

# List of Papers and Others

Tateo Usui

December 25, 2018

## 1. Refereed Papers

(Papers in Japanese are noted. Otherwise in English.)

- (1) Munekazu Ohmi and [Tateo Usui](#): Study on the Rate of Reduction of Single Iron Oxide Pellet with Hydrogen, *Tetsu-to-Hagané* (in Japanese), [59](#)(1973)14, pp.1888

—

1901; On the Unreacted-core Shrinking Model for Reduction of a Single Hematite Pellet with Hydrogen, **Trans. ISIJ (Transactions of the Iron and Steel Institute of Japan)**, [16](#)(1976)2, pp.77 – 84.

- (2) Munekazu Ohmi and [Tateo Usui](#): Theoretical Investigation of Reaction Kinetics in the Reduction of Single Hematite Pellet under Pulsating Flow of Hydrogen, *Tetsu-to-Hagané* (in Japanese), [59](#)(1973)14, pp. 1902 – 1913; *Trans. ISIJ*, [16](#)(1976)2, pp.85 – 91.

-----

- (3) Munekazu Ohmi and [Tateo Usui](#): Pulsating Flow in a Circular Tube Containing a Slightly Compressible Fluid, 1st Report, Theoretical Treatments and Dynamic Consideration for Laminar Flow, **Trans. JSME (Transactions of the Japan Society of Mechanical Engineers)** (in Japanese), [41](#)(1975)342, pp.546 – 558.

- (4) Munekazu Ohmi and [Tateo Usui](#): Pulsating Flow in a Circular Tube Containing a Slightly Compressible Fluid, 2nd Report, Theoretical Study for Turbulent Flow, *Trans. JSME* (in Japanese), [41](#)(1975)347, pp. 2030 – 2042.

- (5) Munekazu Ohmi, [Tateo Usui](#), Michio Fukawa and Shuichi Hirasaki: Pulsating Flow in a Circular Tube Containing a Slightly Compressible Fluid, 3rd Report, Experimental Study on Pressure and Velocity Distributions for Laminar Flow, *Trans. JSME* (in Japanese), [41](#)(1975)347, pp. 2043 – 2052.

- (6) Munekazu Ohmi, [Tateo Usui](#), Osami Tanaka and Masao Toyama: Pulsating Flow in a Circular Tube Containing a Slightly Compressible Fluid, 4th Report, Experimental Study on Cross-sectional Velocity Distribution for Turbulent Flow,

Trans. JSME (in Japanese), 41(1975)349, pp.2632 – 2642.

- (7) Munekazu Ohmi and Tateo Usui: Pulsating Flow in a Circular Tube Containing a Slightly Compressible Fluid, 5th Report, Experimental Study on Pressure and Velocity Distributions along the Pipe for Turbulent Flow, Trans. JSME (in Japanese), 41(1975)352, pp. 3542 – 3553.

-----

- (3 + 5) Munekazu Ohmi, Tateo Usui, Michio Fukawa and Shuichi Hirasaki:  
Pressure and Velocity Distributions in Pulsating Laminar Pipe Flow, **Bull. JSME (Bulletin of the Japan Society of Mechanical Engineers)**, 19 (1976)129, pp.298 – 306.

- (4 modified) Munekazu Ohmi and Tateo Usui: Pressure and Velocity Distributions In Pulsating Turbulent Pipe Flow, Part 1, Theoretical Treatments, Bull. JSME, 19(1976)129, pp.307 – 313.

- (6 + 7) Munekazu Ohmi, Tateo Usui, Osami Tanaka and Masao Toyama: Pressure and Velocity Distributions in Pulsating Turbulent Pipe Flow, Part 2, Experimental Investigations, Bull. JSME, 19(1976)134, pp.951 – 957.

-----

- (8) Munekazu Ohmi and Tateo Usui: Theory of Mass Transfer from a Sphere and a Circular Cylinder in Pulsating Flow, Tetsu-to-Hagané (in Japanese), 63(1977)10, 1633 – 1642; Trans. ISIJ, 22(1982)8, pp.593 – 599.

- (9) Munekazu Ohmi, Susumu Kyomen and Tateo Usui: Analysis of Velocity Distribution in Pulsating Turbulent Pipe Flow (In the Case of Time-dependent Friction Velocity), Trans. JSME (in Japanese), 43(1977)375, pp.4109 – 4117; Analysis of Velocity Distribution in Pulsating Turbulent Pipe Flow with Time-Dependent Friction Velocity, Bull. JSME, 21(1978)157, pp.1137 – 1143.

- (10) Munekazu Ohmi, Tateo Usui, Yoshiro Matsumoto and Yoshikazu Masuyama: Experimental Study of Mass Transfer from a Sphere in Pulsating Flow, Tetsu-to-Hagané (in Japanese), 64(1978)8, pp.1105 – 1113; Trans. ISIJ, 22(1982)8, pp.600 – 607.

- (11) Munekazu Ohmi, Tateo Usui and Keiji Nakajima: Theory on Effective Diffusivities of Bi-disperse Porous Solids at Constant Pressure and Influence of an Inert Gas, *Tetsu-to-Hagane* (in Japanese), 66(1980)5, pp.449 – 458; Trans. ISIJ, 22(1982)1, pp.30 – 38.
- (12) Munekazu Ohmi, Manabu Iguchi, Tateo Usui and Haruyasu Minami: Flow Pattern and Frictional Losses in Pulsating Pipe Flow, Part 1, Effect of Pulsating Frequency on the Turbulent Flow Pattern, Trans. JSME (in Japanese), 46B(1980)404, pp.619 – 627; Bull. JSME, 23(1980)186, pp.2013 – 2020.
- (13) Munekazu Ohmi, Susumu Kyomen and Tateo Usui: Numerical Analysis of Pressure and Velocity Distributions for a Pulsating Turbulent Flow in a Circular Tube Containing a Slightly Compressible Fluid, Trans. JSME (in Japanese), 46B(1980)405, pp.829 – 836; Bull. JSME, 24(1981)187, pp.60 – 66.
- (14) Munekazu Ohmi, Manabu Iguchi and Tateo Usui: Flow Pattern and Frictional Losses in Pulsating Pipe Flow, Part 5, Wall Shear Stress and Flow Pattern in a Laminar Flow, Trans. JSME (in Japanese), 46B(1980)405, pp.846 – 853; Bull. JSME, 24(1981)187, pp.75 – 81.
- (15) Munekazu Ohmi, Tateo Usui, Masaaki Naito and Yukinobu Minamide: Experimental Study of the Resistance Due to the Rate of Gas Flow on the Hydrogen Reduction of an Iron Oxide Pellet, *Tetsu-to-Hagané* (in Japanese), 67(1981)11, pp.1943 – 1951; Trans. ISIJ, 23(1983)1, pp.81 – 89.
- (16) Munekazu Ohmi, Susumu Kyomen and Tateo Usui: Numerical Analysis of a Periodically Varying Flow in a Circular Tube Containing a Slightly Compressible Fluid, Trans. JSME (in Japanese), 47B(1981)424, pp.2282 – 2289; Bull. JSME, 25(1982)206, pp.1266 – 1272.
- (17) Munekazu Ohmi and Tateo Usui: Improved Theory on the Rate of Reduction of Single Particles and Fixed Beds of Iron Oxide Pellets with Hydrogen, Trans. ISIJ, 22(1982)1, pp.66 – 74.

- (18) Munekazu Ohmi, Masaaki Naito and Tateo Usui: Multi-stage Zone-reaction Model for the Gaseous Reduction of Porous Hematite Pellets, Tetsu-to-Hagané (in Japanese), 68(1982)6, pp.592 – 601.
- (19) Munekazu Ohmi, Masaaki Naito and Tateo Usui: Effects of Various Factors on the Reduction Rate of Hematite Pellets with Hydrogen, Tetsu-to-Hagané (in Japanese), 68(1982)10, pp.1503 – 1512.
- (20) Munekazu Ohmi, Masaaki Naito and Tateo Usui: Multi-stage Zone-reaction Model with Solid-state Diffusion for the Hydrogen Reduction of Porous Hematite Pellets, Tetsu-to-Hagané (in Japanese), 69(1983)3, pp.363 – 370.
- (21) Munekazu Ohmi, Masaaki Naito and Tateo Usui: Kinetic Analysis of Hydrogen Reduction of Various Hematite Pellets on the Basis of the Multi-stage Zone-reaction Models, Tetsu-to-Hagané (in Japanese), 69(1983)6, pp.546 – 555.
- (22) Munekazu Ohmi, Susumu Kyomen and Tateo Usui: Numerical Analysis of Transient Turbulent Flow in a Liquid Line, Trans. JSME (in Japanese), 50B (1984)457, pp.1995 – 2003; Bull. JSME, 28(1985)239, pp.799 – 806.
- (23) Tateo Usui, Munekazu Ohmi and Eiji Yamamura: Analysis of Rate of Hydrogen Reduction of Porous Wustite Pellets Basing on Zone-reaction Models, Tetsu-to-Hagané (in Japanese), 72(1986)9, pp.1263 – 1270; ISIJ International, 30(1990)5, pp.347 – 355.
- (24) Tateo Usui, Munekazu Ohmi, Shigeaki Hirashima and Nobukazu Kitagawa: Kinetic Analysis on the Rate of Stepwise Reduction of a Single Sinter with CO-CO<sub>2</sub>-N<sub>2</sub> Gas Mixture, Tetsu-to-Hagané (in Japanese), 73(1987)15, pp.1956 – 1963.
- (25) Tateo Usui, Munekazu Ohmi, Shinji Kaneda, Mitsushi Ohmasa and Zen-ichiro Morita: Re-examination of Method of Kinetic Analysis on the Rate of Stepwise Reduction of a Single Sinter Particle with CO-CO<sub>2</sub>-N<sub>2</sub> Gas Mixture, ISIJ International, 31(1991)5, pp.425 – 433.

- (26) Tateo Usui, Hirotooshi Kawabata, Shigeo Matsubara, Hiroshi Fukasaku, Takeshi Mizutani and Zen-ichiro Morita: Effect of Pulsating Flow on Mass Transfer in Packed Bed under  $\text{Fe}^{3+}$  – iron Particle System, Tetsu-to-Hagané (in Japanese), 77(1991)7, pp.913 – 920; ISIJ International, 33(1993)12, pp.1203 – 1210.
- (27) Tateo Usui, Munekazu Ohmi, Nobukazu Kitagawa, Shinji Kaneda, Hirotooshi Kawabata and Zen-ichiro Morita: Change of Sinter Minerals and Final Fractional Reduction in the Reduction Stage from Hematite to Magnetite with  $\text{CO-CO}_2\text{-N}_2$  Gas Mixture, Tetsu-to-Hagané (in Japanese), 77(1991)8, pp.1251 – 1258.
- (28) Tateo Usui, Hirotooshi Kawabata, Toshio Fujimori, Isao Fukuda and Zen-ichiro Morita: Influence of CO Ratio and Reduction Temperature upon the Reducibility of Calcium Ferrite in Sinter in the Initial Stage of Reduction with  $\text{CO-CO}_2\text{-N}_2$  Gas Mixture, Tetsu-to-Hagané (in Japanese), 78(1992)7, pp.982 – 989.
- (29) Susumu Kyomen and Tateo Usui: Numerical Analysis of Laminar Accelerating Pipe Flows, Turbomachinery (in Japanese), 20(1992)12, pp.773 – 780.
- (30) Tateo Usui, Koji Masamori, Hirotooshi Kawabata and Zen-ichiro Morita: Influence of Slow Descent of Solid upon the Fluids Flow Behavior in Packed Beds Irrigated by a Liquid Counter-current to an Uprising Gas Stream, ISIJ International, 33(1993)6, pp.687 – 696.
- (31) Susumu Kyomen, Tateo Usui, Michio Fukawa and Munekazu Ohmi: Combined Free and Forced Convection for Laminar Steady Flow in Horizontal Tubes, Trans. JSME (in Japanese), 60B(1994)573, pp.1598 – 1604; JSME International Journal (B), 39(1996)1, pp.44 – 50.
- (32) Susumu Kyomen, Tateo Usui, Michio Fukawa and Munekazu Ohmi: Combined Free and Forced Convection for Laminar Pulsating Flow in Horizontal Tubes (1st Report, Axial Velocity Distribution), Trans. JSME (in Japanese), 61B(1995) 582, pp.388 – 392.

- (33) Susumu Kyomen and Tateo Usui: Flow Patterns of Laminar Decelerating Pipe Flows, Trans. JSME (in Japanese), 62(1996)593, pp.57 – 64.
- (34) Tateo USUI, Hirotooshi KAWABATA, Toshiki SOGO, Sachie MORII, Morimasa ICHIDA and Zen-ichiro MORITA: Solid and Liquid Movement Characteristics in Two-dimensional Cold Model for the Dripping Zone of a Blast Furnace, Tetsu-to-Hagané (in Japanese), 82(1996)11, pp.899 – 904.
- (35) Takahiro Nomura, Susumu Kyomen, Tateo Usui and Michio Fukawa: Occurrence of Additional Vortices in Horizontal Rectangular Ducts with Secondary Flow, Turbomachinery (in Japanese), 25(1997)2, pp.97 – 106.
- (36) Kazumi Tani, Junichi Takeuchi, Yoshifumi Kobayashi and Tateo Usui: Acceleration Behavior of Particles in High Velocity Oxygen-Fuel Flame Spraying of WC-Co, Journal of the Japan Institute of Metals (in Japanese), 61(1997)7, pp.629-635.
- (37) Hideki Ono-Nakazato, Daigo Miyata, Keishi Tamura and Tateo Usui: Measurement and Calculation of Nitrogen Removal Rate from Molten Iron to Gas Phase through CaO-Al<sub>2</sub>O<sub>3</sub> Melts, ISIJ International, 40(2000), Supplement, pp.S106 – S109.
- (38) Hideki Ono-Nakazato, Yukiyo Morita, Keishi Tamura, Tateo Usui and Katsukiyo Marukawa: Oxidation Behavior of Silicon and Carbon in Molten Iron-Carbon-Silicon Alloys with Carbon Dioxide, ISIJ International, 41(2001), Supplement, pp.S61 – S65.
- (39) Hideki Ono-Nakazato, Youhei Tsubone, Yoshiyuki Takaki and Tateo Usui: Measurement of Hydrogen Reduction Rates of FeO in 2FeO.SiO<sub>2</sub> and CaO.FeO.SiO<sub>2</sub>, Tetsu-to-Hagané (in Japanese), 87(2001)5, pp.320 – 326.
- (40) Hideki Ono-Nakazato, Kenji Taguchi, Keishi Tamura, Yuuji Tomatsu and Tateo Usui: Determination of Standard Gibbs Energies of Formation of Cr<sub>2</sub>N and CrN, Metallurgical and Materials Transactions B, 32B(2001) December, pp.1113

– 1118.

