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Curriculum Vitae

JUN-ICHIRO YAGI

Professor Emeritus of Tohoku University

2-1-1, Katahira, Aoba-ku, Sendai, Japan

BORN : May 8, 1941
Matsuyama City, Japan

NATIONALITY : Japan

HOME ADDRESS : 7-28, Oritate, 5-chome, Aoba-ku, Sendai,
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EDUCATION :

University and Year :	Degree
Graduated from Nagoya University, Department of Metallurgical Engineering, 1964	B. Eng.
Graduated from Master Course of Metallurgical Engineering Nagoya University, 1966	M. Eng.
Graduated from Ph.D. Course of Metallurgical Engineering Nagoya University, 1969	D. Eng.

EXPERIENCE:

1) Research Institute of Mineral Dressing and Metallurgy, Tohoku University; Assistant (Research Associate), 1969.4-1969.9; Lecturer, 1969.10-1971.6; Assistant Professor, 1971.7-1983.7
2) Professor of Metallurgical Engineering Lab., Research Institute of Mineral Dressing and Metallurgy, Tohoku University, 1983.8-1992.3
3) Professor of System Engineering Lab., Institute for Advanced Materials Processing, Tohoku University, 1992.4-2001.3
4) Professor of Physical Process Control Lab., Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, 2001.4-2005.3
5) Tohoku university board member, 1993.10-1996.3
6) Retired from Professor of Tohoku University, 2005.3
7) Professor Emeritus of Tohoku University, 2005.4-present
8) State University of New York at Buffalo, Department of Chemical Engineering, Post Doctoral Research Fellow in Prof. Julian Szekely's Lab., 1975.9-1976.8
9) Visiting Professor at Technical University Kosice, Slovak, 1992.10-11
10) Professor Emeritus in Northeastern University, Shenyang, China, 1994.4-present
11) Visiting Professor at The University of Sao Paulo, Brazil, 1998.4-5 & 2005.8-11
12) Visiting Professor at Chongqing University, Chongqing, China, 2004.4, 2008.5, 2009.5
13) Visiting Professor at The University of New South Wales, Sydney, Australia, 2006.3-5, 2007.9-12, & 2009.10-2010.1
14) Visiting Professor at Prince of Songkla University, Hatyai, Thailand, 2006.7-2007.1
15) Visiting Professor at Korea Advanced Institute of Science and Technology, Daejeon, Korea, 2007.3- 8, 2009.6-7, 2010.9
16) Visiting Professor at International Islamic University Malaysia, Kuala Lumpur, Malaysia, 2009.2
17) Visiting Professor at National Tainan University, Tainan, Taiwan, 2010.2
18) Visiting Professor at University of Science and Technology Beijing, Beijing, China 2011.10

MEMBERSHIPS and SOCIAL ACTIVITIES:

1. Iron and Steel Institute of Japan
   Director of ISIJ, 1993-1995, 1997-1999
   Councilor of ISIJ, 1995-1997
   Inspector of ISIJ, 2003-2005
   Chairman of the Research Committee on Transport Phenomena in Gas-Solid-Liquid Packed Beds, 1989-1992
   Chairman of the Research Committee on Transport Phenomena of Four Fluids, 1993-1996
   Chairman of the Research Committee on Enhanced Processing Technology in the Lower Part of Blast Furnace, 1997-2000
   Vice Chairman of the Research Committee on Control of Phenomena Limiting Blast Furnace Operation for Reduction of Carbon Dioxide Emission, 2002-2005
   Chairman of High Temperature Process Division of ISIJ, 1997-1999
   Chairman of Ironmaking Process Forum, 1995-1997
   Chairman of China-Japan Symposium, 1995-1999
   Chairman (and Coordinator-Japanese side) of (1^{st}-5^{th}) Brazil-Japan Symposium on Dust Processing-Energy-Environment in Metallurgical Industries, 1999-2005
   Editorial Board Member of Tetsu to Hagane, 1985-1991
   Editorial Board Member of ISIJ International, 1992-1995
2. The Japan Institute for Metals
   Councilor of JIM, 1995-2005
   Member of Editorial Board of Trans. JIM, 1993-2005
   Chairman of Tohoku Branch, 1999-2001
3. The Society of Chemical Engineers Japan (Member), 1966 ~2005
4. Mining and Materials Processing Institute of Japan (Member), 1975 ~2005
5. Japan Society of Energy and Resources (Member), ~2005
6. Japan Research Association of Combustion Synthesis (Member), ~2005
7. Japan Society for Promotion of Science
   Chairman of 54th Committee of Ironmaking, 1998-2002
   Vice Chairman of 54th Committee of Ironmaking, 1993-1998
   Member, 1985-2007
8. Japan Research and Development Center for Metals

