

List of Papers and Others

Tateo Usui December 25, 2018

1. Refereed Papers

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

- Munekazu Ohmi and <u>Tateo Usui</u>: Study on the Rate of Reduction of Single Iron Oxide Pellet with Hydrogen, Tetsu-to-Hagané (in Japanese), <u>59</u>(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), <u>16</u>(1976)2, pp.77 – 84.
- (2) Munekazu Ohmi and <u>Tateo Usui</u>: Theoretical Investigation of Reaction Kinetics in the Reduction of Single Hematite Pellet under Pulsating Flow of Hydrogen, Tetsu-to-Hagané (in Japanese), <u>59</u>(1973)14, pp. 1902 – 1913; Trans. ISIJ, <u>16</u> (1976)2, pp.85 – 91.
- (3) Munekazu Ohmi and <u>Tateo Usui</u>: 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), <u>41</u>(1975)342, pp.546 558.
- (4) Munekazu Ohmi and <u>Tateo Usui</u>: Pulsating Flow in a Circular Tube Containing a Slightly Compressible Fluid, 2nd Report, Theoretical Study for Turbulent Flow, Trans. JSME (in Japanese), <u>41</u>(1975)347, pp. 2030 – 2042.
- (5) Munekazu Ohmi, <u>Tateo Usui</u>, 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), <u>41</u>(1975)347, pp. 2043 – 2052.

- (6) Munekazu Ohmi, <u>Tateo Usui</u>, 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), <u>41</u>(1975)349, pp.2632 – 2642.
- (7) Munekazu Ohmi and <u>Tateo Usui</u>: 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), <u>41</u>(1975)352, pp. 3542 – 3553.
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- (3 + 5) Munekazu Ohmi, <u>Tateo Usui</u>, Michio Fukawa and Shuichi Hirasaki: Pressure and Velocity Distributions in Pulsating Laminar Pipe Flow, **Bull.** JSME (Bulletin of the Japan Society of Mechanical Engineers), <u>19</u> (1976)129, pp.298 – 306.
- (4 modified) Munekazu Ohmi and <u>Tateo Usui</u>: Pressure and Velocity Distributions In Pulsating Turbulent Pipe Flow, Part 1, Theoretical Treatments, Bull. JSME, <u>19</u>(1976)129, pp.307 – 313.
- (6 + 7) Munekazu Ohmi, <u>Tateo Usui</u>, Osami Tanaka and Masao Toyama: Pressure and Velocity Distributions in Pulsating Turbulent Pipe Flow, Part 2, Experimental Investigations, Bull. JSME, <u>19</u>(1976)134, pp.951 957.
 - (8) Munekazu Ohmi and <u>Tateo Usui</u>: Theory of Mass Transfer from a Sphere and a Circular Cylinder in Pulsating Flow, Tetsu-to-Hagané (in Japanese), <u>63</u>(1977)10, 1633 – 1642; Trans. ISIJ, <u>22</u>(1982)8, pp.593 – 599.
- (9) Munekazu Ohmi, Susumu Kyomen and <u>Tateo Usui</u>: Analysis of Velocity Distribution in Pulsating Turbulent Pipe Flow (In the Case of Time-dependent Friction Velocity), Trans. JSME (in Japanese), <u>43</u>(1977)375, pp.4109 – 4117; Analysis of Velocity Distribution in Pulsating Turbulent Pipe Flow with Time-Dependent Friction Velocity, Bull. JSME, <u>21</u>(1978)157, pp.1137 – 1143.
- (10) Munekazu Ohmi, <u>Tateo Usui</u>, Yoshiro Matsumoto and Yoshikazu Masuyama: Experimental Study of Mass Transfer from a Sphere in Pulsating Flow, Tetsu-to-

Hagané (in Japanese), <u>64</u>(1978)8, pp.1105 – 1113; Trans. ISIJ, <u>22</u>(1982)8, pp.600 – 607.