- (41) Hideki Ono-Nakazato, Daigo Miyata and Tateo Usui: Nitrogen Removal from Molten Iron to Gas Phase through CaO-Al<sub>2</sub>O<sub>3</sub>-CaF<sub>2</sub> Melt, ISIJ International, 42(2002)1, pp.109 – 111.
- (42) Hideki Ono-Nakazato, Akitoshi Matsui and Tateo Usui: Nitrogen Dissociation Rate at Solid Surface of Ferrous Alloys, ISIJ International, 42(2002)3, pp.229 – 234.
- (43) Tateo Usui, Hirotooshi Kawabata, Hideki Ono-Nakazato and Atsushi Kurosaka: Fundamental Experiments on the H<sub>2</sub> Gas Injection into the Lower Part of a Blast Furnace Shaft, ISIJ International, 42(2002), Supplement, pp.S14 – S18.
- (44) Hideki Ono-Nakazato, Youhei Tsubone and Tateo Usui: Gaseous Reduction Behavior of Powdered Iron Ore Sinter and Analysis on the Basis of Rist Model for Fixed Bed, ISIJ International, 42(2002)5, pp.482 – 488.
- (45) Hideki Ono-Nakazato, Chikahito Sugahara, and Tateo Usui: Effect of Slag Components on Reducibility and Melt Formation of Iron Ore Sinter, ISIJ International, 42(2002)5, pp.558 – 560.
- (46) Hideki Ono-Nakazato, Shunsuke Morisawa and Tateo Usui: Rate of Nitrogen Desorption from CaO-Al<sub>2</sub>O<sub>3</sub> Melts to Gas Phase, Metallurgical and Materials Transactions B, 33B(2002) June, pp.393 – 401.
- (47) Hirotooshi Kawabata, Tateo Usui, Katsukiyo Marukawa, Sigeta Hara, Hideki Ono-Nakazato and Toshihiro Tanaka: Effects of Chlorine Sources and Forms on Formation of Dioxins / Furans in the Combustion Process, Journal of the Japan Society of Waste Management Experts (in Japanese), 13(2002)4, pp.184 – 192.
- (48) Hideki Ono-Nakazato, Tomotsugu Koyama and Tateo Usui: Effect of Surface Concentration of Alloying Elements on Nitrogen Dissolution Rate in Molten Iron Alloys, ISIJ International, 43 (2003)3, pp.298 – 303.

- (49) Hirotooshi Kawabata, Tateo Usui, Katsukiyo Marukawa, Toshihiro Tanaka and Hideki Ono-Nakazato: Mechanism of Dioxins/Furans Formation at High Temperature in Combustion Processes, *ISIJ International*, 43(2003)3, pp.461 – 467.
- (50) Hideki Ono-Nakazato, Toshinari Yonezawa and Tateo Usui: Effect of CaO Addition on the Reducibility of FeO-SiO<sub>2</sub> Based Slag Powder, *Tetsu-to-Hagané* (in Japanese), 89 (2003)5, pp.559 – 564.
- (51) Hideki Ono-Nakazato, Akitoshi Matsui, Daigo Miyata and Tateo Usui: Effect of Aluminum, Titanium or Silicon Addition on Nitrogen Removal from Molten Iron, *ISIJ International*, 43(2003)7, pp.975 – 982.
- (52) Hideki Ono-Nakazato, Kenji Taguchi and Tateo Usui: Estimation of the Evaporation Rate of Copper and Tin from Molten Iron-Silicon Alloy, *ISIJ International*, 43(2003)7, pp.1105 – 1107.
- (53) Hideki Ono-Nakazato, Nobufumi Kitamura, Youhei Tsubone and Tateo Usui: Gaseous Reduction Behavior of Iron Oxide in Mineral Phases and in CaO-SiO<sub>2</sub>-FeO Slag Powder, *Mineral Processing and Extractive Metallurgy Review*, 24 (2003) July, pp.269 – 291.
- (54) Hideki Ono-Nakazato, Toshinari Yonezawa and Tateo Usui: Effect of Water-Gas Shift Reaction on Reduction of Iron Oxide Powder Packed Bed with H<sub>2</sub>-CO Mixtures, *ISIJ International*, 43(2003)10, pp.1502 – 1511.
- (55) Hideki Ono-Nakazato, Kenji Taguchi, Yutaka.Seike and Tateo Usui: Effect of Silicon and Carbon on the Evaporation Rate of Copper in Molten Iron, *ISIJ International*, 43(2003)11, pp.1691 – 1697.
- (56) Kenji Taguchi, Hideki Ono-Nakazato, Daisuke Nakai, Tateo Usui and Katsukiyo Marukawa: Deoxidation and Desulfurization Equilibria of Liquid Iron by Calcium, *ISIJ International*, 43(2003)11, pp.1705 – 1709.



- (57) Hideki ONO-NAKAZATO, Hiroyuki TAJIRI, Tateo Usui, Toshihiro TANAKA and Katsukiyo MARUKAWA: Rate Enhancement of the Degassing Reaction by the Enlargement of RH and DH Reactors, *Tetsu-to-Hagané* (in Japanese), 89 (2003) 11, pp.1113 – 1119.
- (58) Kenji Taguchi, Hideki Ono-Nakazato, Tateo Usui and Katsukiyo Marukawa: Desiliconization and Decarburization Behavior of Molten Fe-C-Si (-S) Alloy with CO<sub>2</sub> and O<sub>2</sub>, *Metallurgical and Materials Transactions B*, 34B(2003) December, pp.861 – 867.
- (59) Masashi NAKAMOTO, Hideki ONO-NAKAZATO, Hirotoshi KAWABATA and Tateo Usui: Reduction Behavior of Wustite Compact with Pore Blockade by Liquid Slag, *Tetsu-to-Hagané* (in Japanese), 90(2004)1, pp.1 – 8.
- (60) Ken'ichi Miura, Itsuo Ishigami and Tateo Usui: Effects of Compressive Stress on Corrosion-Protective Quality and Its Maintenance under a Corrosive Environment for TiN Films Deposited by Reactive HCD Ion Plating, *Materials Transactions*, 45(2004)1, pp.102 – 111.
- (61) Hirotoshi Kawabata, Tateo Usui, Hideki Ono-Nakazato, Masayuki Tanabe, Katsukiyo Marukawa, Shigeta Hara and Toshihiro Tanaka: Influence of Chlorine Forms and Dechlorination on Dioxins Formations / Suppression in the Combustion Processes, *RESOURCES PROCESSING*, 51(2004)1, pp.56 – 60.
- (62) Hideki ONO-NAKAZATO, Toshihiro TANAKA, Atsushi OKAMOTO, Michimasa AONO, Tateo Usui, Shinichiro YOKOYA and Shigeta HARA: Effect of Funnel Angle and Wettability on Swirling Flow of Liquid in the Funnel, *Tetsu-to-Hagané* (in Japanese), 90(2004)6, pp.306 – 311.
- (63) Kenji Taguchi, Hideki Ono-Nakazato and Tateo Usui: Enhancement of Evaporation Removal Rate of Copper by the Silicon and / or Carbon Additions, *RESOURCES PROCESSING*, 51(2004)3, pp.158 – 162.
- (64) Masashi Nakamoto, Hideki Ono-Nakazato, Hirotoshi Kawabata, Tateo Usui and

- Toshihiro Tanaka: Reduction Behavior of FeO Compact Including Molten Slag, *ISIJ International*, 44(2004)12, pp.2100 – 2104.
- (65) Masashi Nakamoto, Toshihiro Tanaka, Joonho Lee and Tateo Usui: Evaluation of Viscosity of Molten SiO<sub>2</sub>-CaO-MgO-Al<sub>2</sub>O<sub>3</sub> Slags in Blast Furnace Operation, *ISIJ International*, 44(2004)12, pp.2125 – 2129.
- (66) Tateo Usui, Noriyoshi Inoue, Tsuyoshi Watanabe, Takahiro Yokoyama, Takashi Oyama and Zen-ichiro Morita: Influence of Reduction Temperature on Pre-reduction of Iron Oxide with Coal Carbonisation Gas without Tar, *Ironmaking and Steelmaking*, 31(2004)6, pp.479 – 484.
- (67) Hideki Ono-Nakazato, Kouji Okada and Tateo Usui: Effects of Slag Content and Composition on the Reducibility of Iron Oxide Including CaO-SiO<sub>2</sub>-Fe<sub>2</sub>O<sub>3</sub> Slag, *ISIJ International*, 45(2005)4, pp.569 – 573; *Tetsu-to-Hagané* (in Japanese), 92(2006)9, pp.539 – 543.
- (68) Hideharu SHIBAIKE, Hirokazu TANAKA, Masaaki NAITO, Yoshinobu NISHIDA and Tateo USUI: Injection Technology of Combustible Dust in Direct Melting Furnace for Municipal Solid Waste, *Tetsu-to-Hagané* (in Japanese), 91(2005)5, pp.457 – 464.
- (69) Hirotoshi Kawabata, Zhigang Liu, Fumio Fujita and Tateo Usui: Characteristics of Liquid Hold-ups in a Soaked and Unsoaked Fixed Bed, *ISIJ International*, 45(2005)10, pp.1466 – 1473; *Tetsu-to-Hagané* (in Japanese), 92(2006)12, pp.885 – 892.
- (70) Hirotoshi Kawabata, Kazuya Shinmyou, Takeshi Harada and Tateo Usui: Influence of Channeling Factor on Liquid Hold-ups in a Fixed Bed Unsoaked Initially, *ISIJ International*, 45(2005)10, pp.1474 – 1481; *Tetsu-to-Hagané* (in Japanese), 92(2006)12, pp.893 – 900.
- (71) Kenji Taguchi, Hideki Ono-Nakazato, Tateo Usui, Katsukiyo Marukawa, Ken Katogi and Hiroaki Kosaka: Complex Deoxidation Equilibria of Molten Iron by Aluminium and Calcium, *ISIJ International*, 45(2005)11, pp.1572 – 1576.

- (72) Kenji Taguchi, Hideki Ono-Nakazato and Tateo Usui: Liquid Immiscibility in Fe-Cu-B System, *ISIJ International*, **46** (2006)1, pp.29 – 32.
- (73) Hideki Ono-Nakazato, Kenji Taguchi, Daisuke Kawauchi and Tateo Usui: Separation of Fe and Sn-Cu Phases in an Fe-Sn-Cu-B System, *MATERIALS TRANSACTIONS*, **47**(2006)3, pp.864 – 867.
- (74) Kenji Taguchi, Hideki Ono-Nakazato and Tateo Usui: Liquid Immiscibility in Fe-Cu-B-C System, *ISIJ International*, **46**(2006)5, pp.633 – 636.
- (75) Yujiro Yokoyama, Tomoyuki Mizukoshi, Itsuo Ishigami and Tateo Usui: Numerical Analysis and Control of Gas Carburizing under Changes in Gas Compositions, *Materials Science Forum*, **522-523**(2006), pp.589 – 594.
- (76) Hideki Ono-Nakazato, Yusuke Dohi, Daisuke Yamada and Tateo Usui: Effects of Cu, Sn and W on the Rate of Nitrogen Dissociation on the Surface of Molten Iron, *ISIJ International*, **46**(2006)9, pp.1306 – 1311.
- (77) Hirokazu KONISHI, Tateo USUI and Kazuhiro AZUMA: The Preparation and Reduction Behavior of Carbon Composite Iron Oxide Pellets Using Semi-coal-char, *Tetsu-to-Hagané* (in Japanese), **92**(2006)12, pp.802 – 808.
- (78) Hideki Ono-Nakazato, Kenji Taguchi, Ryota Maruo and Tateo Usui: Silicon Deoxidation Equilibrium of Molten Fe-Mo Alloy, *ISIJ International*, **47**(2007)3, pp.365 – 369.
- (79) Hirotoshi Kawabata, Bokka Yabunaka, Masayuki Tanabe, Tateo Usui, Katsukiyo Marukawa, Shigeta Hara and Toshihiro Tanaka: Simple Removal of Dioxins by Injecting Combustion Gas into Water, *Journal of Material Cycles and Waste Management*, **9**(2007)1, pp.80 – 89.
- (80) Hirotoshi Kawabata, Bokka Yabunaka, Masayuki Tanabe, Tateo Usui, Katsukiyo Marukawa and Shigeta Hara: Dioxin's Removal from Combustion Gas by Gas Injection into Water, **Journal of JSEM (Journal of the Japanese Society for Experimental Mechanics)**, **7**(2007), Special Issue, pp.108 – 113.

- (81) Hideki Ono-Nakazato, Kenji Taguchi, Tateo Usui and Katsukiyo Marukawa: Prevention Method of Swirling Flow Generation in Discharging Liquid in the Reactor Vessel, *Journal of JSEM*, 7(2007), Special Issue, pp.120 – 124.
- (82) Hirotooshi Kawabata, Keita Kasamoto, Hideki Ono-Nakazato and Tateo Usui: Inhibition of Hazardous Substances Formation in a Combustion Furnace by Centrifugation and Recombustion Method of Fly Unburned Matters at High Temperatures (in Japanese), *Journal of High Temperature Society*, 33(2007)4, pp.200 – 207.
- (83) Hirokazu KONISHI, Tetsuo OISHI, Kazuya KOYAMA, Tateo USUI and Mikiya TANAKA: Copper Electrowinning from Ammonia Solution Containing Cu(I) with Emphasis on the Morphology of the Deposits (in Japanese), *KANKYO SHIGENN KOGAKU (Journal of the Resources Processing Society of Japan)*, 54(2007)3, pp.122 – 127.
- (84) Hideki Ono-Nakazato, Tomotsugu Koyama and Tateo Usui: Improvement of Gas Utilization Ratio in the Gaseous Reduction of Iron Oxide and Suppression of Dioxins Formation in Combustion Processes by the Enhancement of Carbon Deposition, *Journal of High Temperature Society*, 34(2008)1, pp.9 – 13.
- (85) Hirokazu KONISHI, Tateo USUI and Takeshi HARADA: The Preparation and Reduction Behavior of Charcoal Composite Iron Oxide Pellets (in Japanese), *Journal of High Temperature Society*, 34(2008)1, pp.14 – 19.
- (86) Hirokazu KONISHI, Hiroshi NISHIMURA, Tateo USUI and Iwao KATAYAMA: Preparation of Proton Conductor  $\text{SrZr}_{1-x}\text{Y}_x\text{O}_{3-a}$  for Pure Hydrogen Separation in High Temperature Range (in Japanese), *Journal of High Temperature Society*, 34(2008)3, pp.123 – 129.
- (87) Hirotooshi Kawabata, Hideki Ono-Nakazato and Tateo Usui: Simple Removal Method of Dioxins in Wastewater by Adsorption on Polyolefin

Particle, Journal of JSEM, 8(2008), Special Issue, pp.138 – 141.