Councilor of JRCM, 2000-2002
Chairman of the Committee on EAF Dust Processing, 1999-2003

9. Energy Conservation Center
Chairman of the Committee on Energy System Utilizing Iron Carbide, 2001-2004

AWARDS:

1) Incentive Award (1971) from Research Institute for Metals, Tohoku Univ.
2) Nishiyama Memorial Award (1979) from The Iron and Steel Institute of Japan
3) Scientific Contribution Award (1986) from Japan Institute of Metals
4) Yamaoka Award (1986) from The Iron and Steel Institute of Japan (This Award was given to Research Project on Reactions in Blast Furnace, J. Yagi, Secretorial member)
5) Yamaoka Award (1993) from The Iron and Steel Institute of Japan (This Award was provided to Research Committee on Transport Phenomena in Gas-Solid-Liquid Packed Beds, J. Yagi, Chairman)
6) Yamaoka Award (1995) from The Iron and Steel Institute of Japan (This award was provided to Committee on Future Technology of Ironmaking in Japan, J. Yagi, Member)
7) Tawara-Best Paper Award (1997) from The Iron and Steel Institute of Japan
8) Significant Scientific Contribution Award (1998); from The Iron and Steel Institute of Japan
9) Distinguished Contribution Award (2003); from 54th Committee of Japan Society for Promotion of Science
10) Award for Contribution of Scientific Exchange between Brazil and Japan (2004) from The University of Sao Paulo with 5 the other Brazilian Universities.
11) Institutional Award (Nishiyama Prize) (2006) from The Iron and Steel Institute of Japan
12) ICSTI Honor Citation (2012) at 6-th International Congress of Science and Technology of Ironmaking Organized by Brazilian Metallurgical, Materials & Mining Association
13) Honorable Member(2014) of The Iron and Steel Institute of Japan

RESEARCH FIELDS

High Temperature Process Engineering, Transport Phenomena, Ironmaking Processes, Reduction of CO2 Emission, Waste Materials Processing, Recovery of Thermal Energy, Combustion Synthesis

ACADEMIC PRODUCTION:

No. of Original Articles in Journals: 202
No. of Articles in Proceedings & Lectures: 200
No. of Books or Chapters of Books: 14
No. of Review Papers: 46
No. of Patents: 8
No. of Doctors (PhD) Graduated (Supervised) 25
No. of Masters (MD) Graduated (Supervised) 36

