

Contents

- 1) Balakrishnan Varun Kumar, Parthasarathy Rajesh Kanna, Chithirai Pon Selvan,
Dawid Taler, Tomasz Sobota, Jan Taler
Machine Learning Approaches for Predicting and Optimising Thermal Performance
of Solar Collectors 5–23
- 2) Jan Taler, Dawid Taler
An alternative formulation of the method of weighted residuals for the approximate solving
of heat conduction problems 25–41
- 3) Farqad Rasheed Saeed, Hussein Fawzi Hussein, Natheer Basheer Mahmood
Finding a Correlation for Predicting the Effective Thermal Conductivity of CNT Nanofluid 43–53
- 4) Aleksandra Dzido, Piotr Krawczyk, Adrián Mota-Babiloni
Simulation-Based Design of a Two-Stage Heat Pump System Utilising Treated Wastewater
for Urban Heating Applications 55–69
- 5) A. Manikandan, R. Thamizhvel, K. Kalaiselvan, S. Jassir Iqbal
Comparative Analysis of Performance and Emission Characteristics of a CI Engine Fueled
with Biodiesel and Pyrolytic Oil Derived from Cottonseed 71–78
- 6) Maneesh Singh, Prashant Saini, Chandrakant Mishra, Saif Nawaz Ahmad
Implication of SiO₂ nanoparticles with novel water hyacinth biodiesel-diesel blends to improve
the performance and emission parameters of a diesel engine 79–88
- 7) Rajammagari Hussain Vali, Vemuri Sai Srikanth, Mohammad Mujtaba Ahmed,
A. Gouse Peera, P. Srikar
Optimising Injection Strategies and EGR in Modified Piston Diesel Engines Fuelled
with Waste Plastic Oil 89–100
- 8) Ravi Pippal, Aditi Agrawal, Akshita, Tulip Biswas, Deepali, Pushpendra Kumar Shukla,
Sumit Sinha-Ray
Heat transfer enhancement by drop impact onto a nanotextured superheated surface 101–111
- 9) Julian Piotr Jędrzejewski, Sebastian Lepszy, Sebastian Rulik
One-dimensional model of solid oxide fuel cell for advanced hybrid energy systems analysis 113–123
- 10) Tomasz Zygmunt Kaczmarczyk
Experimental investigation into the influence of heat source power on the performance
of a scroll expander in an organic Rankine cycle system using HFE-7100 fluid 125–136
- 11) Hesham Hassanin ElKhatib, Asmaa Abo Elnoura, Ahmed Ramadan, Said Kotb,
Magdy Zaky, Samy Dwidar
Safety enhancement of the Egyptian Second Research Reactor to reduce the effect
of loss-off site power supply 137–144
- 12) Mohammed Wahody Eraiby, Abdulkhodor Kathum Nassir
Review of the Modified Kalina Cycle for Cogeneration Systems (MKCS) 145–160

13) Sachin Kaushik, Subash Chandra Ram, Chandra Kishor, Sunii Chamoli Parametric Analysis of Heat Transfer and Flow Characteristics of the Cross-Flow Heat Exchanger with a Backwards Splitter Plate Using the Computational Fluid Dynamics (CFD) Model	161–176
14) Santhosh Kasula, M. N. Raja Shekar Heat and Mass Transfer with Entropy Generation in Immiscible Fluid Flow through a Vertical Channel under Slip and Non-Uniform Thermal Conditions	177–194
15) Yining Shen Energy consumption prediction and energy-saving retrofit design for office buildings in climate adaptation	195–204
16) Jarosław Mikielewicz, Dariusz Mikielewicz Physical modelling in heat and fluid flow	205–212
17) M. S. Karthik, Mangalpady Aruna, P. Siva Kota Reddy An Innovative Device for Measuring Thermal Conductivity of Solids Utilising Transient Measurement Methods	213–226
18) Jincheng Su, Jiliang Wang, Wei Zhou, Xiaozhuang Yang, Qinghua Miao, Bing Wang Smart thermal management of bio-based aerogels: A paradigm shift from energy localisation to zero-energy anti-icing	227–235
19) Youcef Maalem, Hakim Madani Novel design and energy analysis of hybrid system activated by low-grade thermal energy conversion	237–253