

Contents

M. KUMAR SAHU, S. MISHRA, AND A. KUMAR: Optimization of geometric and flow parameters of solar air heater roughened with artificial roughness by Taguchi method	3
R. KUMAR SINGH AND P. CHANDRA: Geometrical and optical analysis of small-sized parabolic trough collector using ray tracing tool SolTrace.....	35
M. KASZUBA, P. ZIÓLKOWSKI, AND D. MIKIELEWICZ: Performance of cryogenic oxygen production unit with exhaust gas bleed for sewage sludge gasification and different oxygen purities	63
J. SUN, G. ZHANG, J. TIAN, AND Y. ZHU: Thermodynamic analysis of hybrid ceramic bearings with metal inner rings.....	83
A.A. HUSSEIN: Mixed convection heat transfer in trapezoidal lid-driven cavity with uniformly heated inner circular cylinder	99
A. ROMANIAK, M.J. KOWALCZYK, M. ŁĘCKI, A. GUTKOWSKI, AND G. GÓRECKI: Investigation of thermal-flow characteristics of the minichannel heat exchanger of variable louvers height	119
S. DHAWAN, A. SABHARWAL, R. PRASAD, S. SHREYA, A. GUPTA, AND Y. PARVEZ: Performance analysis of a lithium-ion battery of an electric vehicle under various driving conditions.....	143
E. PELIŃSKA-OLKO: Emissivity measurement of black paint using the calorimetric method	161
P. KWAŚNICKI, A. GRONBA-CHYŁA, A. GENEROWICZ, J. CIUŁA, I. WIEWIÓRSKA, AND K. GASKA: Alternative method of making electrical connections in the 1st and 3rd generation modules as an effective way to improve module efficiency and reduce production costs	179
R. WIŚNIEWSKI, A. KANIA, W. ZIMA, AND J. TALER: Off-grid power supply – the future of district heating.....	201
R.K. CHIDAMBARAM, R. KANNA, P. GOPAL, AND S.K. ARUMUGAM: Experimental and numerical analysis of vortex generators designed for utility vehicles	217
M. CHAUDHARI, S.L. SHARMA, AND A. DEBBARMA: Exergetic performance analysis of solar air heater with inverted L-shape ribs as roughness element....	241
J. BOSNJAK, N. BODROZIC COKO, M. JURCEVIC, B. KLARIN, AND S. NIZETIC: Use of reinforced ice as alternative building material in cold regions: an overview.....	269
P. GÓRSZCZAK, M. RYWOTYCKI, M. HOJNY, AND G. FILO: Modular heat storage in waste heat recovery installations	301
M.K. DUBEY AND O. PRAKASH: Effect of artificial coarseness on the performance of rectangular solar air heater duct: a comparative study.....	325