LIST OF PUBLICATIONS SELECTED

A) Recent Works

1. Formation of Vertically Inverse Pressure Distribution Due to Packing Structure of Near Wall Region of Blast Furnace
   Muneyuki KAMATA, Kenji KUMAGAI, Hideki KAWAI, Jun SUZUKI, Jun-ichiro YAGI, Shinroku MATSUZAKI and Hiroshi NOGAMI
   ISIJ International, Vol.55 (2015), No.6, pp.1327-1335
2. Measurement of Three-Dimensional Raceway Structure in Small Scale Cold Model by X-ray Computed Tomography (in Japanese)
   Hiroshi NOGAMI, Hideki KAWAI, Jun-ichiro YAGI
   Tetsu-to-Hagane, Vol. 100 (2014), No.2, pp.256-261
3. Analysis of the Combined Injection of Pulverized Coal and Charcoal into Large Blast Furnace
   Jose Adilson de Castro, Giselle de Mattos Araujo, Izabel de Oliveira da Mota, Yasushi Sasaki, Jun-ichiro Yagi
   Journal of Materials Research and Technology, Vol.2 (2013), No.4, pp.308-314
4. Analysis of Synthetic Natural Gas Injection into Charcoal Blast Furnace
   Elisa Pinto da Rocha, Vagner Silva Guilherme, Jose Adilson de Castro, Yasushi Sazaki and Jun-ichiro Yagi
   Journal of Materials Research and Technology, Vol.2 (2013), No.3, pp.255-262
5. Mathematical Modeling and Exergy Analysis of Blast Furnace Operation with Natural Gas

Injection

Tong-Lai Guo, Man-Sheng Chu, Zheng-Gen Liu, Tue Tang and Jun-ichiro Yagi

Steel Research International, Vol.84 (2013), Issue 4, pp. 333-343

6. Three Dimensional Mathematical Model of the Iron Ore Sintering Process Based on Multiphase Theory

   Jose Adilson de Castro, Yasushi Sasaki and Jun-ichiro Yagi

   Materials Research (Ibero-american Journal of Materials), Vol.15 (2012), pp.848-858.

7. Mathematical Model of Blast Furnace: Progress and Application: Jun-ichiro Yagi (Keynote Lecture); International Congress on Science and Technology of Ironmaking, Rio de Janeiro, Brazil, proceeding of CD version, pp.1660-1674, October 15-18, 2012

8. Recent Progress and Future Perspective on Mathematical Modeling of Blast Furnace (Review Paper): Shigeru Ueda, Shungo Natsui, Hiroshi Nogami, Jun-ichiro Yagi and Tatsuro Ariyama ; ISIJ International, Vol.50 (2010), No.7, pp.914-923

9. Past Progress and Future Perspective of Mathematical Modeling on Ironmaking Processes (Keynote Lecture): J. Yagi, Proceedings, International Symposium of Mathematical Modeling on Ironmaking 2008, October 16-17, Tokyo; Proceedings, pp.1-9

10. Modelling of Multiphase Flow in a Blast Furnace: Recent Developments and Future Work (Review Paper): Xuefeng Dong, Aibing Yu, Jun-ichiro Yagi and Paul Zulli; ISIJ International, Vol. 47(2007), No.11, pp.1553-1570

11. Modelling on Blast Furnace Process and Innovative Ironmaking Technologies (Book with 247pages), Coauthors, Mansheng Chu, Jun-ichiro Yagi and Fengman Shen, Northeastern University Press (2006.12)

B) Blast Furnace Modeling

1 Three Dimensional Mathematical Model of the Iron Ore Sintering Process Based on Multiphase Theory

   Jose Adilson de Castro, Yasushi Sasaki and Jun-ichiro Yagi

   Materials Research (Ibero-american Journal of Materials), Vol.15 (2012), pp.848-858

2 Prediction of Pre-reduction Shaft Furnace with Top Gas Recycling Technology Aiming to Cut Down CO_2 Emission

   Shengli WU, Jian Xu, Jun-ichiro YAGI, Xinying GUO and Lihua ZHANG

   ISIJ International, Vol. 51 (2011), No.8, pp.1344-1352

3 Fundamental Study on Carbon Composite Iron Ore Hot Briquette Used as blast Furnace Burden

   Chu Man-sheng, Liu Zheng-gen, Wang Zhao-cai, and Yagi Jun-ichiro

   Steel Research International, 82(2011), No.5, pp.521-528

4 A Six-phases 3-D Model to Study Simultaneous Injection of High Rates of Pulverized Coal and Charcoal into the Blast Furnace with Oxygen Enrichment