- (11) Munekazu Ohmi, <u>Tateo Usui</u> 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), <u>66</u>(1980)5, pp.449 – 458; Trans. ISIJ, <u>22</u>(1982)1, pp.30 – 38.
- (12) Munekazu Ohmi, Manabu Iguchi, <u>Tateo Usui</u> 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), <u>46B</u>(1980) 404, pp.619 627; Bull. JSME, <u>23</u>(1980)186, pp.2013 2020.
- (13) Munekazu Ohmi, Susumu Kyomen and <u>Tateo Usui</u>: 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), <u>46B</u> (1980)405, pp.829 – 836; Bull. JSME, <u>24</u>(1981)187, pp.60 – 66.
- (14) Munekazu Ohmi, Manabu Iguchi and <u>Tateo Usui</u>: 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), <u>46B</u>(1980)405, pp.846 853; Bull. JSME, <u>24</u>(1981)187, pp.75 81.
- (15) Munekazu Ohmi, <u>Tateo Usui</u>, 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), <u>67</u> (1981)11, pp.1943 – 1951; Trans. ISIJ, <u>23</u>(1983)1, pp.81 – 89.
- (16) Munekazu Ohmi, Susumu Kyomen and <u>Tateo Usui</u>: Numerical Analysis of a Periodically Varying Flow in a Circular Tube Containing a Slightly Compressible Fluid, Trans. JSME (in Japanese), <u>47B</u>(1981)424, pp.2282 – 2289; Bull. JSME, <u>25</u> (1982)206, pp.1266 – 1272.
- (17) Munekazu Ohmi and <u>Tateo Usui</u>: Improved Theory on the Rate of Reduction of

Single Particles and Fixed Beds of Iron Oxide Pellets with Hydrogen, Trans. ISIJ, <u>22</u>(1982)1, pp.66 – 74.

- (18) Munekazu Ohmi, Masaaki Naito and <u>Tateo Usui</u>: Multi-stage Zone-reaction Model for the Gaseous Reduction of Porous Hematite Pellets, Tetsu-to-Hagané (in Japanese), <u>68</u>(1982)6, pp.592 – 601.
- (19) Munekazu Ohmi, Masaaki Naito and <u>Tateo Usui</u>: Effects of Various Factors on the Reduction Rate of Hematite Pellets with Hydrogen, Tetsu-to-Hagané (in Japanese), <u>68</u>(1982)10, pp.1503 – 1512.
- (20) Munekazu Ohmi, Masaaki Naito and <u>Tateo Usui</u>: Multi-stage Zone-reaction Model with Solid-state Diffusion for the Hydrogen Reduction of Porous Hematite Pellets, Tetsu-to-Hagané (in Japanese), <u>69</u>(1983)3, pp.363 – 370.
- (21) Munekazu Ohmi, Masaaki Naito and <u>Tateo Usui</u>: Kinetic Analysis of Hydrogen Reduction of Various Hematite Pellets on the Basis of the Multi-stage Zonereaction Models, Tetsu-to-Hagané (in Japanese), <u>69</u>(1983)6, pp.546 – 555.
- (22) Munekazu Ohmi, Susumu Kyomen and <u>Tateo Usui</u>: Numerical Analysis of Transient Turbulent Flow in a Liquid Line, Trans. JSME (in Japanese), <u>50B</u> (1984)457, pp.1995 – 2003; Bull. JSME, <u>28</u>(1985)239, pp.799 – 806.
- (23) <u>Tateo Usui</u>, 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), <u>72</u>(1986)9, pp.1263 – 1270; ISIJ International, <u>30</u>(1990)5, pp.347 – 355.
- (24) <u>Tateo Usui</u>, Munekazu Ohmi, Shigeaki Hirashima and Nobukazu Kitagawa: Kinetic Analysis on the Rate of Stepwise Reduction of a Single Sinter with CO-CO₂-N₂ Gas Mixture, Tetsu-to-Hagané (in Japanese), <u>73</u>(1987)15, pp.1956 – 1963.
- (25) <u>Tateo Usui</u>, 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 $CO-CO_2-N_2$ Gas Mixture, ISIJ International, <u>31</u>(1991)5, pp.425 – 433.