- (88) Hirokazu Konishi, Atsushi Yamashita and Tateo Usui: Effect of Residual Volatile Matter on Reduction of Iron Oxide in Carbon Composite Pellets, Journal of JSEM, 8(2008), Special Issue, pp.142 – 146.
- (89) Hideki Ono-Nakazato, Kenji Taguchi and Tateo Usui: Prevention Method of Swirling Flow Generation in Discharging Liquid in the Reactor Vessel through a Nozzle, Journal of JSEM, 8(2008), Special Issue, pp.147 – 151.
- (90) Noriyoshi Inoue and Tateo Usui: Influence of Combined Water in Coal on Pre-reduction of Iron Oxide with Coal Carbonization Gas in Low, Middle and High Volatile Matter Coal (in Japanese), Journal of High Temperature Society, 35(2009)1, pp.26 – 32.
- (91) Hirokazu Konishi, Shiro Fujimori and Tateo Usui: Reduction Behavior of Iron Oxide in Semi-charcoal Composite Pellets (in Japanese), Journal of High Temperature Society, 35(2009)1, pp.33 – 39.
- (92) Hideki Ono-Nakazato, Katsuhiko Yamaguchi, Shingo Agawa, Kenji Taguchi and Tateo Usui: Two Liquid Phases Separation of Fe-Cu-B and Fe-Cu-Ag-B systems at 1873 and 1523 K (in Japanese), Journal of High Temperature Society, 35(2009)1, pp.40 – 44.
- (93) Tomoyuki Mizukoshi, Yujiro Yokoyama, Hideaki Hoshino, Itsuo Ishigami and Tateo Usui: New Gas Carburizing Method for Minimizing CO<sub>2</sub> Emission by Saving Resources and Selective Removal of H<sub>2</sub> in Furnace (in Japanese), Journal of High Temperature Society, 35(2009)1, pp.50 – 54.
- (94) Hideki Ono, Yusuke Dohi, Yuki Arikata and Tateo Usui: Effect of Mineral Composition and Pore Structure on Reducibility of Composite Iron Ore Sinter, ISIJ International, 49(2009)5, pp.722 – 728.
- (95) Hirokazu KONISHI, Tateo USUI and Atsushi YAMASHITA: Effect of Residual Volatile Matter on Reduction Reaction between Semi-coal-char and Iron Oxide,

Tetsu-to-Hagané (in Japanese), 95(2009)6, pp.467 – 472.

- (96) Hirokazu Konishi, Tateo Usui, Toshiyuki Nohira and Yasuhiko Ito:  
Electrochemical Formation of Dy Alloy Films in a Molten LiCl-KCl-DyCl<sub>3</sub>  
System, Journal of Physics, Conference Series, 165(2009)012060, pp.1 – 4.
- (97) Hideki Ono, Keiji Nakajima, Ryota Maruo, Shingo Agawa and Tateo Usui:  
Usui: Formation Conditions of Mg<sub>2</sub>TiO<sub>4</sub> and MgAl<sub>2</sub>O<sub>4</sub> in Ti-Mg-Al  
Complex Deoxidation of Molten Iron, ISIJ International, 49(2009)7,  
pp.957 – 964.
- (98) Hideki ONO, Yusuke SORATA, Kenji OSAWA, Kenji TAGUCHI and Tateo USUI:  
Formation Mechanism of Stable Swirling Flow Accompanied with Air-core in  
Discharging Liquid through a Nozzle Settled at the Bottom of Container,  
Journal of JSEM, 9(2009), Special Issue, pp.130 – 134.
- (99) Tateo USUI, Hirotoshi KAWABATA, Keita KASAMOTO and Hideki ONO:  
Inhibition of Dioxins Formation in a Combustion Furnace by Centrifugation and  
Recombustion Method at High Temperatures, Journal of JSEM, 9(2009),  
Special Issue, pp.135 – 140.
- (100) Hirotoshi KAWABATA, Soichi AKITA, Hideki ONO and Tateo USUI: Influence  
of O<sub>2</sub> Concentration on Dioxins Formation in Combustion Processes, Journal of  
JSEM, 9(2009), Special Issue, pp.141 – 144.
- (101) Tomoyuki Mizukoshi, Hideaki Hoshino, Yujiro Yokoyama, Itsuo Ishigami and  
Tateo Usui: Numerical Analysis on Carbon Concentration Profiles of Gas  
Carburized Low Alloy Steel under Fluctuating Atmosphere, **NETSU SHORI**  
**(Journal of the Japan Society for Heat Treatment)**, 49(2009), Special Issue,  
pp.319 – 322.
- (102) Yujiro Yokoyama, Tomoyuki Mizukoshi, Itsuo Ishigami and Tateo Usui:  
Relationship between Vacuum Carburizing Conditions and Surface Carbon  
Concentration of SNCM815, **NETSU SHORI**, 49(2009), Special Issue, pp. 323 –  
326.

- (103) Hideki Ono, Yasuhisa Tachiiri, Katsuhiro Yamaguchi and Tateo Usui: Influence of Neodymium on the Deoxidation and Desulfurization Equilibria of Liquid Iron in the Fe-Nd-O-S (-Al) System at 1873K, *ISIJ International*, 49(2009)11, pp.1656 – 1660.
- (104) Hirotooshi Kawabata, Soichi Akita, Hideki Ono and Tateo Usui: Influence of O<sub>2</sub> Concentration on Dioxin Concentration in Exhaust Gas, *Journal of the Japan Society of Material Cycles and Waste Management (in Japanese)*, 20(2009)6, pp.343 – 351.
- (105) Hirokazu Konishi, Kazuhira Ichikawa and Tateo Usui: Effect of Residual Volatile Matter on Reduction of Iron Oxide in Semi-charcoal Composite Pellets, *ISIJ International*, 50(2010)3, pp.386 – 389.
- (106) Tetsuo Oishi, Hirokazu Konishi, Toshiyuki Nohira, Mikiya Tanaka and Tateo Usui: Separation and Recovery of Rare Earth Metals by Molten Salt Electrolysis using Alloy Diaphragm (in Japanese), *KAGAKU KOGAKU RONBUNSHU (JOURNAL OF CHEMICAL ENGINEERING OF JAPAN)*, 36 (2010)4, pp.299 – 303.
- (107) Katsuhiro Yamaguchi, Hideki Ono and Tateo Usui: The Equilibrium Relation of Immiscibility in an Fe-Cu-B System at 1873K, *Materials Transactions*, 51(2010)7, pp.1222 – 1226
- (108) Hirokazu Konishi, Yukihide Yoshihara, Hideki Ono, Tateo Usui, Tetsuo Oishi and Toshiyuki Nohira: Electrochemical Formation and Phase Control of La-Ni Alloy Films in LiCl-KCl Eutectic Melts, *Journal of JSEM*, 10(2010), Special Issue, pp.215 – 220.
- (109) Katsuhiro Yamaguchi, Hideki Ono and Tateo Usui: Enrichment of Iron and Copper by the Use of Two Liquid Phases Separation, *Journal of JSEM*, 10(2010), Special Issue, pp.221 – 224.
- (110) Hideki Ono, Takanori Satoh and Tateo Usui: Transport of Nitrogen from Molten

- Iron to the Gas Phase through a CaO-Al<sub>2</sub>O<sub>3</sub> Melt, Journal of JSEM, 10(2010), Special Issue, pp.225 – 228.
- (111) Katsuhiko YAMAGUCHI, Hideki ONO and Tateo USUI: Oxidation Removal of Cu from Carbon Saturated Iron via Ag Phase, Tetsu-to-Hagané (in Japanese), 96(2010)9, pp.531 – 535.
- (112) Hirokazu KONISHI, Kazuhira ICHIKAWA, Tateo USUI and Hideki ONO: Effect of H<sub>2</sub> Addition to Atmosphere on Reduction of Carbon Composite Iron Oxide Pellets (in Japanese), Journal of JSEM, 10(2010)3, pp.273 – 277.
- (113) Hirotohi KAWABATA, Hideki ONO, Hirokazu KONISHI, Tateo USUI, Hitoshi YAMAMURA, Jo TAMURA, Masaaki NAITO, Tsunehisa NISHIMURA, Kenichi HIGUCHI and Kazuya KUNITOMO: Thermodynamic Calculation and In-situ Observation of Melt Formation Behavior for Artificial Iron Ore Agglomerates (in Japanese), Journal of JSEM, 10(2010)3, pp.278 – 283.
- (114) Hideki ONO, Kenji TAGUCHI, Yusuke SORATA and Tateo USUI: Selective Penetration of Cu and Sn Contained in Molten Iron into CaO·Al<sub>2</sub>O<sub>3</sub> or NiO·Al<sub>2</sub>O<sub>3</sub> Sinter (in Japanese), Journal of JSEM, 10(2010)3, pp.290 – 295.
- (115) Hirokazu KONISHI, Takuya MATSUMOTO, Tateo USUI and Tomoyuki MIZUKOSHI: Characteristic of Proton Conductor Prepared by Spark Plasma Sintering in the Simulated Coke Oven Gas, Tetsu-to-Hagané (in Japanese), 96(2010)10, pp.629 – 635.
- (116) Hideki ONO, Yoshikazu TANAKA, Katsuhiko YAMAGUCHI and Tateo USUI: Oxidation Removal of Sn from Carbon Saturated Iron via Ag Phase, Tetsu-to-Hagané (in Japanese), 96(2010)11, pp.641 – 645.
- (117) Hideki Ono, Keiji Nakajima, Toshio Ibuta and Tateo Usui: Equilibrium Relationship between the Oxide Compounds in MgO-Al<sub>2</sub>O<sub>3</sub>-Ti<sub>2</sub>O<sub>3</sub> and Molten Iron at 1873K, ISIJ International, 50(2010)12, pp.1955 – 1958.
- (118) Hideki ONO, Kenji TANIZAWA and Tateo USUI: Rate of Iron Carburization by Carbon in Slags through Carbon / Slag and Slag / Metal Reactions at 1723 K, ISIJ International, 51(2011)8, pp.1274 – 1278.



- (119) Tateo Usui, Yasuhiro Nakamuro, Masahiro Nishi, Masaaki Naito, Hideki Ono and Paulo Santos Assis: Gaseous Reduction Model for Sinter in Consideration of Calcium Ferrite Reaction Process (Unreacted Core Shrinking Model for Six Interfaces), *Tetsu-to-Hagané* (in Japanese), 100(2014)2, pp.294 – 301; *ISIJ International*, 55(2015)8, pp.1617 – 1624.
- (120) Hideki Ono, Keiji Nakajima, Shingo Agawa, Toshio Ibuta, Ryota Maruo and Tateo Usui: Formation Conditions of  $Ti_2O_3$ ,  $MgTi_2O_4$ ,  $Mg_2TiO_4$ , and  $MgAl_2O_4$  in Ti-Mg-Al Complex Deoxidation of Molten Iron, *Steel Research International*, 86 (March 2015)3, pp.241 – 251.
- (121) Hirotoshi Kawabata, Yozo Iwaki, Hirokazu Konishi, Hideki Ono, Tateo Usui, Eiichi Takeuchi, Masaaki Naito, Tsunehisa Nishimura and Ken-ichi Higuchi: Behaviors of Melt Formation and Pore Occlusion of Artificial Iron Ore Agglomerates at High Temperature, and Reducibility (in Japanese), *Journal of JSEM*, 16(March 2016)1, pp.20 – 27.
- (122) Tateo Usui, Hirokazu Konishi, Kazuhira Ichikawa, Hideki Ono, Hirotoshi Kawabata, Francisco B. Pena, Matheus H. Souza, Alexandre A. Xavier and Paulo S. Assis: Evaluation of Carbonisation Gas from Coal and Woody Biomass and Reduction Rate of Carbon Composite Pellets, *Advances in Materials Science and Engineering*, Special Issue on Biomass Materials for Metallurgical Applications, **Vol. 2018**, Article ID 3807609, (2018), pp.1 – 14.  
( <https://www.hindawi.com/journals/amse/2018/3807609/> ).

## 2. Non - refereed Papers

(Papers in Japanese are noted. Otherwise in English. Some Japanese papers are omitted.)

