for magnetohydro-dynamic heat transfer in cylindrical geometry with discontinuity in wall temperature, B. Singh, P. K. Agarwell 307  
An asymptotic expression for forced convection in non-Newtonian power-law fluids, A. Nakayama, H. Koyama 99  
An experimental study of the effect of wall temperature non-uniformity on natural convection in an enclosure heated from the side, P. Filis, D. Poulikakos 258  
An investigation of turbulent developing flow at the entrance to a smooth pipe, L. A. Salami 247  
A rheological model for a liquid-gas foam, J. R. Calvert, K. Nezhati 164  
A thick symmetrical aerofoil oscillating about zero incidence angle, S. Raghunathan, O. O. Ombaka 155  
Axisymmetric free convection boundary layer flow of water at 4°C past slender bodies, R. Subba Reddy Gorla, R. A. Stratman 179  
Calculation of fin efficiency for condensing fins, S. Acharya, K. G. Bruad, A. Attar 96  
Convective transfer from a transverse fin array exposed to two-dimensional turbulent flow, A. T. R. Tindall, E. A. Vallis 82  
Determination of principal characteristics of turbulent swirling flow along annuli Part 3: numerical analysis, Y. S. M. Morsi, B. R. Clayton 208  
Development of customized shear layers on smooth and rough surfaces, P. M. Ligrani 266  
Effect of drainage discs on the condensing heat transfer performance of vertical fluted tubes, H. Gokce, C. Ozgen, T. G. Somer 191  
Effects of secondary flow on particle motion and erosion in a stationary cascade, A. F. El-Sayed (Abdel Azim), R. Lasser, W. T. Rouleau 146  
Finite element solutions of laminar flow and heat transfer of air in a staggered and an in-line tube bank, Cha'o-Kuang Chen, King-Leung Wong, J. W. Cleaver 291  
Flow and heat transfer in a rotating cylindrical cavity with a radial inflow of fluid Part 2: velocity, pressure and heat transfer measurements, M. Firouzian, J. M. Owen, J. R. Pincombe, R. H. Rogers 21  
Flow through double connected ducts, S. C. Solanki, C. P. Gupta, J. S. Saini 301  
High Rayleigh number convection in a fluid overlying a porous bed, D. Poulikakos, A. Bejan, B. Selimos, K. R. Blake 109  
High speed cine observations of cavitating flow in a duct, P. A. Lush, S. R. Skipp 283  
Investigation by laser Doppler anemometry of the turbulent flow around cylindrical obstacles on a rough surface, F. K. Lim, A. K. Lewkowicz 102  
Loss and deviation model for a compressor blade element, A. J. Al-Daini 69  
Maximum size of bubbles during nucleate boiling in an electric field, K. J. Cheng, J. B. Chaddock 278  
Multi-point optical measurements of simultaneous vectors in unsteady flow—a review, R. J. Adrian 127  
Natural convection in rectangular enclosures partially filled with a porous medium, T. W. Tong, E. Subramanian 3  
On average heat transfer coefficient, H. Barrow 162  
On the three exponents of the isentropic change of the refrigerant R22, D. A. Kouremenos, X. K. Kakatsios 199  
Statistical characteristics of intermittent liquid film flow, M. A. Hounkanlin, P. Dumargue 223  
The calculation of turbulent swirling flow through wide angle conical diffusers and the associated dissipative losses, C. B. Okhio, H. P. Horton, G. Langer 37  
The effect of sound on forced convection over a flat plate, P. I. Cooper, J. C. Sheridan, G. J. Flood 61  
The generation of nearly isotropic turbulence downstream of streamwise tube bundles, P. E. Roach 117  
The importance of turbulence macroscale in determining the drag coefficient of spheres, R. S. Neve 28  
The influence of oscillations on natural convection in ship tanks, S. Doerffer, J. Mikielewicz 49  
The local resistance of gas-liquid two-phase flow through an orifice, D. K. Chen, Z. H. Chen, Z. S. Zhao, N. Zhuo 231  
Transient conduction in a plate cooled by free convection, T. W. Davies, D. R. E. Worthington 242  
Transition to time-dependent free convection in an inclined air layer, J. F. Pignatell, J. F. Marcillat 169  
Turbulence enhancement of stagnation point heat transfer on a circular cylinder, G. K. Hargrave, M. Fairweather, J. K. Kilham 89  
Velocity measurements in a pump volute

with a non-rotating impeller, R. N. Thomas, G. J. Kostrzewsky, R. D. Flack 11  
Velocity profile measurement by ultrasound  
Doppler shift method, Y. Takeda 313