- (26) <u>Tateo Usui</u>, Hirotoshi Kawabata, Shigeo Matsubara, Hiroshi Fukasaku, Takeshi Mizutani and Zen-ichiro Morita: Effect of Pulsating Flow on Mass Transfer in Packed Bed under Fe³⁺ iron Particle System, Tetsu-to-Hagané (in Japanese), <u>77</u>(1991)7, pp.913 920; ISIJ International, <u>33</u>(1993)12, pp.1203 1210.
- (27) <u>Tateo Usui</u>, Munekazu Ohmi, Nobukazu Kitagawa, Shinji Kaneda, Hirotoshi Kawabata and Zen-ichiro Morita: Change of Sinter Minerals and Final Fractional Reduction in the Reduction Stage from Hematite to Magnetite with CO-CO₂-N₂ Gas Mixture, Tetsu-to-Hagané (in Japanese), <u>77</u>(1991)8, pp.1251 – 1258.
- (28) <u>Tateo Usui</u>, Hirotoshi 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 CO-CO₂-N₂ Gas Mixture, Tetsu-to-Hagané (in Japanese), <u>78</u>(1992)7, pp.982 – 989.
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- (30) <u>Tateo Usui</u>, Koji Masamori, Hirotoshi 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, <u>33</u>(1993)6, pp.687 – 696.
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- (32) Susumu Kyomen, <u>Tateo Usui</u>, Michio Fukawa and Munekazu Ohmi: Combined

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- (33) Susumu Kyomen and <u>Tateo Usui</u>: Flow Patterns of Laminar Decelerating Pipe Flows, Trans. JSME (in Japanese), <u>62</u>(1996)593, pp.57 – 64.
- (34) <u>Tateo USUI</u>, Hirotoshi 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, Tetsuto-Hagané (in Japanese), <u>82</u>(1996)11, pp.899 – 904.
- (35) Takahiro Nomura, Susumu Kyomen, <u>Tateo Usui</u> and Michio Fukawa: Occurrence of Additional Vortices in Horizontal Rectangular Ducts with Secondary Flow, Turbomachinery (in Japanese), <u>25</u>(1997)2, pp.97 – 106.
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- (37) Hideki Ono-Nakazato, Daigo Miyata, Keishi Tamura and <u>Tateo Usui</u>: Measurement and Calculation of Nitrogen Removal Rate from Molten Iron to Gas Phase through CaO-Al₂O₃ Melts, ISIJ International, <u>40</u>(2000), Supplement, pp.S106 – S109.
- (38) Hideki Ono-Nakazato, Yukiyo Morita, Keishi Tamura, <u>Tateo Usui</u> and Katsukiyo Marukawa: Oxidation Behavior of Silicon and Carbon in Molten Iron-Carbon-Silicon Alloys with Carbon Dioxide, ISIJ International, <u>41</u>(2001), Supplement, pp.S61 – S65.
- (39) Hideki Ono-Nakazato, Youhei Tsubone, Yoshiyuki Takaki and <u>Tateo Usui</u>: Measurement of Hydrogen Reduction Rates of FeO in 2FeO.SiO₂ and CaO.FeO.SiO₂, Tetsu-to-Hagané (in Japanese), <u>87</u>(2001)5, pp.320 – 326.

- (40) Hideki Ono-Nakazato, Kenji Taguchi, Keishi Tamura, Yuuji Tomatsu and <u>Tateo</u> <u>Usui</u>: Determination of Standard Gibbs Energies of Formation of Cr₂N and CrN, Metallurgical and Materials Transactions B, <u>32B</u>(2001) December, pp.1113 – 1118.
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- (42) Hideki Ono-Nakazato, Akitoshi Matsui and <u>Tateo Usui</u>: Nitrogen Dissociation Rate at Solid Surface of Ferrous Alloys, ISIJ International, <u>42</u>(2002)3, pp.229 – 234.
- (43) <u>Tateo Usui</u>, Hirotoshi Kawabata, Hideki Ono-Nakazato and Atsushi Kurosaka: Fundamental Experiments on the H₂ Gas Injection into the Lower Part of a Blast Furnace Shaft, ISIJ International, <u>42</u>(2002), Supplement, pp.S14 – S18.
- (44) Hideki Ono-Nakazato, Youhei Tsubone and <u>Tateo Usui</u>: Gaseous Reduction Behavior of Powdered Iron Ore Sinter and Analysis on the Basis of Rist Model for Fixed Bed, ISIJ International, <u>42</u>(2002)5, pp.482 – 488.
- (45) Hideki Ono-Nakazato, Chikahito Sugahara, and <u>Tateo Usui</u>: Effect of Slag Components on Reducibility and Melt Formation of Iron Ore Sinter, ISIJ International, <u>42</u>(2002)5, pp.558 – 560.
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- (47) Hirotoshi Kawabata, <u>Tateo Usui</u>, 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), <u>13</u>(2002)4, pp.184 – 192.
- (48) Hideki Ono-Nakazato, Tomotsugu Koyama and Tateo Usui: Effect of Surface