Jose Adilson de Castro, Alexandre Jose da Silva, Yasushi Sasaki and Jun-ichiro Yagi
ISIJ International, Vol. 51 (2011), No.5, pp.748-758

5 Dripping Liquid Metal Flow in the Lower Part of a Blast Furnace
Hongjong Jin, Sangmin Choi, Jun-ichiro Yagi and Jinkyung Chung
ISIJ International, Vol. 50 (2010), No.7, pp.1023-1031

6 Numerical Modeling of Reaction and Flow Characteristics in a Blast Furnace with Consideration of Layered Burden
Kwangheok Yang, Sangmin Choi, Jinkyung Chung and Jun-ichiro Yagi
ISIJ International, Vol.50 (2010), No.7, pp. 972-980

7. Numerical Analysis of Static Holdup of Fine Particles in Blast Furnace: S. Pintowantoro, H. Nogami and J. Yagi: ISIJ International, Vol.44 (2004), No.2, pp.304-309

8. Numerical Investigation on Effects of Deadman Structure and Powder Properties on Gas and Powder Flows in Lower Part of Blast Furnace: H. Nogami, P. R. Austin, J. Yagi and K. Yamaguchi: ISIJ International, Vol.44 (2004), No.3, pp.500-509

9 Numerical Analysis on Charging Carbon Composite Agglomerates into Blast Furnace: M. Chu, H. Nogami and J. Yagi: ISIJ International, Vol.44 (2004), No.3, pp.510-517

10 Effects of Volatile Matter of Pulverized Coal on Reducing Agents Rate of Blast Furnace and Combustion Behavior of Coal Mixture: K. Kunitomo, T. Orimoto, T. Nishimura, M. Naito and J. Yagi: Tetsu-to-Hagane, Vol. 90(2004), No.4, pp.190-197

11 Numerical Analysis on Injection of Hydrogen Bearing Materials into Blast Furnace: M. Chu, H. Nogami and J. Yagi: ISIJ International, Vol.44 (2004), No.5, pp.801-808

12 An Application of Bingham Model to Viscous Fluid Modeling of Solid Flow in Moving Bed: H. Nogami and J. Yagi: ISIJ International, Vol.44 (2004), No.11, pp.1826-1834

13 Numerical Analysis on Blast Furnace Performance by Multi-Dimensional Transient Simulator Based on Multi-Fluid Theory: H. Nogami, M. Chu and J. Yagi: Applied Mathematical Modelling, Vol.30(2006), PP.1212-1228

14 Cold-model Experiments on Deadman Renewal Rate due to Sink-Float Motion of Hearth Coke Bed: H. Nogami, K. Toda, S. Pintowantoro and J. Yagi: ISIJ International, Vol.44 (2004), No.12, pp.2127-2133

15 Numerical Analysis on Blast Furnace Performance under Operation with Top Gas Recycling and Carbon Composite Agglomerates Charging: M. Chu, H. Nogami and J. Yagi: ISIJ International, Vol.44 (2004), No.12, pp.2159-2167

16 Effect of Solution Loss Reaction on Coke Degradation Rate under Sheer Stress: H. Nogami, M. Takatoku and J. Yagi: ISIJ International, Vol.44 (2004), No.12, pp.2144-2149

17 Progressos recentes no modelamento matematico do alto-forno: M. Chu, H. Nogami and J. Yagi: Metalurgia & Materiais, Vol.59 (2003), No.539, pp.709-712

18 Three-Dimensional Multiphase Mathematical Modeling of the Blast Furnace Based on the

Multi-fluid Model: J. A. Castro, H. Nogami and J. Yagi: ISIJ International, Vol.42 (2002), No.1, pp.44-52