- (1) Tateo Usui and Munekazu Ohmi: Theory on Fluid Flow Behavior up to Flooding in Packed Beds Irrigated by a Liquid Counter-current to an Uprising Gas Stream, Trans. ISIJ, 22(1982)2, p.B12; Theoretical Analysis on Fluid Flow Behavior in Packed Beds Irrigated by a Liquid Counter-current to an Uprising Gas Stream (in Japanese), “**Blast Furnace Phenomena and Analysis**” (Report of ‘Committee on Reaction within Blast Furnace’), (1982), pp.192 – 194, ISIJ (The Iron and Steel Institute of Japan) and ‘Committee on Reaction within Blast Furnace,’ Joint Society on Iron and Steel Basic Research { = ISIJ, JIM (The Japan Institute of Metals), and Ironmaking 54th Committee, JSPS (Japan Society for the Promotion of Science)}.
- (2) Susumu Kyomen, Manabu Iguchi, Munekazu Ohmi and Tateo Usui: Experimental Study of Eddy Viscosity Distribution in Pulsating Pipe Flow, Memoirs of the Kure Technical College (in Japanese), 19(1983)1, pp.39 – 48; Munekazu Ohmi, Susumu Kyomen, Manabu Iguchi and Tateo Usui: Technology Reports of the Osaka University, 33(1983)1729, pp.359 – 365.
- (3) Munekazu Ohmi, Masaaki Naito, and Tateo Usui: Applicability of Three Interface Model to the Analysis of Reduction Rate of Iron Oxide Pellets with Hydrogen, Technology Reports of the Osaka University, 34 (1984)1743, pp.19 – 27.
- (4) Tateo Usui, Munekazu Ohmi, and Isao Miyatake: Gas Concentration Change in a Reactor in the Initial Stage of Hydrogen Reduction of Metallic Oxide Pellets, Technology Reports of the Osaka University, 38(1988)1934, pp.229 – 236.
- (5) Tateo Usui, Hirotohi Kawabata, Zen-ichiro Morita, Takahiro Yokoyama, Takashi Ohyama and Tetsu Nakahashi: Influences of Carbonizing Conditions upon the Time-variation of Released Gases in Coal Carbonization Processes (in Japanese), **CAMP-ISIJ (Current Advances in Materials and Processes, The Iron and Steel**

**Institute of Japan**), 5(1992)1, pp.46 – 49.

- (6) Yujiro Yokoyama, Tomoyuki Mizukoshi, Itsuo Ishigami and Tateo Usui:  
Development and Verification of Vacuum Carburizing Model Considering Graphite  
Deposition on Low Alloy Steel (in Japanese), Report of Technology Research  
Institute of Osaka Prefecture, No.23 (2009), pp.65 – 71.
- (7) Tateo Usui, Hirokazu Konishi, Kazuhira Ichikawa and Hideki Ono: Reduction  
Rate Enhancement of Carbon Composite Pellets by using Semi-charcoal, **CAMP  
-ISIJ**, 24(2011)2, pp.588 – 591, CD-ROM.
- (8) Tateo Usui, Yasuhiro Nakamuro, Masahiro Nishi, Masaaki Naito, Hideki Ono  
and Paulo Santos Assis: Development of Gaseous Reduction Model for Sinter in  
Consideration of Calcium Ferrite Reaction Process (in Japanese), **CAMP-ISIJ**,  
25(2012)2, pp.603 – 606, CD-ROM.

### 3. International Conference with Preceding Papers

- (1) Munekazu Ohmi, Tateo Usui, Yukinobu Minamide, and Masaaki Naito:  
Reduction of Single Particles and Fixed Beds of Hematite Pellets with Hydrogen, Proceedings of The Third International Iron and Steel Congress (**3rd IISC**), (April, 1978, Chicago, U.S.A.), (1979), pp.472 – 478, American Society for Metals.
- (2) Tateo Usui, Munekazu Ohmi, Shigeaki Hirashima and Yu Oshima: Kinetic Analysis on the Rate of Reduction of Single Particles and Fixed Beds of Sinter with CO-CO<sub>2</sub>-N<sub>2</sub> and H<sub>2</sub>-H<sub>2</sub>O-N<sub>2</sub> Gas Mixtures, Proceedings of The Fifth International Iron and Steel Congress (**5th IISC**), (April, 1986, Washington, D.C., U.S.A.), Book 3 [ = Process Technology Proceedings, Vol.6 ], pp.545 – 553, The Iron and Steel Society of AIME (The American Institute of Mining, Metallurgical And Petroleum Engineers).
- (3) Tateo Usui, Munekazu Ohmi, Toshihito Ohkata, Yasushi Kawaguchi, Yuichi Yamaoka and Zen-ichiro Morita: Influence of H<sub>2</sub>O Partial Pressure upon the Retardation in the Final Stage of Reduction of Fluxed Pellets with H<sub>2</sub>-H<sub>2</sub>O Gas Mixture, Proceedings of The Sixth International Iron and Steel Congress (**6th IISC**), (October, 1990, Nagoya, Japan), Vol.1, pp.83 – 91, ISIJ (The Iron and Steel Institute of Japan).
- (4) Tateo Usui, Munekazu Ohmi, Nobukazu Kitagawa, Shinji Kaneda, Hirotohi Kawabata and Zen-ichiro Morita: Change of Sinter Minerals and Final Fractional Reduction in the Reduction Stage from Hematite to Magnetite with CO-CO<sub>2</sub>-N<sub>2</sub> Gas Mixture, Proceedings of The Sixth International Iron and Steel Congress (**6th IISC**), (October, 1990, Nagoya, Japan), Vol.1, pp.99 – 107, ISIJ.
- (5) Tateo Usui, Munekazu Ohmi, Yoshiaki Kusaba, Masato Sasaki, Shinsuke Ohta and Zen-ichiro Morita: Rate Enhancement of Mass Transfer by Pulsating Flow and its Application to Gaseous Reduction of Hematite Pellets, Proceedings of The First Pacific Rim International Conference on Advanced Materials and Processing (June, 1992, Hangzhou, China), (1993), pp.151 – 156, TMS (The

Minerals, Metals and Materials Society, U.S.A.).

- (6) Tateo Usui, Takahiro Yokoyama, Tetsu Nakahashi and Zen-ichiro Morita: Effective Use of Hydrogen within Coal in Pre-reduction of Iron Oxide for Minimizing the Amounts of Coal Used and CO<sub>2</sub> Exhausted in an Iron Bath Smelting Reduction Process, Proceedings of Ironmaking Conference (March, 1993, Dallas, U.S.A.), Vol.52, pp.389 – 398, The Iron and Steel Society of AIME (The American Institute of Mining, Metallurgical and Petroleum Engineers).
- (7) Tateo Usui, Mitsushi Ohmasa and Zen-ichiro Morita: Simulation for Gaseous Reduction of Non-spherical Porous Iron Oxide, Proceedings of The International Conference on Computer-assisted Materials Design and Process Simulation (September, 1993, Tokyo, Japan), pp.60 – 65, ISIJ.
- (8) Tateo Usui and Zen-ichiro Morita: Pre-Reduction of Iron Oxide with Coal Carbonization Gas for Iron Bath Smelting Reduction Process, Proceedings of The Osaka University – University of Nottingham Joint Symposium on New Frontiers in Materials Science (November, 1993, Osaka, Japan), pp.93 – 97, Department of Materials Science and Processing and Department of Materials Science and Engineering, Osaka University, Japan.
- (9) Tateo Usui and Zen-ichiro Morita: Reducibility of Calcium Ferrite in Iron Ore Sinter in the Initial Stage of Reduction with CO-CO<sub>2</sub>-N<sub>2</sub> Gas Mixture, Proceedings of The Sixth International Symposium on Agglomeration (November, 1993, Nagoya, Japan), pp.344 – 349, The Society of Powder Technology, Japan, The Iron and Steel Institute of Japan, and The Society of Chemical Engineers, Japan.
- (10) Tateo Usui, Takashi Ohyama, Tetsu Nakahashi and Zen-ichiro Morita: Reduction of Iron Oxide by Coal Carbonization Gas with and without Secondary Pyrolysis of Tar, Proceedings of The First International Congress of Science and Technology of Ironmaking (ICSTI '94), (June, 1994, Sendai, Japan), pp.122 – 127, ISIJ.

- (11) Tateo Usui: 'Ironmaking for the 21st Century,' Chapter 2 Some Images of a Blast Furnace in the Next Generation, Section 2.1 Indispensable Material – Coke, Its Desirable Properties, Booklet for **ICSTI '94** Workshop by The Subcommittee for Research Projects of Ironmaking Technology in The Iron and Steel Institute of Japan (June, 1994, Sendai, Japan), pp.6 – 11, ISIJ.
- (12) Tateo Usui, Takahiro Yokoyama, Takashi Ohyama, Tetsu Nakahashi, Masaaki Nonaka and Zen-ichiro Morita: [ **Invited** ] Effective Use of Volatile Matter in Pre-reduction of Iron Oxide for Minimizing the Amounts of Coal Used in an In-bath Smelting Reduction Process, 'Metallurgical Processes for the Early Twenty-First Century' (= Proceedings of The Second International Symposium on Metallurgical Processes for the Year 2000 and Beyond and the 1994 TMS Extraction and Process Metallurgy Meeting), Edited by H. Y. Sohn, Vol.I (Basic Principles), (September, 1994, San Diego, U.S.A.), pp.693 – 714, TMS.
- (13) Tateo Usui and Zen-ichiro Morita: Pre-reduction of Iron Oxide with Volatile Matter and Estimation of Coal Consumption for Total Process Including In-bath Smelter, Proceedings of The International Symposium on Science and Technology of Metallurgical Processing (The Morita Symposium) (October, 1994, Osaka, Japan), pp.114 – 119, Physical Chemistry of Metallurgy and Materials Group and Chemical Processing and Metallurgy Group, Department of Materials Science and Processing, Osaka University, Japan.
- (14) Tateo Usui, Munekazu Ohmi, Masaaki Naito, Hiroshi Kamiya, Yu Oshima and Zen-ichiro Morita: [ **Invited** ] Kinetic Analyses on the Rate of Gaseous Reduction of Single Particles and Packed Beds of Iron Ore Agglomerates, Proceedings of The Julian Szekely Memorial Symposium on Materials Processing, Edited by H. Y. Sohn, J. W. Evans and D. Apelian, (October, 1997, Massachusetts, U.S.A.), pp.67 – 80, TMS.
- (15) Hirotohi Kawabata, Tateo Usui, Toshiki Sogo, Sachio Morita, Morimasa Ichida and Zen-ichiro Morita: Liquid Flow Characteristics in Two-dimensional Cold Model with Solid Movement for the Dripping Zone of a Blast Furnace,

- Proceeding of the 2nd International Congress on Science and Technology of Ironmaking (**ICSTI '98**), (March, 1998, Toront, Canada), pp.285 – 292, ISS (The Iron and Steel Society of AIME).
- (16) Tateo Usui, Hirotoshi Kawabata, Shunsuke Morisawa and Zen-ichiro Morita: Effective Use of Coal Carbonization Gas in Pre-Reduction of Iron Oxide for Minimizing the Total Amount of CO<sub>2</sub> Exhausted in an Iron Bath Smelting Reduction Process, Proceedings of the International Conference on Steel and Society – Steel Industry for Sustainable Society –, (June, 2000, Osaka, Japan), pp.85 – 88, ISIJ.
- (17) Hideki Ono-Nakazato, Yukiyo Morita, Keishi Tamura, Tateo Usui and Katsukiyo Marukawa: Utilization of Carbon Dioxide for the Desiliconization of Molten Iron as an Oxidizing Agent, Proceedings of the International Conference on Steel and Society – Steel Industry for Sustainable Society –, (June, 2000, Osaka, Japan), pp.125 – 128, ISIJ.
- (18) Hirotoshi Kawabata, Tateo Usui, Katsukiyo Marukawa and Sigeta Hara: Fundamental Studies on the Formation and Decomposition of Dioxins / Furams in Combustion Gas (Formation Mechanism of Dioxins / Furans at High Temperature), Proceedings of the International Conference on Steel and Society – Steel Industry for Sustainable Society –, (June, 2000, Osaka, Japan), pp.162 – 165, ISIJ.
- (19) Hideki Ono-Nakazato, Yukiyo Morita, Keishi Tamura, Tateo Usui and Katsukiyo Marukawa: Desiliconization of Molten Iron-Carbon-Silicon Alloys with Carbon Dioxide, Proceedings of the ASIA STEEL International Conference 2000 (**ASIA STEEL 2000**), (September, 2000, Beijing, China), Vol.C, Steelmaking, pp.74 – 79, CSM (The Chinese Society for Metals).
- (20) Hirotoshi Kawabata, Tateo Usui, Katsukiyo Marukawa, Sigeta Hara and Toshihiro Tanaka: Recycling of Used Transformers Containing Toxic Polychlorinated Biphenyl (PCB), Proceedings of the ASIA STEEL International Conference 2000 (**ASIA STEEL 2000**), (September, 2000, Beijing, China), Vol.C, Steelmaking, pp.645 – 651, CSM.

- (21) Hideki Ono-Nakazato, Daigo Miyata, Akitoshi Matsui and Tateo Usui: Removal of Nitrogen from Molten Iron to Gas Phase through Slag by the Addition of Reducing Agents, Proceedings of the 2nd International Congress on the Science and Technology of Steelmaking (**ICS 2001**), (April, 2001, Swansea, UK), pp.567 – 574, IOM Communications, UK.
- (22) Tateo Usui, Hirotooshi Kawabata, Hideki Ono-Nakazato and Astushi Kurosaka: Fundamental Experiments on the H<sub>2</sub> Gas Injection into the Lower Part of a Blast Furnace Shaft, (**International Organized Session**, “Science and Technology for Minimizing CO<sub>2</sub> Emission in Iron- and Steel-making Processes – 1”, Int. No.6, September, 2001), CAMP-ISIJ (Current Advances in Materials and Processes, The Iron and Steel Institute of Japan), 14(2001)4, p.846, ISIJ.
- (23) Hideki Ono-Nakazato, Tomotsugu Koyama and Tateo Usui: Effects of Mn, Cu and Mo on the Rate of Nitrogen Dissolution in Molten Iron, (**International Organized Session**, “Recent Advance in Steelmaking and Continuous Casting Process – 2 (Steelmaking – II)”, Int. No.92, November, 2002), CAMP-ISIJ, 15(2002)4, pp.821 – 824, ISIJ.
- (24) Hideki Ono-Nakazato, Tomotsugu Koyama and Tateo Usui: Rate of Nitrogen Dissolution in Molten Ferrous Alloys and the Relationship with Surface Concentration of Solutes, Proceedings of Designing of Interfacial Structures in Advanced Materials and their Joints, (November, 2002, Osaka, Japan), pp.490 – 495, JWRI (Joining and Welding Research Institute) of Osaka University and High Temperature Society of Japan.
- (25) Toshihiro Tanaka, Masashi Nakamoto and Tateo Usui: Evaluation of Surface Tension and Viscosity of Molten Slags, Proceedings of Japan-Korea Workshop on Science and Technology in Ironmaking and Steelmaking, (March, 2003, Chiba, Japan), pp.56 – 60, ISIJ.
- (26) Tateo Usui, Kenji Taguchi, Hideki Ono-Nakazato and Katsukiyo Marukawa:



