

Hiroki Miyaoka

List of Publications by Year in descending order

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126
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126
times ranked

1899
citing authors

#	ARTICLE	IF	CITATIONS
1	Room-Temperature Hydrogen Absorption of Ti with Robust Surface Coated by Hexagonal Boron Nitride. ACS Applied Energy Materials, 2022, 5, 951-957.	2.5	1
2	Improvement of Kinetics of Ammonia Synthesis at Ambient Pressure by the Chemical Looping Process of Lithium Hydride. Journal of Physical Chemistry C, 2022, 126, 2403-2409.	1.5	9
3	Systematic Study on Nitrogen Dissociation and Ammonia Synthesis by Lithium and Group 14 Element Alloys. ACS Applied Energy Materials, 2022, 5, 4765-4773.	2.5	8
4	Corrosion performance of carbide/nitride/oxide (C/N/O)-based reactor during thermochemical hydrogen production by Na redox reaction. Journal of Alloys and Compounds, 2022, , 165732.	2.8	0
5	Regeneration Process of Ammonia-Absorbed Zirconium Phosphate to Zirconium Phosphate. ACS Omega, 2022, 7, 20881-20885.	1.6	0
6	Synergetic NH ₃ absorption properties of the NaBH ₄ –LiBH ₄ mixed system. Chemical Communications, 2021, 57, 6003-6006.	2.2	1
7	Temperature rise of LaNi ₅ -based alloys by hydrogen adsorption. Chemical Communications, 2021, 57, 9374-9377.	2.2	6
8	Synthesis of Highly Activated Magnesium by Niobium and Tantalum Gel Oxide Catalyst. Materials Transactions, 2021, 62, 284-289.	0.4	2
9	Thermodynamic and Spectroscopic Analyses of Zirconium Phosphate-Absorbed Ammonia. Journal of Physical Chemistry C, 2021, 125, 3758-3763.	1.5	10
10	Hydrogen storage behavior of TiFe alloy activated by different methods. Materials Letters: X, 2021, 9, 100061.	0.3	5
11	Hydrogen Production via Thermochemical Water Splitting Process by Alkali Metal Redox Cycle. Nihon Enerugi Gakkaishi/Journal of the Japan Institute of Energy, 2021, 100, 29-44.	0.2	0
12	Catalytic Activities of Various Niobium Oxides for Hydrogen Absorption/Desorption Reactions of Magnesium. ACS Omega, 2021, 6, 23564-23569.	1.6	7
13	Development of Ca–Mg–H ₂ –ZrCl ₄ composite for hydrogen storage applications. International Journal of Hydrogen Energy, 2021, 46, 34362-34368.	3.8	3
14	Analysis of sodium generation by sodium oxide decomposition on corrosion resistance materials: a new approach towards sodium redox water-splitting cycle. RSC Advances, 2021, 11, 21017-21022.	1.7	3
15	Eutectic melting in x(2LiBH ₄ -MgH ₂) hydrogen storage system by the addition of KH. International Journal of Hydrogen Energy, 2020, 45, 17000-17005.	3.8	5
16	Understanding the mechanism of photochromism in double-layer metal oxide using X-ray photoelectron spectroscopy. Chemical Physics Letters, 2020, 739, 136973.	1.2	1
17	The catalytic effect of ZrCl ₄ on thermal dehydrogenation LiAlD ₄ . International Journal of Hydrogen Energy, 2020, 45, 14413-14417.	3.8	4
18	Proton-based solid acids for ammonia absorption in ammonia water. International Journal of Hydrogen Energy, 2020, 45, 22189-22194.	3.8	13