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- (49) Hirotoshi Kawabata, <u>Tateo Usui</u>, Katsukiyo Marukawa, Toshihiro Tanaka and Hideki Ono-Nakazato: Mechanism of Dioxins/Furans Formation at High Temperature in Combustion Prosesses, ISIJ International, <u>43</u>(2003)3, pp.461 – 467.
- (50) Hideki Ono-Nakazato, Toshinari Yonezawa and <u>Tateo Usui</u>: Effect of CaO Addition on the Reducibility of FeO-SiO₂ Based Slag Powder, Tetsu-to-Hagané (in Japanese), <u>89</u> (2003)5, pp.559 – 564.
- (51) Hideki Ono-Nakazato, Akitoshi Matsui, Daigo Miyata and <u>Tateo Usui</u>: Effect of Aluminum, Titanium or Silicon Addition on Nitrogen Removal from Molten Iron, ISIJ International, <u>43</u>(2003)7, pp.975 – 982.
- (52) Hideki Ono-Nakazato, Kenji Taguchi and <u>Tateo Usui</u>: Estimation of the Evaporation Rate of Copper and Tin from Molten Iron-Silicon Alloy, ISIJ International, <u>43</u>(2003)7, pp.1105 – 1107.
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- (54) Hideki Ono-Nakazato, Toshinari Yonezawa and <u>Tateo Usui</u>: Effect of Water-Gas Shift Reaction on Reduction of Iron Oxide Powder Packed Bed with H₂-CO Mixtures, ISIJ International, <u>43</u>(2003)10, pp.1502 – 1511.
- (55) Hideki Ono-Nakazato, Kenji Taguchi, Yutaka.Seike and <u>Tateo Usui</u>: Effect of Silicon and Carbon on the Evaporation Rate of Copper in Molten Iron, ISIJ International, <u>43</u>(2003)11, pp.1691 – 1697.
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- (57) Hideki ONO-NAKAZATO, Hiroyuki TAJIRI, <u>Tateo Usui</u>, Toshihiro TANAKA and Katsukiyo MARUKAWA: Rate Enhancement of the Degassing Reaction by the Enlargement of RH and DH Reactors, Tetsu-to-Hagané (in Japanese), <u>89</u> (2003) 11, pp.1113 – 1119.
- (58) Kenji Taguchi, Hideki Ono-Nakazato, <u>Tateo Usui</u> and Katsukiyo Marukawa: Desiliconization and Decarburization Behavior of Molten Fe-C-Si (-S) Alloy with CO₂ and O₂, Metallurgical and Materials Transactions B, <u>34B</u>(2003) December, pp.861 – 867.
- (59) Masashi NAKAMOTO, Hideki ONO-NAKAZATO, Hirotoshi KAWABATA and <u>Tateo Usui</u>: Reduction Behavior of Wustite Compact with Pore Blockade by Liquid Slag, Tetsu-to-Hagané (in Japanese), <u>90</u>(2004)1, pp.1 – 8.
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- (61) Hirotoshi Kawabata, <u>Tateo Usui</u>, 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, <u>51</u>(2004)1, pp.56 – 60.
- (62) Hideki ONO-NAKAZATO, Toshihiro TANAKA, Atsushi OKAMOTO, Michimasa AONO, <u>Tateo Usui</u>, Shinichiro YOKOYA and Shigeta HARA: Effect of Funnel Angle and Wettability on Swirling Flow of Liquid in the Funnel, Tetsu-to-Hagané (in Japanese), <u>90</u>(2004)6, pp.306 – 311.
- (63) Kenji Taguchi, Hideki Ono-Nakazato and <u>Tateo Usui</u>: Enhancement of Evaporation Removal Rate of Copper by the Silicon and / or Carbon Additions,

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- (67) Hideki Ono-Nakazato, Kouji Okada and <u>Tateo Usui</u>: Effects of Slag Content and Composition on the Reducibility of Iron Oxide Including CaO-SiO₂-Fe_tO Slag, ISIJ International, <u>45</u>(2005)4, pp.569 – 573; Tetsu-to-Hagané (in Japanese), <u>92</u>(2006)9, pp.539 – 543.
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