- Desiliconization of Molten Fe-C-Si Alloy with CO<sub>2</sub> and O<sub>2</sub>, Proceedings of ASIA Steel International Conference 2003 (**ASIA STEEL 2003**), (April, 2003, Jamshedpur, India), pp.1.h.5.1 – 1.h.5.10, The Indian Institute of Metals.
- (27) Tateo Usui, Hirotoshi Kawabata, Katsukiyo Marukawa, Shigeta Hara, Hideki Ono-Nakazato and Toshihiro Tanaka: Effects of Chlorine Sources and Forms on the Formation of Dioxins / Furans in the Combustion Process, Proceedings of ASIA Steel International Conference 2003 (**ASIA STEEL 2003**), (April, 2003, Jamshedpur, India), pp.1.i.6.1 – 1.i.6.6, The Indian Institute of Metals.
- (28) Masashi Nakamoto, Hideki Ono-Nakazato, Hirotoshi Kawabata and Tateo Usui: Influence of Pore Blockade by Molten Slag on Reduction Behavior of Wustite Compact, Proceedings of METEC Congress 03; The 3rd International Conference on Science and Technology of Ironmaking (**ICSTI '03**), (June, 2003, Duesseldorf, Germany), pp.144 – 148, Steel Institute VDEh, Germany.
- (29) Hirotoshi Kawabata, Zhigang Liu and Tateo Usui: Characteristics of Liquid Hold-ups in One-and Two-dimensional Cold Models for the Dripping Zone of a Blast Furnace, Proceedings of METEC Congress 03; The 3rd International Conference on Science and Technology of Ironmaking (**ICSTI '03**), (June, 2003, Duesseldorf, Germany), pp. 208 – 213, Steel Institute VDEh.
- (30) Tateo Usui, Hirotoshi Kawabata, Hideki Ono-Nakazato and Yohei Goto: Rate Enhancement of Reduction of Sinter by the H<sub>2</sub> Injection into the Lower Part of a Blast Furnace Shaft, Proceedings of METEC Congress 03; The 3rd International Conference on Science and Technology of Ironmaking (**ICSTI '03**), (June, 2003, Duesseldorf, Germany), pp.515 – 520, Steel Institute VDEh.
- (31) Hideki Ono-Nakazato, Toshinari Yonezawa and Tateo Usui: Effect of CaO Addition on the Reducibility of FeO in CaO-SiO<sub>2</sub>-FeO Slag Powder, Proceedings of METEC Congress 03; The 3rd International Conference on Science and Technology of Ironmaking (**ICSTI '03**), (June, 2003, Dusseldorf, Germany), pp. 527 – 532, Steel Institute VDEh.
- (32) Hirotoshi Kawabata, Tateo Usui, Hideki Ono-Nakazato, Masayuki Tanabe, Katsukiyo Marukawa, Shigeta Hara and Toshihiro Tanaka: Experimental

- Studies on the Factors Influencing the Formation of Dioxins in the Combustion Process, Proceedings of The Japan / Korea International Symposium on Resources Recycling and Material Sciences, (September, 2003, Osaka, Japan), pp.137 – 142, JIM (The Japan Institute of Metals).
- (33) Kenji Taguchi, Hideki Ono-Nakazato and Tateo Usui: Evaporation Removal of Copper in Molten Iron by the Addition of Silicon or Carbon, Proceedings of The Japan / Korea International Symposium on Resources Recycling and Material Sciences, (September, 2003, Osaka, Japan), pp.161 – 166, JIM.
- (34) Hideki Ono-Nakazato, Hiroyuki Tajiri, Tateo Usui, Toshihiro Tanaka, and Katsukiyo Marukawa: Rate Enhancement of the Degassing Reaction by the Enlargement of RH and DH Reactors, (**International Organized Session**, “Creation of Innovative Metallurgical Reactor for Mixing / Separation”, Int. No.13, October, 2003), CAMP-ISIJ, 16(2003)4, pp.886 – 889, ISIJ.
- (35) Katsukiyo Marukawa, Shigeta Hara, Tateo Usui, Toshihiro Tanaka, Hirotohi Kawabata, and Hideki Ono-Nakazato: Dioxins and Recycling of Resources – I, Fundamental Studies on Recovery of Natural Resources and Energy in Consideration of Dioxins Formation, Proceedings of the International Symposium on Global Environment and Steel Industry (**ISES '03**), (October, 2003, Beijing, China), pp.104 – 107, CSM.
- (36) Hirotohi Kawabata, Tateo Usui, Shigeta Hara, Toshihiro Tanaka, Hideki Ono-Nakazato, Masayuki Tanabe, and Katsukiyo Marukawa: Dioxins and Recycling of Resources – II, Fundamental Studies on Suppression and Formation of Dioxins in the Combustion Process, Proceedings of the International Symposium on Global Environment and Steel Industry (**ISES '03**), (October, 2003, Beijing, China), pp.108 – 111, CSM.
- (37) Hideki Ono-Nakazato, Hirotohi Kawabata, Tateo Usui, Shigeta Hara, Toshihiro Tanaka, Masayuki Tanabe, and Katsukiyo Marukawa: Dioxins and Recycling of Resources – III, Thermodynamic Calculation on Dioxins Formation in Combustion Process, Proceedings of the International Symposium on Global Environment and Steel Industry (**ISES'03**), (October, 2003, Beijing, China), pp.112 – 115, CSM.

- (38) Toshihiro Tanaka, Masashi Nakamoto, Jooho Lee and Tateo Usui: Evaluation of Viscosity of Molten Slags in Blast Furnace Operation, Proceedings of the Science and Technology of Innovative Ironmaking for aiming at Energy Half Consumption, (November, 2003, Tokyo, Japan), pp.161 – 164, MEXT (Ministry of Education, Culture, Sports, Science and Technology), Japan.
- (39) Tateo Usui, Hirotohi Kawabata, Hideki Ono-Nakazato, Masashi Nakamoto, Koji Tanaka and Nobuya Goto: Influence of Slag Composition upon the Reduction Behavior and Pore Blockade of Iron Ore Agglomerates, Proceedings of the Science and Technology of Innovative Ironmaking for aiming at Energy Half Consumption, (November, 2003, Tokyo, Japan), pp.165 – 168, MEXT.
- (40) Hideki Ono-NAKAZATO, Kenji TAGUCHI, Daisuke NAKAI, Tateo USUI, Katsukiyo MARUKAWA, Ken KATOOGI and Hiroaki KOSAKA: Ca-Al Deoxidation of Molten Iron Using New Sensor for Ultra-low Oxygen Potential, Proceedings and Presentations of the First International Symposium on Sensors for Iron and Steelmaking, (February, 2004, Kyoto, Japan), CD-ROM, MEXT.
- (41) Hideki Ono-Nakazato, Michimasa Aono, Tateo Usui, Atsushi Okamoto, Toshihiro Tanaka, Shinichiro Yokoya and Shigeta Hara: Effect of Funnel Angle and Wettability on Swirling Flow of Liquid in the Funnel, Proceedings of the 15th International Symposium on Transport Phenomena, (May, 2004, Bangkok, Thailand), CD-ROM, pp.409 – 414, Pacific Center of Thermal-Fluids Engineering, U.S.A.
- (42) Kenji Taguchi, Hideki Ono-Nakazato and Tateo Usui: Enhancement of Gaseous Mass Transfer Rates in Evaporating Copper and Tin from Molten Iron by the Addition of Silicon and Carbon, Proceedings of the 15th International Symposium on Transport Phenomena, (May, 2004, Bangkok, Thailand), CD-ROM, pp.415 – 419, Pacific Center of Thermal-Fluids Engineering.
- (43) Tateo Usui and Hideki Ono-Nakazato: [ **Plenary** ] Current Activities and

Future Challenges on Science and Technology of Ironmaking and Steelmaking in Japan, Proceedings of the SCANMET II, (June, 2004, Luleå, Sweden), pp.43 – 52, MEFOS – Metallurgical Research Institute AB, Sweden.

- (44) Tateo USUI, Hirotoshi KAWABATA, Kazuya SHINMYOU and Takeshi HARADA: Influences of Bed Conditions on Liquid Hold-ups in a Cold Model for Dripping Zone of a Blast Furnace, Proceedings of The 2nd Australia-Japan Iron & Steelmaking Symposium, (July, 2004, Sydney, Australia), CD-ROM, University of New South Wales, Australia.
- (45) Tateo Usui, Hideki Ono-Nakazato, and Toshinari Yonezawa: Effect of Water-Gas Shift Reaction on Reduction of Iron Oxide Powder Packed Bed with H<sub>2</sub>-CO Mixtures, Proceedings of The 5th Japan-Brazil Symposium on Dust Processing – Energy – Environment in Metallurgical Industries (**5th Japan-Brazil Sympo.**), (September, 2004, Vitoria, Espirito, Brazil), Vol.1, pp.561 – 570, ABM (Associação Brasileira de Metalurgia e Materiais).
- (46) Noriyoshi INOUE and Tateo USUI: Influence of Combined Water in Coal on Pre-reduction of Iron Oxide with Coal Carbonization Gas, Proceedings of The 5th Japan-Brazil Symposium on Dust Processing – Energy – Environment in Metallurgical Industries (**5th Japan- Brazil Sympo.**), (September, 2004, Vitoria, Espirito, Brazil), Vol.1, pp.643 – 652, ABM.
- (47) Hideki Ono-Nakazato, Kenji Taguchi, Tateo USUI, Katsukiyo Marukawa, Ken Katogi and Hiroaki Kosaka: Deoxidation Equilibria of Molten Iron with Calcium and Aluminum Using an Oxygen Sensor, Proceedings of The 3rd International Congress on the Science and Technology of Steelmaking 2005 (**ICS 2005**), (May, 2005, Charlotte, North Carolina, USA), pp.105 – 113, AIST (Association for Iron & Steel Technology, USA).
- (48) Kenji Taguchi, Hideki Ono-Nakazato and Tateo USUI: Elimination of Copper and Tin From Ferrous Alloys Under Reduced Pressure, Proceedings of The 3rd International Congress on the Science and Technology of Steelmaking 2005 (**ICS 2005**), (May, 2005, Charlotte, North Carolina, USA), pp.505 – 512, AIST.

- (49) Kenji Taguchi, Hideki Ono-Nakazato and Tateo Usui: Recovery of Iron and Copper from Shredder Dust by the Use of Fe-Cu-B System, Proceedings of The 3rd Japan / Korea International Symposium on Resources Recycling and Materials Sciences, (January, 2006, Ibaraki, Japan), pp.99 – 104, Kansai University, Japan, National Institute of Advanced Industrial Science and Technology, Japan, Korea Institute of Geoscience & Mineral Resources and Korea Institute of Resources Recycling.
- (50) Tateo Usui, Hirotoishi Kawabata, Kazuya Shinmyou and Zhigang Liu: Liquid Flow Phenomena in an Initially Unsoaked Bed, Proceedings of Asia Steel International Conference (**ASIA STEEL 2006**), (May, 2006, Fukuoka, Japan), pp.338 – 343, ISIJ.
- (51) Hideki Ono-Nakazato, Youhei Tsubone, Nobufumi Kitamura and Tateo Usui: Gaseous Reduction Behavior of Iron Oxide in Mineral Phases and Slag, Proceedings of Asia Steel International Conference (**ASIA STEEL 2006**), (May, 2006, Fukuoka, Japan), pp.344 – 349, ISIJ.
- (52) Kenji Taguchi, Hideki Ono-Nakazato and Tateo Usui: Recovery of Iron and Copper by Two Liquid Phases Separation of Fe-Cu-B(-C) System, Proceedings of Asia Steel International Conference (**ASIA STEEL 2006**), (May, 2006, Fukuoka, Japan), pp.438 – 443, ISIJ.
- (53) Tateo Usui, Hirokazu Konishi and Noriyoshi Inoue: [ **Keynote** ] Gas-Solid Reaction Will Help Solid-Solid Reaction --- Novel Iron Ore Agglomerate Bearing Semi-Coal-Char, Proceedings of 2006 Sohn International Symposium, (August, 2006, San Diego, California, USA), Vol.2, pp.97 – 104, TMS.
- (54) Hideki Ono-Nakazato, Kenji Taguchi, Tateo Usui and Katsukiyo Marukawa: Prevention Method of Swirling Flow Generation at the Liquid Discharge from the Reactor Vessel, Proceedings of the 1st International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**1st ISEM**),

- (September, 2006, Sapporo, Japan), pp.351 – 354, JSEM (The Japanese Society for Experimental Mechanics).
- (55) Hirotooshi Kawabata, Bokka Yabunaka, Masayuki Tanabe, Tateo Usui, Katsukiyo Marukawa and Shigeta Hara: Dioxin's Removal from Combustion Gas by Gas Injection into Water, Proceedings of the 1st International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**1st ISEM**), (September, 2006, Sapporo, Japan), pp.401 – 405, JSEM.
- (56) Kenji Taguchi, Hideki Ono-Nakazato and Tateo Usui: Separation of Iron and Copper-Tin by Using Immiscibility of Fe-Cu-Sn-B System, Proceedings of the 6th Japan-Brazil Symposium on Dust Processing – Energy – Environment in Metallurgical Industries (**6th Japan- Brazil Sympo.**), (November, 2006, Sapporo, Japan), pp.34 – 38, ISIJ.
- (57) Hirokazu Konishi, Tateo Usui, Kazuhiro Azuma and Atsushi Yamashita: Preparation and Reduction Behavior of Carbon Composite Iron Oxide Pellets Intentionally Including Residual Volatile Matter, Proceedings of the 4th International Congress on the Science and Technology of Ironmaking (**ICSTI '06**), (November, 2006, Osaka, Japan), pp.65 – 68, ISIJ.
- (58) Hideki Ono-Nakazato, Tomotsugu Koyama and Tateo Usui: Carbon Deposition Conditions on Metallic Iron from CO-CO<sub>2</sub> Mixture, Proceedings of the 4th International Congress on the Science and Technology of Ironmaking (**ICSTI '06**), (November, 2006, Osaka, Japan), pp.89 – 92, ISIJ.
- (59) Hirotooshi Kawabata, Tateo Usui, Zhigang Liu, Fumio Fujita and Kazuya Shimyou: Correlation Equations for Liquid Hold-ups in an Initially Unsoaked Bed, Proceedings of the 4th International Congress on the Science and Technology of Ironmaking (**ICSTI '06**), (November, 2006, Osaka, Japan), pp.488 – 491, ISIJ.
- (60) Tateo Usui, Hirotooshi Kawabata, Zhigang Liu and Kazuya Shinmyo: Liquid Flow Characteristics and Correlation Equations for Liquid Hold-ups in a Soaked and Unsoaked Fixed Bed, Proceedings of the 6th Pacific

Symposium on Flow Visualization and Image Processing, (May, 2007, Hawaii, USA), pp.91 – 96, Pacific Center of Thermal-Fluids Engineering, U.S.A.