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19	Concentration-composition-isotherm for the ammonia absorption process of zirconium phosphate. RSC Advances, 2020, 10, 20882-20885.	1.7	8
20	Critical Temperature and Pressure Conditions of Degradation during Thermochemical Hydrogen Compression: A Case Study of V-Based Hydrogen Storage Alloy. Energies, 2020, 13, 2324.	1.6	7
21	Effective Factor on Catalysis of Niobium Oxide for Magnesium. ACS Omega, 2020, 5, 21906-21912.	1.6	10
22	Surface-Controlled Conversion of Ammonia Borane from Boron Nitride. Energies, 2020, 13, 5569.	1.6	3
23	Surface modification effects of graphite for selective hydrogen absorption by titanium at room temperature. Chemical Communications, 2020, 56, 7237-7240.	2.2	3
24	Pseudo catalytic ammonia synthesis by lithium-tin alloy. International Journal of Hydrogen Energy, 2020, 45, 6806-6812.	3.8	13
25	Vanadium Hydride as Conversion Type Negative Electrode for All-Solid-State Lithium-Ion-Battery. Materials Transactions, 2019, 60, 2183-2187.	0.4	8
26	Room-Temperature Hydrogen Absorption of Titanium with Surface Modification by Organic Solvents. Journal of Physical Chemistry C, 2019, 123, 19269-19274.	1.5	7
27	Synthesis of sodium-magnesium amidoborane by sodium amide: An investigation of functional properties for hydrogen/ammonia storage. Journal of Alloys and Compounds, 2019, 801, 645-650.	2.8	6
28	Hydrogen Sorption and Cyclic Compressor Performance of $V_{40}Ti_{21.5}Cr_{33.5}M_{5}O_{0.2}$ (M= Nb, Zr, Fe) Alloys. Nihon Enerugi Gakkaishi/Journal of the Japan Institute of Energy, 2019, 98, 157-164.		8
29	Hybrid nickel-metal hydride/hydrogen battery. International Journal of Hydrogen Energy, 2019, 44, 4263-4270.	3.8	36
30	<i>Operando</i> spectroscopic analyses for the ammonia absorption process of sodium borohydride. Chemical Communications, 2019, 55, 2150-2153.	2.2	4
31	Eutectic Phenomenon of LiNH ₂ -KH Composite in MH-NH ₃ Hydrogen Storage System. Molecules, 2019, 24, 1348.	1.7	5
32	Review on Ammonia Absorption Materials: Metal Hydrides, Halides, and Borohydrides. ACS Applied Energy Materials, 2018, 1, 232-242.	2.5	80
33	Study of cyclic performance of V-Ti-Cr alloys employed for hydrogen compressor. International Journal of Hydrogen Energy, 2018, 43, 2881-2889.	3.8	40
34	Doping effect of Nb species on hydrogen desorption properties of AlH ₃ . Journal of Alloys and Compounds, 2018, 734, 55-59.	2.8	23
35	Hydrogen Desorption Isobar Properties of $Ti_{1.1}CrMn$ at High Temperatures and Pressures. Materials Transactions, 2018, 59, 855-857.	0.4	5
36	Highly purified hydrogen production from ammonia for PEM fuel cell. International Journal of Hydrogen Energy, 2018, 43, 14486-14492.	3.8	76

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37	MgH ₂ @CoO: a conversion-type composite electrode for LiBH ₄ -based all-solid-state lithium ion batteries. RSC Advances, 2018, 8, 23468-23474.	1.7	24
38	Ammonia, a Switch for Controlling High Ionic Conductivity in Lithium Borohydride Ammoniates. Joule, 2018, 2, 1522-1533.	11.7	87
39	Micro-alloyed Mg ₂ Ni for better performance as negative electrode of Ni-MH battery and hydrogen storage. International Journal of Hydrogen Energy, 2017, 42, 5220-5226.	3.8	23
40	Thermal decomposition of sodium amide. International Journal of Hydrogen Energy, 2017, 42, 5213-5219.	3.8	12
41	Improved hydrogen release from magnesium borohydride by ZrCl ₄ additive. International Journal of Hydrogen Energy, 2017, 42, 22342-22347.	3.8	24
42	Synthesis, structural characterization, and hydrogen desorption properties of Na[Al(NH ₂) ₂ BH ₃] ₄ . International Journal of Hydrogen Energy, 2017, 42, 6173-6180.	3.8	8
43	Surface modification of MgH ₂ by ZrCl ₄ to tailor the reversible hydrogen storage performance. International Journal of Hydrogen Energy, 2017, 42, 6152-6159.	3.8	61
44	Synthesis, Characterization, and Structure of a Reduced Preyssler-type Polyoxometalate. Chemistry Letters, 2017, 46, 602-604.	0.7	14
45	Study on the thermal decomposition of NaBH ₄ catalyzed by ZrCl ₄ . International Journal of Hydrogen Energy, 2017, 42, 22432-22437.	3.8	37
46	Nitrogen Dissociation via Reaction with Lithium Alloys. ACS Omega, 2017, 2, 1081-1088.	1.6	18
47	Enhancement of hydrogen desorption kinetics in magnesium hydride by doping with lithium metatitanate. Journal of Alloys and Compounds, 2017, 711, 400-405.	2.8	57
48	How does TiF ₄ affect the decomposition of MgH ₂ and its complex variants? An XPS investigation. Journal of Materials Chemistry A, 2017, 5, 15543-15551.	5.2	65
49	Catalytic effect of bis (cyclopentadienyl) nickel II on the improvement of the hydrogenation-dehydrogenation of Mg-MgH ₂ system. International Journal of Hydrogen Energy, 2017, 42, 17178-17183.	3.8	16
50	Ammonia suppression during decomposition of sodium amide by the addition of metal hydride. International Journal of Hydrogen Energy, 2017, 42, 22388-22394.	3.8	7
51	Bulk-Type All-Solid-State Lithium-Ion Batteries: Remarkable Performances of a Carbon Nanofiber-Supported MgH ₂ Composite Electrode. ACS Applied Materials & Interfaces, 2017, 9, 2261-2266.	4.0	45
52	Development of Mg Li B based advanced material for onboard hydrogen storage solution. International Journal of Hydrogen Energy, 2017, 42, 3963-3970.	3.8	20
53	A new synthesis route of ammonia production through hydrolysis of metal Nitrides. International Journal of Hydrogen Energy, 2017, 42, 24897-24903.	3.8	30
54	Hydrogen Absorption/Desorption of LiH-KH Composite and Ammonia System. Materials Transactions, 2016, 57, 1215-1219.	0.4	3

