

Contents

A. ZIĘBIK: Combined heat and power in Poland according to the EU Directive on promotion of cogeneration	3
D. MIKIELEWICZ, J. MIKIELEWICZ and J. BIAŁAS-TESMAR: A semi-empirical method for calculation of heat transfer coefficient in flow boiling for conventional tubes and minichannels	13
B. BIAŁKO, Z. KRÓLICKI and B. ZAJĄCZKOWSKI: Optimization of transcritical CO ₂ thermodynamic cycle for cooling and heating applications	23
H. BIELIŃSKI and J. MIKIELEWICZ: The mass flux in a two-phase thermosyphon loop heated from one side	35
T. BURY and J. SKŁADZIEŃ: Simulations of loss-of-coolant accidents for containments of the second and the third PWR generation	45
M. CHOROWSKI: Thermodynamic optimization of cryogenic systems	57
Z. DROŻYŃSKI: Phenomenological model of steam condensation containing non-condensable gases on a single, non-inundated horizontal tube	67
A. FIC, J. SKŁADZIEŃ and M. HANUSZKIEWICZ-DRAPALA: Ground heat exchanger of heat pump installed in the region of polders or waste dumping – analysis of possible locations	79
A. FRĄCKOWIAK, M. CIAŁKOWSKI and J. VON WOLFERSDORF: Numerical solution of a two-dimensional inverse heat transfer problem in gas turbine blade cooling	91
K. FUZOWSKI and M. STELMACHOWSKI: Two phase flow modeling in circulating fluidized bed for different number of solid fractions and different geometry configurations	99

J. KASPERSKI and S. PIETROWICZ: Modelling of energetic optimal working point of an ejector air conditioner combined with a flat solar collector	111
Z. KRÓLICKI and B. BIAŁKO: Study of capillary tube applications in a transcritical heat pump system	123
W. NOWAK, A. A. STACHEL and A. BORSUKIEWICZ-GOZDUR: Influence of evaporation temperature and organic fluid properties in the lower cycle of the binary power plant on its efficiency and power	147
W. NOWAK and S. WIŚNIEWSKI: Methodology of thermal-hydraulic calculations of geothermal power plant with a qualitative control of district heating network supplying two groups of heat receivers	157
W. NOWAK and K. ZWARYCZ-MAKLES: Experimental evaluation of analytical models of ground heat storage	169
M. PANOWSKI and R. KLAJNY: Modelling and optimization of cogeneration plant thermal cycle	179
R. SIKORSKA-BĄCZEK: Using solar energy to supply an absorption chiller	189
N. SZMOLKE: Fluid heat exchanger – flow test	199
J. TALER: Monitoring of thermal – hydraulic and strength performance of large steam boiler	207
S. WITCZAK: Pressure drop during boiling of ammonia in pipes	219
WITCZAK and M. PIETRZAK: Hydrodynamics of the gas–liquid flow in the pipe bend	227
A. WRÓBLEWSKA, J. BARTOSZEWICZ and L. BOGUSŁAWSKI: Intensification of heat transfer on a deformed surface of a short smoke tube	235
J. WYDRYCH and N. SZMOLKE: Numerical simulation of fluidization between the tubes	245