- (61) Hideki Ono-Nakazato, Kenji Taguchi, Kenji Osawa and Tateo Usui: Observation of Swirling Flow Generation in Discharging Liquid through a Nozzle in the Bottom of Reactor Vessel, Proceedings of the 6th Pacific Symposium on Flow Visualization and Image Processing, (May, 2007, Hawaii, USA), pp. 258 – 262, Pacific Center of Thermal-Fluids Engineering.
- (62) Hirotooshi Kawabata, Tateo Usui, Katsukiyo Marukawa and Shigeta Hara: Influence of the Flying Carbonaceous Matters on Dioxins Formation at High Temperatures, Proceedings of the 6th Pacific Symposium on Flow Visualization and Image Processing, (May, 2007, Hawaii, USA), pp. 395 – 400, Pacific Center of Thermal-Fluids Engineering.
- (63) Hirotooshi Kawabata, Hideki Ono-Nakazato and Tateo Usui: Simple Removal Method of Dioxins in Wastewater by Adsorption on Polyolefin Particles, Proceedings of the 2nd International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**2nd ISEM**), (September, 2007, Osaka, Japan), CD-ROM, JSEM.
- (64) Hirokazu Konishi, Atsushi Yamashita and Tateo Usui: Effect of Residual Volatile Matter on Reduction of Iron Oxide in Carbon Composite Pellets, Proceedings of the 2nd International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**2nd ISEM**), (September, 2007, Osaka, Japan), CD-ROM, JSEM.
- (65) Hideki Ono-Nakazato, Kenji Osawa, Kenji Taguchi and Tateo Usui: Formation Condition of Stable Swirling Flow Accompanied with Air-Core in Discharging Liquid in the Reactor Vessel from a Nozzle, Proceedings of the 2nd International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**2nd ISEM**),

(September, 2007, Osaka, Japan), CD-ROM, JSEM.

- (66) Tateo Usui, Kenji Taguchi, Hideki Ono-Nakazato, and Katsukiyo Marukawa: Desiliconization of Molten Fe-C-Si Alloy with CO<sub>2</sub> and O<sub>2</sub>, Proceedings of the 2nd International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**2nd ISEM**), (September, 2007, Osaka, Japan), CD-ROM, JSEM.
- (67) Hirokazu Konishi, Tateo Usui and Kazuhira Ichikawa: Reduction Behavior of Charcoal Composite Iron Oxide Pellets Including Residual Volatile Matter, Proceedings of the 7th Japan-Brazil Symposium on Dust Processing – Energy – Environment in Metallurgical Industries (**7th Japan- Brazil Sympo.**) and the 1st International Seminar on Self-Reducing and Cold Bonded Agglomeration, (September, 2008, São Paulo, Brazil), CD-ROM, ABM.
- (68) Hideki Ono-Nakazato, Shingo Agawa, Katsuhiko Yamaguchi, Kenji Taguchi and Tateo Usui: Recovery of Iron and Copper by Two Liquid Phases Separation between Fe-B and Ag Phases, Proceedings of the 7th Japan-Brazil Symposium on Dust Processing – Energy – Environment in Metallurgical Industries (**7th Japan- Brazil Sympo.**) and the 1st International Seminar on Self-Reducing and Cold Bonded Agglomeration, (September, 2008, São Paulo, Brazil), CD-ROM, ABM.
- (69) Tateo Usui, Hirokazu Konishi and Koji Inada: Influence of Residual Volatile Matter on Reduction of Iron Oxide in Carbon Composite Pellets, Proceedings of the 7th Japan-Brazil Symposium on Dust Processing – Energy – Environment in Metallurgical Industries (**7th Japan- Brazil Sympo.**) and the 1st International Seminar on Self-Reducing and Cold Bonded Agglomeration, (September, 2008, São Paulo, Brazil), CD-ROM, ABM.
- (70) Hideki Ono-Nakazato, Ryota Maruo, Tateo Usui and Kenji Nakajima: Formation Conditions of Mg<sub>2</sub>TiO<sub>4</sub> and MgAl<sub>2</sub>O<sub>4</sub> in Ti-Mg-Al Complex



Deoxidation of Molten Iron, (**International Organized Session**, “Recent advances of studies in inclusion / precipitates behavior related to microstructure control”, Int. No.2, September, 2008), CAMP–ISIJ, 21(2008)4, pp.852 – 853, ISIJ.

- (71) Tateo Usui, Hideki Ono-Nakazato, Kenji Taguchi and Kenji Osawa: Prevention of Stable Swirling Flow Formation Accompanied with Air-Core in Discharging Liquid in the Reactor through a Nozzle, Proceedings of The 4th International Congress on the Science and Technology of Steelmaking (**ICS 2008**), (October, 2008, Gifu, Japan), pp.375 – 378, ISIJ.
- (72) Hideki Ono-Nakazato, Kenji Taguchi, Ryota Maruo and Tateo Usui: Silicon Deoxidation Equilibrium of Fe-Mo Alloy at 1873K, Proceedings of The 4th International Congress on the Science and Technology of Steelmaking (**ICS 2008**), (October, 2008, Gifu, Japan), p.542 – 545, ISIJ.
- (73) Kenji Taguchi, Hideki Ono-Nakazato, Katsuhiko Yamaguchi and Tateo Usui: Liquid Immiscibility in Fe-Cu-B-C System, Proceedings of The 4th International Congress on the Science and Technology of Steelmaking (**ICS 2008**), (October, 2008, Gifu, Japan), p.678 – 681, ISIJ.
- (74) Hirotohi Kawabata, Soichi Akita, Hideki Ono-Nakazato and Tateo Usui: Influence of O<sub>2</sub> Concentration on Dioxin’s Formation in Combustion Processes, Proceedings of the 3rd International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**3rd ISEM**), (December, 2008, Tainan, Taiwan), CD-ROM, National Cheng Kung University, Taiwan.
- (75) Tateo Usui, Hirotohi Kawabata, Keita Kasamoto and Hideki Ono-Nakazato: Inhibition of Dioxins Formation in a Combustion Furnace by Centrifugation and Recombustion Method at High Temperatures, Proceedings of the 3rd International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**3rd ISEM**), (December, 2008, Tainan, Taiwan), CD-ROM, National Cheng Kung University, Taiwan.

- (76) Hirokazu Konishi, Takashi Bitoh and Tateo Usui: Selective Dissolution of Copper from Ferrous Scrap by Ammonia Leaching Process, Proceedings of the 3rd International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**3rd ISEM**), (December, 2008, Tainan, Taiwan), CD-ROM, National Cheng Kung University, Taiwan.
- (77) Hideki Ono-Nakazato, Kenji Osawa, Kenji Taguchi and Tateo Usui: Formation Mechanism of Stable Swirling Flow Accompanied with Air-Core in Discharging Liquid through a Nozzle Settled at the Bottom of Container, Proceedings of the 3rd International Symposium on Advanced Fluid/Solid Science and Technology in Experimental Mechanics (**3rd ISEM**), (December, 2008, Tainan, Taiwan), CD-ROM, National Cheng Kung University, Taiwan.
- (78) Tateo Usui, Hideki Ono-Nakazato, Hirokazu Konishi and Hirotohi Kawabata: Effect of Hydrogen on Reduction of Iron Ore Agglomerates with H<sub>2</sub>-CO, (**International Organized Session**, “International activity on the CO<sub>2</sub> reduction in the ironmaking field”, Int. No.5, March, 2009), CAMP-ISIJ, 22(2009)1, pp.270 – 273, ISIJ.
- (79) Hirokazu Konishi, Takashi Bitoh and Tateo Usui: [ **Keynote** ] Behavior of Copper Dissolution in Ammoniacal Alkaline Solutions, Proceedings of Asia Steel International Conference 2009 (**ASIA STEEL 2009**), (May, 2009, Busan, Korea), CD-ROM, KIM (The Korean Institute of Metals and Materials).
- (80) Hideki Ono-Nakazato, Yasuhisa Tachiiri, Katsuhiko Yamaguchi and Tateo Usui: [ **Invited** ] Deoxidation and Desulfurization Equilibria of Liquid Iron by Neodymium at 1873K, Proceedings of Asia Steel International Conference 2009 (**ASIA STEEL 2009**), (May, 2009, Busan, Korea), CD-ROM, KIM.

- (81) Tateo Usui, Kazuhira Ichikawa and Hirokazu Konishi: Influence of Residual Volatile Matter on Reduction of Iron Oxide in Semi-charcoal Composite Pellets, Proceedings of Asia Steel International Conference 2009 (**ASIA STEEL 2009**), (May, 2009, Busan, Korea), CD-ROM, KIM.
- (82) Katsuhiro Yamaguchi, Hideki Ono-Nakazato and Tateo Usui: Derivation of Interaction Parameters between Cu and B in Fe from Data on Two Liquid Phases Separation in Fe-Cu-B System at 1873K, Proceedings of Asia Steel International Conference 2009 (**ASIA STEEL 2009**), (May, 2009, Busan, Korea), CD-ROM, KIM.
- (83) Hideki Ono, Yusuke Dohi, Yuki Arikata and Tateo Usui: Hydrogen Reduction Behavior of Composite Iron Ore Sinter, Proceedings of the 5th International Congress on the Science and Technology of Ironmaking (**ICSTI '09**), (October, 2009, Shanghai, China), Vol.2, pp.144 – 148, CSM.
- (84) Hirokazu Konishi, Kazuhira Ichikawa and Tateo Usui: Preparation and Reduction Behavior of Semi-charcoal Composite Iron Oxide Pellets, Proceedings of the 5th International Congress on the Science and Technology of Ironmaking (**ICSTI '09**), (October, 2009, Shanghai, China), Vol.2, pp.287 – 291, CSM.
- (85) Tateo Usui, Tunehisu Nishimura, Hideki Ono, Hirokazu Konishi and Hirotohi Kawabata: Effective Use of Hydrogen in Gaseous Reduction of Iron Ore Agglomerates with H<sub>2</sub>-CO, Proceedings of the 5th International Congress on the Science and Technology of Ironmaking (**ICSTI '09**), (October, 2009, Shanghai, China), Vol.2, pp.1179 – 1184, CSM.
- (86) Katsuhiro Yamaguchi, Hideki Ono, Yasuhisa Tachiiri and Tateo Usui: Variation of Phase Separation Property with B Content in Liquid Fe-Cu System, Proceedings of the 4th International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**4th ISEM**), (November, 2009, Niigata, Japan), CD-ROM, JSEM.
- (87) Hideki Ono, Takanori Satoh and Tateo Usui: Transport of Nitrogen from Molten Iron to Gas Phase through CaO-Al<sub>2</sub>O<sub>3</sub> Melt, Proceedings of the 4th International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**4th ISEM**), (November, 2009, Niigata, Japan), CD-ROM, JSEM.

- (88) Hirokazu Konishi, Yukihide Yoshihara and Tateo Usui: Formation of La-Ni Alloy Films by Molten Salt Electrochemical Process, Proceedings of the 4th International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**4th ISEM**), (November, 2009, Niigata, Japan), CD-ROM, JSEM.
- (89) Hirotooshi Kawabata, Tateo Usui and Hideki Ono: Suppression of Dioxin Formation by Dechlorination in Combustion Processes, Proceedings of the 4th International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**4th ISEM**), (November, 2009, Niigata, Japan), CD-ROM, JSEM.
- (90) Tateo Usui, Hideki Ono-Nakazato, Katsuhiko Yamaguchi and Yasuhisa Tachiiri: [ **Invited** ] Immiscibility of Fe-Cu-B System and Interaction Parameters of B for Cu in Fe at 1873K, Proceedings of The International Conference on the Advances in Theory of Ironmaking and Steelmaking (**ATIS**), (December, 2009, Bangalore, India), CD-ROM, pp.118 – 124, The Indian Institute of Science, Bangalore, India.
- (91) Tsunehisa Nishimura, Tateo Usui, Hirokazu Konishi and Kazuhira Ichikawa: Estimation of Reaction Behavior of Hematite and Carbon Composite Pellets by Mathematical Model, Proceedings of The International Conference on the Advances in Theory of Ironmaking and Steelmaking (**ATIS**), (December, 2009, Bangalore, India), CD-ROM, pp.207 – 214, The Indian Institute of Science.
- (92) Tsunehisa Nishimura, Tateo Usui, Hirotooshi Kawabata, Hirokazu Konishi, Hideki Ono, Yozo Iwaki, Masaaki Naito and Kenichi Higuchi: Effect of Pore Structure of Agglomerates on Reduction Behaviors and High Temperature Properties, Proceedings of The International Symposium on Ironmaking for Sustainable Development 2010 (**ISISD 2010**), (January, 2010, Osaka, Japan), pp.41 – 44, ISIJ.
- (93) Hideki Ono, Masashi Nakamoto, Kenji Tanizawa and Tateo Usui: Gaseous

Reduction Behavior of FeO Compact Including Molten FeO-SiO<sub>2</sub> (-CaO) Slag, Proceedings of The International Symposium on Ironmaking for Sustainable Development 2010 (**ISISD 2010**), (January, 2010, Osaka, Japan), pp.123 – 126, ISIJ.