## Keywords

aerofoils 155  
air flow 169, 291  
air flows 89  
airflow oscillation 155  
alternating direction 307  
aspect ratio 301  
Benard flow 109  
boundary layer flow 179  
boundary layers 99, 266  
Bubble departure size 278  
burst 223  
cavitation 283  
cine photography 283  
compressor blades 69  
condensation 191  
condensing fin 96  
convection 82, 89  
co-axial tubes 208  
cylinder 89  
deviation angle 69  
digital computer 37  
doubly connected ducts 301  
drag 61  
drainage discs 191  
duct flow 283  
effective viscosity 37  
electric field effects 278  
elliptic Navier-Stokes equations 208  
enclosure 3  
erosion 146  
fin efficiency 96  
finite difference techniques 208  
finite element solutions 291  
flow 164, 313  
flow field 11  
flowmeters 313  
fluid flow 21, 155  
fluted tubes 191  
foam 164  
forced convection 61, 99  
free convection 242  
free convection flow 169, 179  
free surface 223  
friction factor 301  
gas turbines 146  
gas-liquid two-phase flow 231

heat transfer 21, 49, 61, 89, 183, 191, 266, 291  
high Rayleigh numbers 109  
hydrodynamically developed flow 301  
hydrodynamics 179  
implicit methods 307  
inclined fluid layer 169  
insulation 3  
integral analysis 99  
interfacial 223  
intermittency 223  
isentropic change 199  
isotropic turbulence 117  
laminar flow 291  
laser Doppler anemometry 102  
local resistance 231  
macroscale 28  
magnetohydrodynamics 307  
mean axial velocity data 37  
mixed convection 49  
natural convection 3, 109, 183, 258  
non-uniformity 258  
nucleate boiling 278  
numerical analysis 208  
numerical methods 179, 183  
optical techniques 127  
orifice 231  
oscillations 49  
parallelepipedal enclosure 258  
porous media 109  
porous medium 3  
power-law fluids 99  
pressure loss 69  
real gases 199  
reattached flow 61  
refrigerant R22 199  
Reynolds number 301  
rheology 164  
rotating and non-rotating impellers 11  
rotating cavity 21  
rotating discs 21  
roughness 102  
secondary flow 146  
separated flow 61  
shear layers 266  
ship tanks 49  
sound field effects 61  
sphere drag 28  
stagnation point 89  
surface roughness 266  
swirling flow 208  
thermodynamics 199  
tilted cavity 169  
time-dependent flow 169  
transient conduction 242

transition threshold 169  
transonic compressors 69  
transverse fin 82  
tube banks 291  
turbulence 102, 208, 223, 266  
turbulence enhancement 89  
turbulence generation 117  
turbulence intensity 28  
turbulent flow 82, 127  
turbulent swirling flow 37  
ultrasonic Doppler shift 313  
unsteady flow 127  
velocity measurement 11, 127  
velocity profiles 313  
volute velocities 11  
vortex 102  
wall temperature 258  
Wells turbine 155

## Book reviews

Computational fluid mechanics and heat transfer, D. A. Anderson, J. C. Tannehill and R. H. Pletcher 239  
Fluid mechanics and transfer processes, J. M. Kay and R. M. Nedderman 88  
Fluidization, J. F. Davidson, R. Clift and D. Harrison 240  
Fundamentals of low measurement, J. P. DeCarlo 182  
Heat conduction, S. Kakac and Y. Yener 80  
Heat transfer fluids and systems for process and energy applications, J. Singh 154  
Heat transfer of a cylinder in crossflow, A. Zukauskas and J. Zuigzda, Ed. G. F. Hewitt 160  
Measurement techniques in heat and mass transfer, Ed. R. I. Soloukhin 239  
Natural convection, S. Kakac, W. Aung and R. Viskanta 240  
Numerical methods in heat transfer Vol. III, Eds R. W. Lewis and K. Morgan 125  
Particulate systems technology and fundamentals, J. K. Beddow 79  
Planning cogeneration systems, Dilip R. . Limaye 190  
Potential flows: Computer graphic solutions, Robert H. Kirchoff 20  
The exergy method of thermal plant analysis, T. J. Kotas 126  
Turbulence models and their applications, J. Mathieu, D. Jeandel, B. E. Launder, W. C. Reynolds and W. Rodi 319