

International Organized Sessions

High Temperature Processes

2010/09/25 Lecture Room 1

Thermodynamics and kinetics for environmentally harmonious refining processes with high speed and efficiency

- 09:30 ~ 09:35
Opening adress Y.Kobayashi(Tokyo Inst. of Tech.)
- 09:35 ~ 11:55 Chairperson:Y.Kobayashi(Tokyo Inst. of Tech.)
- 09:35 ~ 10:05
Int. 1 (Invited Lecture)A strategy for an environmentally friendly ladle refining process ... 777
-Focus inclusions
KTH OPar G Jonsson·Diana Vasiljevic·Ola Ericsson·Andrey Karasev·Arne Bengtson
- 10:05 ~ 10:25
Int. 2 Determination of Al deoxidation equilibrium of molten steel at 1873K ... 781
The Univ. of Tokyo OYoungjo Kang·K.Morita, KTH Mikael Thunman·Du Sichen, NSC T.Morohoshi·K.Mizukami
- 10:25 ~ 10:45
Int. 3 Aluminum and oxygen equilibrium relation in molten Fe-Ni alloy expressed by redlich-kister type polynomial ... 785
Tohoku Univ. OT.Miki·A.Hayashi(Now:NSSC)·T.Uenishi(Now:Aichi steel)·H.Kandori(Now:MLIT)·M.Hino(Now:Hokkaido Polytechnic College)
- 10:55 ~ 11:15
Int. 4 Activity coefficient of CaS in CaS-CaF₂ Flux at 1673K ... 789
Tokyo Inst. of Tech. OH.Tanigawa·Y.Kobayashi·R.Endo·M.Susa
- 11:15 ~ 11:35
Int. 5 Oxidation removal of Cu from molten iron via silver ... 793
Osaka Univ. OH.Ono·K.Yamaguchi·T.Usui(Now:Fukui Univ. of Tech.)
- 11:35 ~ 11:55
Int. 6 Fundamental investigation on removal of copper from molten iron with Na₂CO₃-FeS fluxes ... 796
JFE OY.Uchida·A.Matsui·Y.Kishimoto
- 13:10 ~ 14:50 Chairperson:K.Okumura(Nagoya Inst. of Tech.)
- 13:10 ~ 13:40
Int. 7 (Invited Lecture)Experimental and thermodynamic investigations on MnO-SiO₂-Al₂O₃-MnS liquid oxysulfide at 1500 °C ... 800
POSTECH OYoun-Bae Kang·Ye-Jin Kim, POSCO Dae-Hee Woo, POSTECH Henri Gaye·Hae-Geon Lee
- 13:40 ~ 14:00
Int. 8 Mixing enhancement by surface flow control ... 804
Hokkaido Univ. OM.Iguchi
- 14:00 ~ 14:20
Int. 9 Influence of bath height on surface reaction rate of oxygen-water system under bottom bubbling condition ... 807
Tohoku Univ. ON.Maruoka·Felicia Lazuardi·H.Shibata·S.Kitamura
- 14:20 ~ 14:50
Int. 10 Investigation on metal emulsion formation in lead-salt system ... 811
Tohoku Univ. ODuk-Yong Song·N.Maruoka·T.Maeyama(Now:NHK Spring)·H.Shibata·S.Kitamura
- 15:00 ~ 16:30 Chairperson:T.Nishi(Sumitomo Metals)
- 15:00 ~ 15:30
Int. 11 (Invited Lecture)Thermodynamic modeling of P₂O₅ containing oxide system for De-P process in steelmaking ... 815
:Preliminary thermodynamic modeling results
McGill Univ. OIn-Ho Jung·Pierre Hudon·Gabriel Garcia Curiel·Miftaur Rahman
- 15:30 ~ 15:50
Int. 12 Modeling of interfacial phenomena between metals and oxides ... 819
Osaka Univ. OT.Tanaka
- 15:50 ~ 16:10
Int. 13 Viscosity evaluation of solid phase containing slag ... 823
Kyushu Univ. OS.Haruki·S.Sukenaga·N.Saito·K.Nakashima
- 16:10 ~ 16:30
Int. 14 Model experiment for metal refining process under ultrasound irradiation condition ... 827
Nagoya Inst. of Tech. OK.Okumura·S.Hayashi
- 16:30 ~
Closing remark S.Kitamura(Tohoku Univ.)