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55	Electrochemical Performance of Titanium Hydride for Bulk-Type All-Solid-State Lithium-Ion Batteries. <i>Materials Transactions</i> , 2016, 57, 755-757.	0.4	31
56	Two-Peak Mystery of $\text{LiNH}_2\text{-NaH}$ Dehydrogenation Is Solved? A Study of the Analogous Sodium Amide/Lithium Hydride System. <i>Journal of Physical Chemistry C</i> , 2016, 120, 27903-27909.	1.5	15
57	Destabilization of lithium hydride by the substitution of group 14 elements: A review. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 5969-5978.	3.8	34
58	High compressed hydrogen production via direct electrolysis of liquid ammonia. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 14529-14534.	3.8	46
59	Catalytic hydrolysis of sodium borohydride on Co catalysts. <i>International Journal of Energy Research</i> , 2016, 40, 2078-2090.	2.2	19
60	Thermochemical Water Splitting by Concentrated Solar Power. <i>Lecture Notes in Energy</i> , 2016, , 137-151.	0.2	2
61	Hydrogen and Materials Characteristic in Solids III. <i>Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals</i> , 2016, 80, 719-719.	0.2	0
62	<i>In-Situ&/i> XAS for Niobium Oxide Catalyst on Hydrogen Absorption and Desorption of Magnesium. <i>Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals</i> , 2015, 79, 107-111.	0.2	3
63	Ammonia Synthesis via Non-Equilibrium Reaction of Lithium Nitride in Hydrogen Flow Condition. <i>Materials Transactions</i> , 2015, 56, 410-414.	0.4	16
64	Activation on Ammonia Absorbing Reaction for Magnesium Chloride. <i>Journal of Physical Chemistry C</i> , 2015, 119, 26296-26302.	1.5	32
65	Kinetic Modification on Hydrogen Desorption of Lithium Hydride and Magnesium Amide System. <i>Materials</i> , 2015, 8, 3896-3909.	1.3	6
66	Anode properties of Al_2O_3 -added MgH_2 for all-solid-state lithium-ion batteries. <i>Journal of Solid State Electrochemistry</i> , 2015, 19, 3639-3644.	1.2	19
67	Catalysis of Lithium Chloride and Alkali Metal Borohydrides on Hydrogen Generation of Ammonia and Lithium Hydride System. <i>Journal of Physical Chemistry C</i> , 2015, 119, 19922-19927.	1.5	10
68	Correlation between particle size and hydrogen generation properties on ammonia and lithium hydride system. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 14911-14915.	3.8	2
69	Evaluation of the enthalpy change due to hydrogen desorption for M-N-H ($\text{M}=\text{Li, Mg, Ca}$) systems by differential scanning calorimetry. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 1516-1522.	3.8	10
70	Tailoring the absorption—desorption properties of KSiH_3 compound using nano-metals (Ni, Co, Nb) as catalyst. <i>Journal of Alloys and Compounds</i> , 2015, 645, S144-S147.	2.8	9
71	Metal hydride-based materials towards high performance negative electrodes for all-solid-state lithium-ion batteries. <i>Chemical Communications</i> , 2015, 51, 9773-9776.	2.2	64
72	Catalysis of nickel nanoparticles with high thermal stability for ammonia decomposition. <i>Applied Catalysis A: General</i> , 2015, 491, 184-188.	2.2	48