- (94) Katsuhiko Yamaguchi, Hideki Ono and Tateo Usui: Thermodynamics on Liquid Immiscibility in Fe-Cu-B System, Proceedings of The International Symposium on Ironmaking for Sustainable Development 2010 (**ISISD 2010**), (January, 2010, Osaka, Japan), pp.141 – 143, ISIJ.
- (95) Tomoyuki Mizukoshi, Yujiro Yokoyama, Hideaki Koshino, Itsuo Ishigami, Hirokazu Konishi and Tateo Usui: Influence of Alloying Elements on Carburizing Reaction Rate Constant of Low Alloy Steel in CO-CO<sub>2</sub>-N<sub>2</sub> Atmosphere, Proceedings of The International Symposium on Ironmaking for Sustainable Development 2010 (**ISISD 2010**), (January, 2010, Osaka, Japan), pp.165 – 168, ISIJ.
- (96) Hideaki Hoshino, Tomoyuki Mizukoshi, Yujiro Yokoyama, Itsuo Ishigami and Tateo Usui: Carburizing Rates of Vacuum Carburization by Acetylene Gas at 1.33 kPa, Proceedings of The International Symposium on Ironmaking for Sustainable Development 2010 (**ISISD 2010**), (January, 2010, Osaka, Japan), pp.169 – 172, ISIJ.
- (97) Yujiro Yokoyama, Hideaki Hoshino, Tomoyuki Mizukoshi and Tateo Usui: Relationship between Vacuum Carburizing Conditions and Surface Carbon Concentration of SCM415, Proceedings of The International Symposium on Ironmaking for Sustainable Development 2010 (**ISISD 2010**), (January, 2010, Osaka, Japan), pp.173 – 176, ISIJ.
- (98) Hideki Ono, Keiji Nakajima, Shingo Agawa, Ryota Maruo and Tateo Usui: Relationship Among Ti, Mg, Al and O Contents of Molten Iron in Equilibrium with Mg<sub>2</sub>TiO<sub>4</sub> or MgAl<sub>2</sub>O<sub>4</sub> at 1873-1973 K, Proceedings of The 2nd International Symposium on Cutting Edge of Computer Simulation of Solidification and Casting (CSSC2010), (February, 2010, Sapporo, Japan), p.82, ISIJ.
- (99) Hideki Ono, Katsuhiko Yamaguchi and Tateo Usui: Oxidation Removal of Cu from Molten Iron via Silver, (**International Organized Session**, “Thermodynamics

and kinetics for environmentally harmonious refining processes with high speed and efficiency”, Int. No.5, September, 2010), CAMP-ISIJ, 23(2010)2, pp.793 – 795, ISIJ.

- (100) Hirokazu Konishi, Kazuhira Ichikawa, Tateo Usui and Hideki Ono: Preparation and Reduction Behavior of Semi-Charcoal Composite Pellets, Proceedings of the 8th Japan-Brazil Symposium on Dust Processing – Energy – Environment in Metallurgical Industries (**8th Japan- Brazil Sympo.**), (October, 2010, Fukuoka, Japan), pp.42 – 46, ISIJ.
- (101) Hideki Ono, Kenichi Kobata and Tateo Usui: Reduction Behavior of Phosphorus in Oxide Melt, Proceedings of the 6th International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**6th ISEM**), (November, 2011, Osaka, Japan), CD-ROM, (pp.1 – 4), JSEM.
- (102) Tateo USUI, Hideki ONO, Hirokazu KONISHI and Hirotoishi KAWABATA: [ **Keynote** ] Transport Phenomena and Materials Processing Focused Mainly on Sustainable Development in Ironmaking and Steelmaking, Proceedings of the 6th International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**6th ISEM**), (November, 2011, Osaka, Japan), CD-ROM, (pp.1 – 6), JSEM.
- (103) Katsuhiko Yamaguchi, Hideki Ono, Shingo Agawa and Tateo Usui: Liquid Immiscibility of Fe-Ag-Cu-B System, Proceedings of the 6th International Symposium on Advanced Fluid / Solid Science and Technology in Experimental Mechanics (**6th ISEM**), (November, 2011, Osaka, Japan), CD-ROM, (pp.1 – 4), JSEM.
- (104) Konishi Hirokazu, Tateo Usui, Hideki Ono and Eiichi Takeuchi: Preparation and Reduction Behavior of Semi-Charcoal Composite Pellets, Proceedings of The Eighth Korea - Japan Workshop on Science and Technology in Ironmaking and Steelmaking, (September, 2012, Jeju Island, Korea), pp.28 – 34, KIM (Korean Institute of Metals and Materials), RIIST (Research Institute of Iron and Steel Technology, Korea) and BK21 (Brain Korea 21).
- (105) USUI Tateo, KONISHI Hirokazu, ICHKAWA Kazuhira and ONO Hideki: Reduction Behavior of Semi-charcoal Composite Iron Oxide Pellets, Proceedings

of Asia Steel International Conference 2012 (**ASIA STEEL 2012**), (September, 2012, Beijing, China), CD-ROM, CSM.

- (106) KONISHI Hirokazu, ICHKAWA Kazuhira, USUI Tateo, ONO Hideki and TAKEUCHI Eiichi: Influence of H<sub>2</sub> on Reduction of Iron Oxide in Carbon Composite Pellets, Proceedings of Asia Steel International Conference 2012 (**ASIA STEEL 2012**), (September, 2012, Beijing, China), CD-ROM, CSM.
- (107) Tateo Usui, Hirokazu Konishi, Kazuhira Ichikawa and Hideki Ono: [ **Keynote** ] Preparation and Reduction Behavior of Carbon Composite Pellets using Semi-charcoal, Proceedings of the 6th International Congress on the Science and Technology of Ironmaking (**ICSTI '12**), (October, 2012, Rio de Janeiro, Brazil), CD-ROM, pp.698 – 709, abm (Associação Brasileira de Metalurgia, Materiais e Mineração).
- (108) Hirokazu Konishi, Kazuhira Ichikawa, Hideki Ono, Tateo Usui and Eiichi TAKEUCHI: Influence of H<sub>2</sub> on Reduction of Iron Oxide Pellets, Proceedings of the 9th Japan-Brazil Symposium on Dust Processing – Energy – Environment in Metallurgical Industries (**9th Japan- Brazil Sympo.**), (September, 2013, Ouro Preto, Brazil), pp.219 – 224, EcoEnviroX.
- (109) Hideki Ono, Kenji Tanizawa, Hirokazu Konishi, Tateo Usui and Eiichi TAKEUCHI: Effects of Slag Basicity and Oxygen Partial Pressure on Iron Carburization Rate by Carbon in Slags Through Carbon / Slag and Slag / Metal Reactions, Proceedings of the 9th Japan-Brazil Symposium on Dust Processing – Energy – Environment in Metallurgical Industries (**9th Japan- Brazil Sympo.**), (September, 2013, Ouro Preto, Brazil), pp.233 – 244, EcoEnviroX.
- (110) Tateo Usui, Hirokazu Konishi, Kazuhira Ichikawa, Hideki Ono, Hirotoishi KAWABATA and Paulo Santos Assis: THE STATE-OF-THE-ART EMPLOYMENT OF WOODY BIOMASS AND BIOGAS IN MANUFACTURING INDUSTRIES CENTERING AROUND STEEL INDUSTRY, Proceedings of the 9th Japan-Brazil Symposium on Dust Processing – Energy – Environment in Metallurgical Industries (**9th Japan- Brazil Sympo.**), (September, 2013, Ouro Preto, Brazil), pp.333 – 342, EcoEnviroX.

- (111) Tateo Usui, Hirokazu Konishi, Kazuhira Ichikawa, Francisco B. Pena, Matheus H. Souza, Alexandre A. Xavier and Paulo S. Assis: Carbonization of Coal and Wood And Rate Enhancement Effect of Semi-char and Semi-charcoal in Composite Pellets, Proceedings of the 7th International Congress on the Science and Technology of Ironmaking (**ICSTI '15 = AISTech 2015**), (May, 2015, Cleveland, Ohio, USA), CD-ROM, (pp. 626 – 637), AIST.
- (112) Tateo Usui, Hirokazu Konishi, Kazuhira Ichikawa, Hideki Ono, Hirotohi Kawabata, Francisco B. Pena, Matheus H. Souza and Paulo S. Assi: [ **Plenary** ] VARIOUS FACTORS INFLUENCING UPON REDUCTION RATE OF CARBON COMPOSITE IRON OXIDE PELLETS, Proceedings of 2015 SUSTAINABLE INDUSTRIAL PROCESSING SUMMIT, (October 4 – 8, 2015, Antalya, Turkey), CD-ROM, Flogen Technologies Inc., (2015).
- (113) Tateo Usui, Munekazu Ohmi, Hirotohi Kawabata, Masaaki Naito, Hideki Ono, Yasuhiro Nakamuro, Masahiro Nishi and Paulo S. Assis: [ **Plenary** ] GASEOUS REDUCTION BEHAVIOR OF IRON ORE SINTER AND KINETIC ANALYSIS IN CONSIDERATION OF CALCIUM FERRITE REACTION PROCESS, Proceedings of 2015 SUSTAINABLE INDUSTRIAL PROCESSING SUMMIT, (October 4 – 8, 2015, Antalya, Turkey), CD-ROM, Flogen Technologies Inc., (2015).
- (114) Hideki ONO, Kenji TANIZAWA and Tateo USUI: [ **Plenary** ] Iron Carburization Rate by Carbon in Slags through Carbon/Slag and Slag/Metal Reactions, Proceedings of 2016 SUSTAINABLE INDUSTRIAL PROCESSING SUMMIT, (November 6 – 9, 2016, Hainan, China), CD-ROM, Flogen Technologies Inc., (2016).
- (115) Tateo Usui, Masaaki Naito, Hiroshi Kamiya, Hirotohi Kawabata, Hideki Ono, Yasuhiro Nakamuro, Masahiro Nishi and Paulo S. Assis: [ **Keynote** ] Progress in Gaseous Reduction Models for Iron Ore Agglomerates, Proceedings of 2016 SUSTAINABLE INDUSTRIAL PROCESSING SUMMIT, (November 6 – 9, 2016, Hainan, China), CD-ROM, Flogen Technologies Inc., (2016).
- (116) Tateo Usui, Masaaki Naito, Hideki Ono, Hirokazu Konishi, Hirotohi Kawabata,



Tomoyuki Mizukoshi, Paulo S. Assis: [ **Plenary** ] NATURAL RESOURCES CONSCIOUSNESS AND ENERGY CONSERVATION IN IRONMAKING AND STEELMAKING TECHNOLOGES IN JAPAN, Proceedings of 2017 SUSTAINABLE INDUSTRIAL PROCESSING SUMMIT, (October 22 – 26, 2017, Cancun, Mexico), CD-ROM, Flogen Technologies Inc., (2017). **Not yet.**

(117) Tateo Usui, Hirokazu Konishi, Kazuhira Ichikawa, Hideki Ono, Hirotooshi Kawabata, Francisco B. Pena, Matheus H. Souza, Alexandre A. Xavier and Paulo S. Assis: RATE ENHANCEMENT EFFECTS OF SEMI-CHAR AND SEMI-CHARCOAL IN COMPOSITE IRON OXIDE PELLETS, Grand Renewable Energy 2018 Proceedings, (June 17 - 22, 2018, Yokohama, Japan), DVD - ROM, O-Pi-5-3, (2018), pp.1 - 4.

(118) Tateo Usui, Hirokazu Konishi, Kazuhira Ichikawa, Hideki Ono, Hirotooshi Kawabata, Francisco B. Pena, Matheus H. Souza, Alexandre A. Xavier and Paulo S. Assis: Evaluation of Carbonization Gas from Coal and Woody Biomass and Reduction Rate Enhancement of Carbon Composite Iron Oxide Pellets by using Semi-char and Semi-charcoal, (**International Organized Session**, “Energy-Environment-Dust processing in ironmaking processes”, Int. No. 14, September, 2018), **CAMP-ISIJ**, 31(2018)2, pp.554 – 555, CD-ROM, ISIJ.

(119) Tateo Usui, Hirokazu Konishi, Kazuhira Ichikawa, Hideki Ono, Hirotooshi Kawabata, Francisco B. Pena, Matheus H. Souza, Alexandre A. Xavier and Paulo S. Assis: [ **Plenary** ] RATE ENHANCEMENT OF COMPOSITE IRON OXIDE PELLETS BY USING SEMI-CHAR AND SEMI-CHARCOAL, Proceedings of 2018 SUSTAINABLE INDUSTRIAL PROCESSING SUMMIT, (November 4 – 7, 2018, Rio de Janeiro, Brazil), CD-ROM, Flogen Technologies Inc., (2018). **Not yet.**

#### 4. International Meetings without Preceding Papers

- (1) Munekazu Ohmi, Tateo Usui, Masaaki Naito and Hiroshi Kamiya: Kinetic Analyses of Hydrogen Reduction of Beds Packed with Hematite Pellets by Improved Models, 21st Annual Conference of Metallurgists, 12th Annual Hydrometallurgical Meeting, and an International Symposium on Iron and Steelmaking (August, 1982, Toronto, Canada), Poster 13.25, **The Metallurgical Society of CIM** (The Canadian Institute of Mining and Metallurgy).
- (2) Tateo Usui, Hirotohi Kawabata, Takahiro Yokoyama, Takashi Ohyama and Zen-ichiro Morita: Reduction of Iron Oxide with Coal Carbonization Gas (A Fundamental Study on Pre-reduction for Iron Bath Smelting Reduction), 30th Annual Conference of Metallurgists (August, 1991, Ottawa, Canada), Paper 14.3, **The Metallurgical Society of CIM** (The Canadian Institute of Mining, Metallurgy and Petroleum).
- (3) Tateo Usui, Zen-ichiro Morita, Hirotohi Kawabata, Toshio Fujimori and Isao Fukuda: Influence of CO Partial Pressure and Reduction Temperature upon the Reducibility of Calcium Ferrite in Sinter with CO-CO<sub>2</sub>-N<sub>2</sub> Gas Mixture, 30th Annual Conference of Metallurgists (August, 1991, Ottawa, Canada), Poster 61.32, **The Metallurgical Society of CIM**.
- (4) Tateo Usui, Takahiro Yokoyama, Takashi Ohyama and Zen-ichiro Morita: Influence of Carbonizing Conditions upon the Reduction of Iron Oxide with Coal Carbonization Gas (A Fundamental Study on Pre-reduction for Iron Bath Smelting Reduction), Abstracts for The 1st Pacific Rim International Conference on Advanced Materials and Processing (June, 1992, Hangzhou, China), pp.41 – 42, CSM (The Chinese Society for Metals).
- (5) Hirokazu Konishi, Tetsuo Oishi, Kazuya Koyama, Tateo Usui, Mikiya Tanaka and Jae-Chun Lee: Electrolytic Copper Deposition from Ammonia –

Ammonium Sulfate Solution Containing Cu(I), International Symposium on Electrochemical Processing of Tailored Materials (October, 2005, Kyoto, Japan), Extended Abstract of EPTM2005, PS-032, pp.148 – 149.