19 Numerical Investigation of Simultaneous Injection of Pulverized Coal and Natural Gas with Oxygen Enrichment to the Blast Furnace: J. A. Castro, H. Nogami and J. Yagi: ISIJ International, Vol.42 (2002), No.11, pp.1203-1211

20 Numerical Analysis of Multiple Injection of Pulverized Coal, Reproduced Iron Ore and Flux with Oxygen Enrichment to the Blast Furnace: J. A. Castro, H. Nogami and J. Yagi: ISIJ International, Vol. 41 (2001), No. 1(January), pp. 18-24

21 Validation of a Blast Furnace Solid Flow Model Using Reliable 3-D Experimental Results: S. A. Zaimi, T. Akiyama, J. B. Guillot and J. Yagi: ISIJ International, Vol. 40 (2000), No. 4, pp. 332-341

22 Sophisticated Multi-phase Multi-flow Modeling of the Blast Furnace: S. A. Zaimi, T. Akiyama, J. B. Guillot and J. Yagi: ISIJ International, Vol. 40 (2000), No. 4, pp. 322-331

23 Transient Mathematical Model of Blast Furnace Based on Multi-fluid Concept, with Application to High PCI Operation: J. A. Castro, H. Nogami and J. Yagi: ISIJ International, Vol. 40 (2000), No. 7, pp. 637-646

24 Analysis of Actual Blast Furnance Operations and Evaluation of Static Liquid Holdup Effects by the Four Fluid Model: P. R. Austin, H. Nogami and J. Yagi: ISIJ International, Vol. 38 (1998), No. 3, pp. 246-255

25 Prediction of Blast furnace Performance with Top Gas Recycling: P. R. Austin, H. Nogami and J. Yagi: ISIJ International, Vol. 38 (1998), No. 3, pp. 239-245

26 Computational Investigation of Scrap Charging to the Blast Furnace: P. R. Austin, H. Nogami and J. Yagi: ISIJ International, Vol. 38 (1998), No. 7, pp. 697-703

27 A Mathematical Model for Blast Furnace Reaction Nalysis Based on the Four Fluid Model: P.R. Austin, H. Nogami and J. Yagi: ISIJ Inter., vol.37, (1997), pp.748-755

28 A Mathematical Model of Four Phase Motion and Heat Transfer in the Blast Furnace: P.R. Austin, H. Nogami and J. Yagi: ISIJ Inter., vol.37, (1997), pp.458-467

29 Theoretical Estimations on the Longitudinal Distribution of Process Variables in Blast Furnace and on its Productivity: J. Yagi and I. Muchi: Trans. Iron & Steel Inst. Japan, vol.10 (1970), No.4, pp.392-405

C) Scrap Melting

30 Numerical Simulation on High-temperature Gasification and Melting Furnace for Solid Waste: X. Liang, H. Nogami, J. Yagi, S. Isozaki and T. Matsudaira: Tetsu-to-Hagane, Vol. 90 (2004), No.2, pp.29-35

31 Mathematical Model of the Over-micron and Nano-scale Powders Accumulation in a Coke Fixed-Bed Filter: M. A. Ribas, H. Nogami, R. Takahashi and J. Yagi: ISIJ International, (2004)

32 Characterizing and Modeling Filtration in a Granular Coke Bed: M. Furuuchi, C. Kanaoka, M.

Hata, Y. Kawaminami, R. Takahashi, J. Yagi and R. Takehama: Ceram. Trans., 146(2004), in print

33 Recovery of Magnetite from Leached Laterite-residue by Magnetic Separation: H. Purwanto, B. Jeyadevan, R. Takahashi and J. Yagi: ISIJ International, Vol.43 (2003), No.12, pp.1919-1926

34 Lowering of Grinding Energy and Enhancement of Agglomerate Strength by Dehydration of Indonesian Laterite Ore: H. Purwanto, T. Shimada, R. Takahashi and J. Yagi: ISIJ International, Vol.42 (2002), No.3, pp.243-247