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73	Catalytic modification in dehydrogenation properties of KSiH_3 . Physical Chemistry Chemical Physics, 2014, 16, 26163-26167.	1.3	15
74	Structure and catalytic properties of Ni/MWCNTs and Ni/AC catalysts for hydrogen production via ammonia decomposition. International Journal of Hydrogen Energy, 2014, 39, 277-287.	3.8	66
75	Thermodynamics on Ammonia Absorption of Metal Halides and Borohydrides. Journal of Physical Chemistry C, 2014, 118, 18412-18416.	1.5	32
76	Thermochemical Energy Storage by Water-splitting Via Redox Reaction of Alkali Metals. Energy Procedia, 2014, 49, 927-934.	1.8	6
77	Effects of Metal Oxide Additives on Anode Properties of Magnesium Hydride for All-Solid-State Lithium Ion Batteries. Nihon Enerugi Gakkaishi/Journal of the Japan Institute of Energy, 2014, 93, 926-930.	0.2	5
78	Hydrogen Storage Materials. , 2013, , 99-136.		5
79	Improved hydrogen desorption from lithium hydrazide by alkali metal hydride. Journal of Alloys and Compounds, 2013, 580, S320-S323.	2.8	2
80	Anode properties of magnesium hydride catalyzed with niobium oxide for an all solid-state lithium-ion battery. Chemical Communications, 2013, 49, 7174.	2.2	47
81	Hydrogen production via thermochemical water-splitting by lithium redox reaction. Journal of Alloys and Compounds, 2013, 580, S410-S413.	2.8	5
82	Microstructure and hydrogen desorption characteristics of hydrogenated Sch_2MBn ($\text{M}=\text{Mg}$ and Ca) systems synthesized by mechanical milling. International Journal of Hydrogen Energy, 2013, 38, 6744-6749.	3.8	0
83	Synthesis of nickel nanoparticles with excellent thermal stability in micropores of zeolite. International Journal of Hydrogen Energy, 2013, 38, 13579-13586.	3.8	15
84	Correlation between electrochemical behavior and hydrogen storage properties of Li-Sn system. Journal of Alloys and Compounds, 2013, 580, S211-S215.	2.8	15
85	Hydrogen absorption of catalyzed magnesium below room temperature. International Journal of Hydrogen Energy, 2013, 38, 13728-13733.	3.8	112
86	Synthesis and characterization of magnesium-carbon compounds for hydrogen storage. Carbon, 2013, 56, 50-55.	5.4	20
87	Destabilization of LiH by Li Insertion into Ge . Journal of Physical Chemistry C, 2013, 117, 5650-5657.	1.5	28
88	Microscopic characterization of metal-carbon-hydrogen composites ($\text{metal}=\text{Li}, \text{Mg}$). Journal of Applied Physics, 2013, 114, 093509.	1.1	3
89	Catalytic Effect of Niobium Oxide on Hydrogen Absorption and Desorption Process for Magnesium. Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals, 2013, 77, 636-640.	0.2	1
90	Chemical Hydrogen Storage of Carbon Material. Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals, 2013, 77, 552-558.	0.2	0

