

**SPECIAL ISSUE: PHYSICAL CHEMISTRY AND PROCESS IMPLICATION
OF IONIC MELTS, SLAGS, FLUXES AND SALTS**

TABLE OF CONTENTS

Preface

Fluxes – Is There A Panoramic View?	
K.C. Mills and D. See.....	155
Toward Future Development: Pros and Cons of Ironmaking and Steelmaking Slags and Mold Fluxes	
Toshihiko Emi.....	167
The Science and Technology of Slags for Iron and Steelmaking	
A.McLean, Y.D.Yang, I.D.Sommerville, Y. Uchida and M. Iwase.....	185
In situ Observations and Thermal Analysis of Crystallization Phenomena in Mold Slags	
C. Orrling, S. Sridhar and A.W. Cramb.....	195
Liquidus Surface of Newly Defined “Ferrous Calcium Silicate Slag” and its Metallurgical Implications	
Akira Yazawa and Florian Kongoli.....	201
Electrowinning Magnesium Metal from $MgCl_2$-NdOCl Melt Using Solid-Oxide Oxygen-Ion-Conducting Membrane Technology	
David E. Woolley, Uday B. Pal, and George B. Kennedy.....	209
The Measurement of Thermophysical Properties of Molten Slags and Fluxes	
Peter N. Quested and Brian J. Monaghan.....	219
Prediction of Surface Tension in Molten Ionic Systems	
Jiayun Zhang, Qifeng Shu and Shoukun Wei.....	235
Molten Aluminium Oxycarbide, Considered as an Ionic Mixture	
Ketil Motzfeldt, Bjorn Sandberg and Stein Julsrud.....	241
High-Accuracy Electrical Conductivity Measurements of Corrosive Melts Using the Coaxial Cylinders Technique	
Susan L. Schiefelbein.....	247
Bubble Generation in MgO-C Crucible Charged with Slag and Metal in Relation to Local Corrosion	
Kusuhiro Mukai, Zushu Li and Zainan Tao.....	255
Thermodynamics of Redox Equilibrium in Slags	
Nobuo Sano and Fumitaka Tsukihashi.....	263
Measurements Of The Ferrous Oxide Activities In Slags To Reduce Steelmaking Slag Volume	
M. Iwase, Y. Uchida, Y. Tomil, A. McLean and K. Katogi.....	269
Copper Solubility In SiO_2-CaO-FeO_x Slag Equilibrated With Matte	
Yoichi Takeda.....	279
Slag Modelling and Industrial Applications	
H. Gaye, J. Lehmann, P.Rocabois, F. Ruby-Meyer.....	285
In-Situ Gravimetric Studies of Wetting, Penetration and Wear of Refractories by Molten Slags	
Dongsheng Xie, Ty Tran, and Sharif Jahanshahi.....	293
Properties of Fluxes Used In Molten Aluminium Processing	
T.A. Utigard, R.R. Roy and K. Friesen.....	303
Virtual Molten Salt Laboratory: Dream or Reality?	
Marcelle Gaune-Escard and Joan Fuller.....	309
Electrochemical Performance of the Porous Nickel Anode in the Molten Carbonate Fuel Cell	
Goran Lindbergh and Mari Sparr.....	313