35 Numerical Simulation of the Moving Bed Furnace for Iron Scrap Melting: X. Zhang, R. Takahashi, H. Nogami and J. Yagi: ISIJ International, Vol.42 (2002), Supplement, pp.S23-S27

36 Numerical Simulation of the Moving Bed Furnace for Iron Scrap Melting: X. Zhang, R. Takahashi, H. Nogami and J. Yagi: ISIJ International, Vol. 42 (2002), Supplement, pp. S23-S27

37 Reduction rate of cement bonded laterite briquette with CO-CO_2gas: H. Purwanto, T. Shimada, R. Takahashi and J. Yagi: ISIJ International, Vol. 41 (2001), Supplement (March), pp. s31-s36

38 Numerical Analysis of Multi-Smelter for Melting Metal Waste: X. Zhang, R. Takahashi and J. Yagi: Materials Transactions, Vol. 42, No. 12 December (2001), pp. 2449-2505

39 Numerical Analysis of Moving Bed Reactor for Iron Scrap Melting: J. Yagi, R. Takahashi, T. Akiyama and X. Zhang: Proc. of the Julian Szekely Memorial Symp. on Material Processing, (1997), pp.83-100

40 Carburization Rate into Solid Iron at CO-CO_2 Atmosphere: X. Zhang, R. Takahashi, T. Akiyama and J. Yagi: Tetsu-to-Hagane, vol.83, (1997), pp.299-304

41 Fluid Flow and Heat Transfer Analysis of Iron Scrap Melting in a Coke Moving Bed: J. Yagi, R. Takahashi, T. Akiyama, X. Zhang and M. Niu: The Fifth Asian Conference on Fluidized-Bed and Three-Phase Reactors: (1997), pp.394-399

42 Heat Transfer in Iron Scrap Melting Process: H. Nogami, T. Akiyama, R. Takahashi and J. Yagi: Proc. 5th World Congress of Chemical Engineering, San Diego, vol.1, (1996), 566-570

D) Exergy Analysis

43 Exergy Analysis of Charcoal Charging Operation of Blast Furnace: H. Nogami, J. Yagi and R.S.Sanpaio: ISIJ International, Vol.44 (2004), No.10, pp.1646-1652

44 Methodology to Evaluate Reduction Limit of Carbon Dioxide Emission and Minimum Exergy Consumption for Ironmaking: T. Akiyama and J. Yagi: ISIJ International, Vol. 38 (1998), No. 8, pp. 896-903

45 Methodology to evaluate reduction limit of carbon dioxide emission and minimum exergy consumption for ironmaking: T. Akiyama and J. Yagi: ISIJ Inter., Vol.38 (1998), No.8, pp.896-903

46 Exergy Analysis of Methanol Production System: S. Machida, T. Akiyama and J. Yagi: J. Chem. Eng. Japan, Vol.24, No.3, (1998), 462-470

47 Mathematical Analysis on Exergy Consumption and Carbon Dioxide Discharge in Ironmaking Systems: 10th PTD Conference Proceedings ISS-AIME. (1992), pp.99-107

E) Recovery and Utilization of Waste Thermal Energy

48 Feasibility Study of Hydrogen Generator with Molten Slag Granulation: T. Akiyama, T. Mizouchi, J. Yagi and H. Nogami: Steel Research International, Vol.75 (2004), No.2, pp.122-127

49 Development of PCM for Recovering High Temperature Waste Heat and Utilization for Producing Hydrogen by Reforming Reaction of Methane: N. Maruoka, K. Sato, J. Yagi and T. Akiyama: ISIJ International, Vol.42 (2002), No.2, pp.215-219

50 Thermodynamic Analysis of Thermochemical Recovery of High Temperature Wastes: T. Akiyama, K. Oikawa, T. Shimada, E. Kasai and J. Yagi: ISIJ International, Vol. 40 (2000), No. 3, pp. 286-291