- (6) Yujiro Yokoyama, Tomoyuki Mizukoshi, Itsuo Ishigami and Tateo Usui: Numerical Analysis and Control of Gas Carburizing under Changes in Gas Compositions, Abstracts of International Symposium on High-Temperature Oxidation and Corrosion, (November, 2005, Nara, Japan), Poster P39, ISIJ.
- (7) Tomoyuki Mizukoshi, Hideaki Hoshino, Yujiro Yokoyama, Itsuo Ishigami and Tateo Usui: Numerical Analysis on Carbon Concentration Profiles of Gas Carburized Low Alloy Steel under Fluctuating Atmosphere, 17th International Federation for Heat Treatment and Surface Engineering Congress 2008 (October, 2008, Kobe, Japan), Poster P10, p.226, Japan Society for Heat Treatment.
- (8) Yujiro Yokoyama, Tomoyuki Mizukoshi, Itsuo Ishigami and Tateo Usui: Relationship between Vacuum Carburizing Conditions and Surface Carbon Concentration of SNCM815, 17th International Federation for Heat Treatment and Surface Engineering Congress 2008 (October, 2008, Kobe, Japan), Poster P12, p.228, The Japan Society for Heat Treatment.  
[ **The Poster Award for 17th IFHTSE Congress, 2008** (October 29, 2008) ]
- (9) Tateo USUI, Hideki ONO, Hirokazu KONISHI, Hirotoshi KAWABATA and Paulo S. Assis: [ **Invited** ] Transport Phenomena and Materials Processing for Sustainable Development in Iron- and Steel-making, The XIV Symposium of Graduate School of REDEMAT (Rede Temática em Engenharia de Materiais), (April, 2014, Ouro Preto, Brazil), REDEMAT (UFOP – GETEC – UEMG).
- (10) Tateo Usui, Masaaki Naito, Hideki Ono, Hirokazu Konishi, Hirotoshi Kawabata, Tomoyuki Mizukoshi and Paulo S. Assis: [ **Keynote** ] Natural Resources and Energy Conservation in Iron and Steelmaking in Japan, 45<sup>th</sup> Steelmaking Seminar – International, (May, 2014, Port Alegre, Brazil), ABM (Associação Brasileira de Metalurgia e Materiais).

## 5. Review Papers

(Papers in Japanese are noted. Otherwise in English.)

- (1) Munekazu Ohmi and Tateo Usui: Rate of Reduction of Iron Oxide in the Final Stage (in Japanese), Bulletin of the Japan Institute of Metals, 19(1980)1, pp.23 – 29.
- (2) Munekazu Ohmi, Tateo Usui and Masaaki Naito: Reaction Models for Gaseous Reduction of Various Hematite Pellets (in Japanese), Seisan-to-Gijutsu, 34(1982)2, pp.51 – 54.
- (3) Tateo Usui: Macro Kinetics, The 17th Iron and Steel Engineering Seminar Text «Ironmaking Course» (in Japanese), (1991), pp.49 – 63, The Iron and Steel Institute of Japan.
- (4) Tomohiro Akiyama, Kuniyoshi Ishii, Kunihiko Ishii, Kazuo Ichifuji, Takanobu Inada, Shin-ichi Inaba, Yuji Iwanaga, Tateo Usui, Kazutomo Ohtake, Yoshio Okuno, Katsumi Kusakabe, Jokichi Shinoda, Kunio Shinohara, Masataka Shimizu, Masayasu Sugata, Takashi Sugiyama, Hiroshi Takahashi, Reijiro Takahashi, Kanji Takeda, Seiji Taguchi, Katsuhiko Tanaka, Takeshi Furukawa, Masayuki Horio, Takatoshi Miura, Seiji Morooka, Jun-ichiro Yagi, and Motozo Yasuno: Mathematical Modeling of the Flow of Four Fluids in a Packed Bed, ISIJ International, 33(1993)6, pp.619 – 639.
- (5) Tateo USUI, Masaaki NAITO, Takeaki MURAYAMA and Zen-ichiro MORITA: Kinetic Analysis on Gaseous Reduction of Agglomerates, Part 1, Reaction Models for Gaseous Reduction of Agglomerates (in Japanese), Tetsu-to-Hagané, 80(1994)6, pp.431 – 439.
- (6) Takeaki MURAYAMA, Tateo Usui, Masaaki NAITO and Yoichi ONO: Kinetic Analysis on Gaseous Reduction of Agglomerates, Part 2, Rate Parameters

- Included in the Mathematical Model for Gaseous Reduction of Agglomerates (in Japanese), Tetsu-to-Hagané, 80(1994)7, pp.493 – 500.
- (7) Masaaki NAITO, Takeaki MURAYAMA and Tateo Usui: Kinetic Analysis on Gaseous Reduction of Agglomerates, Part 3, Application of Gaseous Reduction Models for Agglomerates to Blast Furnace Analysis (in Japanese), Tetsu-to-Hagané, 80(1994)8, pp.581 – 586.
- (8) Tateo Usui: Thermodynamic Analysis of Ironmaking Process, The 22nd Iron and Steel Engineering Seminar Text «Ironmaking Course» (in Japanese), (1996), pp.14 – 26, The Iron and Steel Institute of Japan.
- (9) Tateo Usui: Chemical Kinetics and Transport Phenomena for Fluid-Solid Reactions (in Japanese), **NETSU SHORI (Journal of the Japan Society for Heat Treatment)**, 37 (1997)6, pp.310 – 318.
- (10) Katsukiyo Marukawa, Hirokata Seki, Shin-ichiro Suda and Tateo Usui: Global Environment and Industry in the 21st Century – Centering around CO<sub>2</sub> Emission Problem – (Round Table Discussion on the New Year of Millennium 2000) (in Japanese), Techno Net (Bulletin of Osaka University Engineering Society), No.507 (January, 2000), pp.4 – 9.
- (11) Hideki Ono-Nakazato, Daisuke Hirai and Tateo Usui: A Thermodynamic Approach for Removal of Impurities from Metals (in Japanese), Journal of High Temperature Society, 26(2000)4, pp.139 – 144.
- (12) Hideki Ono-Nakazato and Tateo Usui: Selective Removal of Impurities in Metal (in Japanese), Seisan-to-Gijutsu, 54(2002)2, pp.61 – 63.
- (13) Tateo USUI and Hirotoshi KAWABATA: Fundamental Studies on Ferrous Metallurgy and Dioxins Emission Control (in Japanese), Bulletin of The Metallurgical Society of Osaka University, No.45(2005), pp.4 – 8.
- (14) Takazo Kawaguchi and Tateo Usui: Summarized Achievements of the Porous Meso-mosaic Texture Sinter Research Project, ISIJ International, 45(2005)4,

pp.414 – 426.

- (15) Tateo Usui: Fundamental Studies on Ironmaking and Steelmaking in Consideration of Resources and Environment (in Japanese), **Feramu (Bulletin of The Iron and Steel Institute of Japan)**, 11(2006)8, pp.503 – 509.
- (16) Hirotooshi Kawabata and Tateo Usui: Technologies on Suppression of Dioxins Formation (in Japanese), *Journal of High Temperature Society*, 34(2008)1, pp.3 – 8.
- (17) Tatsuro Ariyama, Michitaka Sato, Tateo Usui and Hideki Ono-Nakazato: Future Ironmaking Process Aiming at Reducing CO<sub>2</sub> Emission (in Japanese), The 2nd Symposium on CO<sub>2</sub> Emission Control “Discussion on CO<sub>2</sub> Emission Reduction in Steelmaker,” (January, 2009, Tokyo), pp.25 – 35, the High Temperature Process Division in ISIJ (The Iron and Steel Institute of Japan).
- (18) Tomoyuki Mizukoshi, Itsuo Ishigami, Yujiro Yokoyama and Tateo Usui: For Development of Eco-friendly Carburizing Treatment Method (Part 1) – Construction and Application of Kinetics Model for Vacuum Carburizing – (in Japanese), **NETSU SHORI**, 50 (2010)6, pp.589 – 600.
- (19) Tateo Usui: Materials Production and Global Environment (in Japanese), *Journal of High Temperature Society*, 37(2011)1, pp.1 – 3.
- (20) Yujiro Yokoyama, Tomoyuki Mizukoshi, Itsuo Ishigami and Tateo Usui: For Development of Eco-friendly Carburizing Treatment Method (Part 2) – Effect of Surface Graphite Deposition on Carbon Profile of Vacuum Carburized Steel – (in Japanese), **NETSU SHORI**, 52(2012)5, pp.257 – 262.
- (21) Tomoyuki Mizukoshi, Itsuo Ishigami, Yujiro Yokoyama and Tateo Usui: For Development of Eco-friendly Carburizing Treatment Method (Part 3) – Proposal for Controlling Gas Carburizing based on Surface Reaction Rate and Diffusion of Carbon – (in Japanese), **NETSU SHORI**, 53(2013)6, pp.302 – 309.
- (22) Tateo Usui: Tetsu-to-Hagané and I Myself for Forty Years (in Japanese), **Feramu**, 19(2014)1, pp.53 – 56.

- (23) Tomoyuki Mizukoshi, Itsuo Ishigami, Yujiro Yokoyama and Tateo Usui: For Development of Eco-friendly Carburizing Treatment Method (Part 4) – Saving Energy and Resources in Gas Carburizing Process by Selective Removal of H<sub>2</sub> in Furnace – (in Japanese), **NETSU SHORI**, 54(2014)4, pp.205 – 211.

## 6. Books

(Books in Japanese are noted. Otherwise in English.)

- (1) Yasuo Omori, Yasuto Shimomura, Jun-ichiro Yagi, Masakazu Nakamura, Tsutomu Fukushima, Masayoshi Amatatsu, Kuninori Ishii, Shin-ichi Inaba, Tateo Usui, Masaya Ozawa, Katsuya Ono, Yoshikazu Kuwano, Mamoru Kuwabara, Saburo Kobayashi, Nobuo Sano, Teruhisa Shimoda, Nobuo Tsuchiya, Masanori Tokuda, Hiroaki Nishio, Michiharu Hatano, Tsuyoshi Fukutake, Masahiro Maekawa and Akinori Yoshizawa: “**Blast Furnace Phenomena and Modelling**,” edited by ‘Committee on Reaction within Blast Furnace,’ Joint Society on Iron and Steel Basic Research { = ISIJ (The Iron and Steel Institute of Japan), JIM (The Japan Institute of Metals), and Ironmaking 54th Committee, JSPS (Japan Society for the Promotion of Science)}, (1987), pp.1 – 631, Elsevier Applied Science Publishers, England.
- (2) Hiroshi Nogami, Masayoshi Sadakata, Yasuyoshi Sasaki, Shin-ich Suyama, Noboru Taguchi, Katsuhiko Tanaka, Masanori Tokuda, Yukio Tomita, Hiromitsu Ueno, Tateo Usui, Jun-ichiro Yagi, Yasumasa Yamashita, Kazumoto Ohtake and Takeaki Murayama: “**Advanced Pulverized Coal Injection Technology and Blast Furnace Operation**,” edited by ‘Research Group of Pulverized Coal Combustion in Blast Furnace,’ Ironmaking 54th Committee, JSPS and sponsored by Technical Division of High-Temperature Processes, ISIJ, (2000), PERGAMON (Elsevier Science Ltd, UK).
- (3) Youichi Ono, Yoshiaki Iguchi, Tateo Usui, Reijiro Takahashi, Eiki Kasai, Kazuyoshi Yamaguchi, Masaaki Naito, Masataka Shimizu, Takazo Kawaguchi and Shinji Kamijo: “**Basis and Application on Carbon Reduction of**

- Iron Oxide**” (in Japanese), edited by ‘The Reduction Reaction Research Group,’  
Technical Division of High-Temperature Processes, ISIJ, (March, 2000),  
pp.1 – 142, ISIJ.
- (4) Tateo Usui and Youzou Hosotani (Co-edited): “**Commencement of Creating Porous Meso-mosaic Texture Sinter**” (in Japanese), Report of ‘Examination Committee on Agglomeration of Iron Ores Unsuitable for Sintering’ in ISIJ, (March, 2001), pp.1 – 103, ISIJ.
- (5) Tateo Usui and Sonzou Kawaguchi (Co-edited): “**Research for Sinter with Porous Meso-mosaic Texture by Blending Limonitic Ore and Reducing Slag Content**” (in Japanese), Report of ‘Research Group on Porous Meso-mosaic Texture Sinter’ in ISIJ, (September, 2004), pp.1 – 201, ISIJ.
- (6) Kuninori Ishii, Tateo Usui, et al. (36 members in total): “**Physical and Chemical Data book for Iron- and Steelmaking, Ironmaking**” (in Japanese), (February, 2006), pp.1 – 588, ISIJ and Ironmaking 54th Committee, JSPS.
- (7) Tateo Usui, et al. (Co-edited): “**Proceedings of the 4th International Congress on The Science and Technology of Ironmaking,**” (November, 2006), ISIJ.
- (8) Hideki Ono, Hirokazu Konishi and Tateo Usui (Co-edited): “**Ironmaking for Sustainable Development 2010,**” (January, 2010), pp.1 – 176, ISIJ.
- (9) Tateo USUI, Hideki ONO, Hirokazu KONISHI and Hirotoishi KAWABATA (Co-edited): “**Proceedings of the International Symposium on Ironmaking for Sustainable Development 2010 (CD-ROM),**” (November, 2011), ISIJ.
- (10) Tatsuro Ariyama, Kanji Takeda, Tateo Usui, et al.: “**The 1st Volume “Ironmaking and Steelmaking,” Handbook of Iron and Steel 5th edition** (in Japanese), (August, 2014), pp.131 – 206 (Blast Furnace), ISIJ.
- (11) Tateo USUI, Shin-ichi Ohtsuki, Yoshikazu Nishihara, Toshio Sato and Yoshio Yanai (Co-edited): “**Commemorative Publication for Thirtieth Anniversary of the Foundation of Kansai Branch of Japan Society for Research Policy and**



**Innovation Management,**” (in Japanese) (October, 2017), pp.1 – 124, Kansai Branch of Japan Society for Research Policy and Innovation Management.

- (12) Tateo USUI, Shin-ichi Ohtsuki, Yoshikazu Nishihara, Toshio Sato and Yoshio Yanai (Co-edited): **“Commemorative Publication for Thirtieth Anniversary of the Foundation of Kansai Branch of Japan Society for Research Policy and Innovation Management (CD-ROM; revised and enlarged edition),”** (in Japanese), (December, 2017), Kansai Branch of Japan Society for Research Policy and Innovation Management.