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91	Synthesis of Calcium Borohydride by Milling Hydrogenation of Hydride and Boride. Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals, 2013, 77, 609-614.	0.2	1
92	Ammonia Synthesis via Non-Equilibrium Reaction of Lithium Nitride in Hydrogen Flow Condition. Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals, 2013, 77, 580-584.	0.2	0
93	Thermochemical Water-splitting Reaction by Alkali Metal-Cobalt Oxide. Nihon Enerugi Gakkaishi/Journal of the Japan Institute of Energy, 2013, 92, 909-912.	0.2	1
94	Improvement of reaction kinetics by metal chloride on ammonia and lithium hydride system. International Journal of Hydrogen Energy, 2012, 37, 16025-16030.	3.8	17
95	Low-temperature water-splitting by sodium redox reaction. International Journal of Hydrogen Energy, 2012, 37, 17709-17714.	3.8	27
96	Comparative Study of Structural Changes in NH_3 , LiNH_2 , and KNH_2 During Dehydrogenation Process. Journal of Physical Chemistry C, 2012, 116, 5957-5964.	1.5	57
97	Lithium hydrazide as a potential compound for hydrogen storage. International Journal of Hydrogen Energy, 2012, 37, 5750-5753.	3.8	6
98	Solid state NMR study on the thermal decomposition pathway of sodium amidoborane NaNH_2BH_3 . Journal of Materials Chemistry, 2011, 21, 2609.	6.7	48
99	Synthesis and characterization of lithium-carbon compounds for hydrogen storage. Journal of Alloys and Compounds, 2011, 509, 719-723.	2.8	26
100	Improvement of hydrogen desorption kinetics in the LiH-NH_3 system by addition of KH. Chemical Communications, 2011, 47, 12227.	2.2	30
101	Hydrogen storage properties of lithium silicon alloy synthesized by mechanical alloying. Journal of Power Sources, 2011, 196, 504-507.	4.0	29
102	Compressed hydrogen production via reaction between liquid ammonia and alkali metal hydride. International Journal of Hydrogen Energy, 2011, 36, 8217-8220.	3.8	12
103	Thermal decomposition of alkaline-earth metal hydride and ammonia borane composites. International Journal of Hydrogen Energy, 2010, 35, 12405-12409.	3.8	45
104	Hydrogen Exchange Effect in MgH_2 - LiBH_4 System. Materials Science Forum, 2010, 654-656, 2855-2858.	0.3	1
105	Superior Hydrogen Exchange Effect in the MgH_2 - LiBH_4 System. Journal of Physical Chemistry C, 2010, 114, 13132-13135.	1.5	48
106	Hydrogen Desorption Reaction between Hydrogen-Containing Functional Groups and Lithium Hydride. Journal of Physical Chemistry C, 2010, 114, 8668-8674.	1.5	7
107	Anomalous hydrogen absorption on non-stoichiometric iron-carbon compound. Journal of Alloys and Compounds, 2010, 507, 547-550.	2.8	16
108	In-situ TEM Observation for Reaction of LiH with NH_3 by Means of Environmental Cell. Materials Research Society Symposia Proceedings, 2009, 1216, 1.	0.1	0

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109	The reaction process of hydrogen absorption and desorption on the nanocomposite of hydrogenated graphite and lithium hydride. <i>Nanotechnology</i> , 2009, 20, 204021.	1.3	24
110	Recyclable hydrogen storage system composed of ammonia and alkali metal hydride. <i>International Journal of Hydrogen Energy</i> , 2009, 34, 9760-9764.	3.8	59
111	Electron Spin Resonance Investigation of Hydrogen Absorption in Ball-Milled Graphite. <i>Journal of Physical Chemistry C</i> , 2009, 113, 5409-5416.	1.5	41
112	Molecular hydrogen carrier with activated nanohydride and ammonia. <i>Journal of Materials Research</i> , 2009, 24, 2185-2190.	1.2	41
113	Hydrogen desorption properties of Li ⁺ BN ⁻ H system synthesized by mechanical milling. <i>International Journal of Hydrogen Energy</i> , 2008, 33, 3128-3131.	3.8	17
114	Characterization of hydrogen absorption/desorption states on lithium-carbon-hydrogen system by neutron diffraction. <i>Journal of Applied Physics</i> , 2008, 104, 053511.	1.1	18
115	Thermodynamic and structural properties of ball-milled mixtures composed of nano-structural graphite and alkali(-earth) metal hydride. <i>Journal of Alloys and Compounds</i> , 2007, 432, 303-307.	2.8	19
116	Hydrogen storage properties in a composite of lithium hydride and boron nitride with hydrocarbon groups. <i>Journal of Alloys and Compounds</i> , 2007, 446-447, 39-43.	2.8	0
117	Tunneling measurements of CeRhAs single crystal. <i>Physica B: Condensed Matter</i> , 2006, 378-380, 786-787.	1.3	0
118	Electron tunneling experiments on La-substituted Kondo-semiconductor CeRhAs. <i>Physica B: Condensed Matter</i> , 2006, 383, 26-27.	1.3	1
119	Hydrogen storage properties of nano-structural carbon and metal hydrides composites. <i>Physica B: Condensed Matter</i> , 2006, 383, 51-52.	1.3	12
120	Structural and Electronic Interplay in the Gap Formation in CeRhAs _{1-x} Sbx (0 ≤ x ≤ 1). <i>Journal of the Physical Society of Japan</i> , 2004, 73, 262-268.	0.7	10
121	Thermodynamic Characterization on Hydrogen Absorption and Desorption Reactions of Lithium-Silicon Alloy. <i>Materials Science Forum</i> , 0, 654-656, 2815-2818.	0.3	7
122	Hydrogen Storage Properties of Hydrogenated Graphite and Lithium Hydride Nanocomposite. , 0, , .		0
123	Improvement of Hydrogenation and Dehydrogenation Kinetics on MgH ₂ by the Catalytic Effect of ZrO ₂ . <i>Applied Mechanics and Materials</i> , 0, 117-119, 1195-1198.	0.2	2