51 Encapsulation of phase Change Materials for Storage of High Temperature Waste Heat: T. Akiyama and J. Yagi: HIGH TEMPERATURE MATERIALS AND PROCESSES Vol.19 Nos. 3-4, (2000), pp. 219-222

52 Observation of Molten Slag Surface under Gas Impingement X-ray Computed Tomography: T. Shimada, T. Akiyama, E. Kasai and J. Yagi: ISIJ International, Vol. 40 (2000), No. 10, pp. 958-963

F) Reduction of CO_2 Emission & Methanol Synthesis

53 Development of $Cu/ZnO/Al_2O_3$ Catalyst for Dimethyl Ether Synthesis form $CO\text{-}CO_2\text{-}H_2$ Mixture: T. Akiyama, S. Machida, H. Sato, A. Muramatsu and J. Yagi: ISIJ International, Vol. 38 (1998), No. 1, pp. 93-97

54 Effect of Dimethy1 Ether Synthesis on Methanol-and Iron-making Integrated System: T. Akiyama, S.Machida and J. Yagi: ISIJ International, Vol. 38 (1998), No. 10, pp. 1140-1146

55 Rate of Methane-Steam Reforming Reaction on the Surface of Molten BF Slag-for Heat Recovery from Molten Slag by Using a Chemical Reaction-.: E. Kasai, T. Kitajima, T. Akiyama, J. Yagi and F. Saito: ISIJ Inter., 10, (1997), pp.1031-1036

56 Formation of Methanol and Dimethyl Ether from a Model Gas of Blast Furnace By-product Gas: H. Sato, A. Muramatsu, T. Akiyma and J. Yagi: Sekiyu Gakkaishi, vol.40, (1997), pp.427-732

57 Direct Conversion of Blast Furnace Gas to Dimethyl Ether over Cu- $ZnO\text{-}Ga_2O_3/g\text{-}Al_2O_3$ Hybrid Catalyst: Optimum Mass Ratio of the Catalyst: S. Machida, T. Akiyama, A. Muramatsu and J. Yagi: ISIJ Inter., vol.37, (1997), pp.531-535

G) Self-Propagating High Temperature Synthesis

58 Activity and capacity of hydrogen storage alloy $Mg_2\ NiH_4$ produced by hydrating combustion

synthesis: L. Li, T. Akiyama, J. Yagi: Journal of Alloys and Compounds 316(2001), pp. 118-123

59 Operating Conditions for Hydriding Combustion Synthesis of Pure Mg_2NiH_4: T. Akiyama, T. Negishi, K. Saito, L. Li and J. Yagi: Materials Transactions, Vol. 42 (2001), No. 8, pp. 1748-1752

60 Activation behaviors of Mg_2NiH_4 at different hydrogen pressures in hydriding combustion synthesis: L. Li, T. Akiyama, J. Yagi: International Journal of Hydrogen Energy 26 (2001), pp. 1035-1040

61 Hydrogen storage alloy of Mg_2NiH_4 hydride produced by hydriding combustion synthesis from powder of mixture metal: L. Li, T. Akiyama, J. Yagi: Journal of Alloys and Compounds 308(2000), pp. 98-103

62 Production of Hydrogen Storage Alloy of Mg_2NiH_4 by Hydriding Combustion Synthesis in Laboratory Scale: L. Li, T. Akiyama, and J. Yagi: Journal of Materials Synthesis and Processing, Vol. 8, No. 1, 2000, pp. 7-14

63 Reaction mechanism of hydriding combustion synthesis of Mg_2NiH_4: L. Li, T. Akiyama, and J. Yagi: Intermetallics Vol.7, No.6 (1999), pp.671-677

64 Hydriding and dehydriding behavior of the product in hydriding combustion synthesisi of Mg_2NiH_4: L. Li, T.Akiyama, T.Kabutomori, T.Terao, and J.Yagi: Journal of Alloys And Compounds 287(1999), pp. 98-103