International Organized Sessions

High Temperature Processes

2010/09/26 Lecture Room 3

Ironmaking by microwave heating

09:00 ~ 09:05

Opening K.Nagata(Tokyo Univ. of the Arts)

09:05 ~ 12:00 Chairperson:M.Hayashi(Tokyo Inst. of Tech.)

09:05 ~ 09:45

Int. 15 Physical mechanism of iron making under the irradiation of monochromatic coherent electromagnetic waves ... 831
NIFS ○M.Sato·K.Kashimura·J.Fukushima, Tokyo Inst. of Tech.(Now:Tokyo Univ. of the Arts) K.Nagata

09:45 ~ 10:25

Int. 16 Einstein's hidden variables in the microwave regime ... 835
General Resonance,LLC ○Juliana H.J.Mortenson

10:40 ~ 11:20

Int. 17 Microwave processing for treatment of steel making by-products ... 836
Tohoku Univ. ○N.Yoshikawa·E.Ishizuka·K.Mashiko·Y.Saito·S.Taniguchi

11:20 ~ 12:00

Int. 18 (Invited Lecture)The contribution of microwave heating to energy efficiency of high temperature processes-present status and future prospects ... 837
Univ. of Bayreuth ○Monika Willert-Porada

13:00 ~ 16:30 Chairperson:N.Yoshikawa(Tohoku Univ.)

13:00 ~ 13:40

Int. 19 (Invited Lecture)High-power microwave and millimeter-wave technology ... 838
KIT ○Manfred Thumm

13:40 ~ 14:20

Int. 20 Microwave heating behaviors of Fe₃O₄ powder ... 842
Tokyo Inst. of Tech. ○M.Hayashi·M.Hotta·K.Nagata(Now:Tokyo Univ. of the Arts)

14:20 ~ 15:00

Int. 21 (Invited Lecture)The experiments and prospects for microwave ironmaking in the USA ... 846
Michigan Technological Univ. ○Jiann-Yang Hwang·Xiaodi Huang·Zhiwei Peng

15:10 ~ 15:50

Int. 22 Utilization of microwave heating for the resurrection of ironmaking and steelmaking wastes in Korea ... 850
Korea Univ. ○Joonho Lee·Taeyoung Kim

15:50 ~ 16:30

Int. 23 Continuous pig iron-making by microwave heating ... 851
Tokyo Univ. of the Arts ○K.Nagata, Tokyo Inst. of Tech. K.Hara·M.Hayashi

16:30 ~ 16:40

Closing remarks M.Sato(NIFS)

International Organized Sessions

Environmental, Energy and Social Engineering

2010/09/27 Lecture Room 9

Ancient and pre-modern ironmaking in East Asia

09:00 ~ 09:05

Opening K.Nagata(Tokyo Univ. of the Arts)

09:05 ~ 09:45

Int. 24 Diversity in the development of iron smelting furnaces in East Asia ... 855
Ehime Univ. ○Y.Murakami

09:45 ~ 10:25

Int. 25 (Invited Lecture)Linear furnaces:a pan-Asian technological tradition in early iron smelting ... 857
Univ. of Exeter,UK ○Gill Juleff

10:30 ~ 11:00

Int. 26 Comparison of ancient ironmaking between Ethiopia and Japan ... 861
Kyoto Univ. ○E.Yamasue, NHK I.Murahashi

11:00 ~ 11:30

Int. 27 Pre-modern refining process in Japan "Ookaji" ... 863
Tokyo Inst. of Tech. ○T.Watanabe, Tokyo Univ. of the Arts K.Nagata

11:30 ~ 12:00

Int. 28 Flame and blowing of Tatara ... 867
Tokyo Univ. of the Arts ○K.Nagata