Contents

Page No.

Representation of coal and coal derivatives in process modelling
J.A. Theron and E. Le Roux 1

The recovery of platinum group metals from low grade concentrates to an iron alloy using silicon carbide as reductant
C.W.D. Malan, G. Akdogan, S.M. Bradshaw, and G.A. Bezuidenhout 17

Value-in-use model for chlorination of titania feestocks
S. Maharajh, J. Muller, and J.H. Zietsman 33

Modelling and optimization of a rotary kiln direct reduction process
H.P. Kritzinger and T.C. Kingsley 51

Development of an iron ore sinter process model to predict sinter strand operating parameters using the finite difference method
J. Muller, T.L. de Vries, B.A. Dippenaar, and J.C. Vreugdenburg. 61

Interaction of dust with the DC plasma arc—a computational modelling investigation
Q.G. Reynolds. 79

Sonic injection into a PGM Pierce Smith Converter: CFD modelling and industrial trials
D.K. Chibwe, G. Akdogan, G.A. Bezuidenhout, J.P.T. Kapusta, S. Bradshaw, and J.J. Eksteen 99

Mathematical modelling of slag dispersion in CLU reactor
K. Kabezya and R.H. Eric 109

Effect of feed composition fluctuations on a platinum furnace energy balance and slag temperature
N.J. Andrew, B. van Beek, A. Lexmond, and J.H. Zietsman. 117

Modelling of fluid flow phenomena in Pierce-Smith copper converters and analysis of combined blowing concept
D.K. Chibwe, G. Akdogan, P. Taskinen, and J.J. Eksteen 127

Modelling of a steel belt sinter process
W.J. Leipoldt and J.H. Zietsman 147

Physical and numerical modelling of a four strand steelmaking tundish using flow analysis of different configurations
J.H. Cloete, G. Akdogan, S.M. Bradshaw, and D.K. Chibwe 157