65 Morphology of a Combustion-Synthesized Intermetallic Compound: T. Akiyama, H. Kohno, and J. Yagi: Internarional Journal of Self-Propagating High- Temperature Synthesis Vol.8, No.2 (1999)

66 Effects of Hydrogen Pressure and Cooling Rate on the Hydriding Combustion Synthesis of Mg_2NiH_4 studied by Thermogravimetry and X-ray Diffraction: L. Li, T. Akiyama, T. Kabutomori and J. Yagi: Materials Transactions, JIM, Vol.40, No.10, October, (1999) pp. 1079-1083

67 Mathematical Model of Combustion Synthesis: T. Akiyama, H. Isogai and J. Yagi: AIChE Journal, Vol. 44 (1998), No. 3, pp. 695-700

68 Reaction Rate of Combustion Synthesis of an Intermetallic Compound: T. Akiyama, H. Isogai and J. Yagi: Powder Technol, Vol. 95 (1998), No. 8, pp. 175-181

69 Reaction Kinetics of SHS of an Intermetallic Compound-Magnesium Nickel: T. Akiyama, H. Isogai and J. Yagi: Inter J. Self-Propagating High- Temp. Synthesis, Vol. 7 (1998), pp. 1140-1146

70 Effect of hydrogen pressure on the combustion synthesis of Mg_2NiH_4: L. Li, T. Akiyama and J. Yagi: Intermetallics, Vol. 7 (1998), No. 2, pp. 201-205

71 In Situ X-ray Diffraction Study of the Hydriding Combustion Synthesis of Mg_2NiH_4: Liquan Li, T. Akiyama, T. Kabutomori, K. Terao and J. Yagi: Journal of Alloys and Compounds 281(1998), pp. 175-180

72 Reaction Kinetics of SHS of an Intermetallic Compound-Magnesium Nickel: T. Akiyama, H. Isogai and J. Yagi, Int'l. J.SHS.vol.7, No.2(1998),pp161-172.

73 Thermal Conductivity during Combustion Synthesis of Hydrogen Storage Alloy: T. Akiyama , H. Kohno, H. Nogami, R. Takahashi and J. Yagi : Experimental Heat Transfer, Fluid Mechanics and Thermodynamics, (1997), pp.2567-2572

74 Encapsulation of Phase Change Material by Means of Electroplating: T. Akiyama and J. Yagi: J. Chem. Engr.Japan, vol.23, (1997), 591-593

75 Hydriding Combustion Synthesis for the Production of Hydrogen Storage Alloy: T. Akiyama, H. Isogai and J. Yagi: J. Alloys & Compd., vol.252, (1997), L1-L4

76 Morphology of Combustion-Synthesized Mg_2Ni: H. Kohno, T. Akiyama, S. Kobayashi and J. Yagi: J. Japan Inst. Metals, vol.61, (1997), pp.166-170

77 Kinetics of Hydrogen Absorption and Desorption of Magnesium Nickel Alloy: T. Akiyama, T. Tazaki, R. Takahashi and J. Yagi :Intermetallics,vol.4,(1996), pp.659-662

H) Laterite Processsing

78 Recovery of Magnetite from Leached Laterite-residue by Magnetic Separation
H. Purwanto, B. Jeyadevan, R. Takahashi and J. Yagi
ISIJ International, Vol.43 (2003), No.12, pp.1919-1926

79 Lowering of Grinding Energy and Enhancement of Agglomerate Strength by Dehydration of Indonesian Laterite Ore
H. Purwanto, T. Shimada, R. Takahashi and J. Yagi
ISIJ International, Vol.42 (2002), No.3, pp.243-247

80 Reduction Rate of Cement Bonded Laterite Briquette with CO-CO_2 Gas
H. Purwanto, T. Shimada, R. Takahashi and J. Yagi
ISIJ International, Vol.41 (2001), Supplement (March), pp.S31-S36