Young-Su Lee

List of Publications by Year
in descending order

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96 papers	7,802 citations	136740 32 h-index	49773 87 g-index
100 all docs	100 docs citations	100 times ranked	7575 citing authors

#	Article	IF	Citations
1	Effect of Ti Addition on Yield Strength of Lowâ€Mo Fireâ€Resistant Steel at Elevated Temperatures. Steel Research International, 2023, 94, .	1.0	0
2	Prediction of Pressure-Composition-Temperature Curves of AB2-Type Hydrogen Storage Alloys by Machine Learning. Metals and Materials International, 2023, 29, 861-869.	1.8	3
3	Hydrogen occupation in Ti4M2O compounds (M = Fe, Co, Ni, Cu, and yÂ=Â0, 1) and their hydrogen storage characteristics. Journal of Alloys and Compounds, 2022, 891, 162050.	2.8	8
4	Metastable hexagonal close-packed palladium hydride in liquid cell TEM. Nature, 2022, 603, 631-636.	13.7	31
5	Metallic and complex hydride-based electrochemical storage of energy. Progress in Energy, 2022, 4, 032001.	4.6	26
6	Hydrogen storage in complex hydrides: past activities and new trends. Progress in Energy, 2022, 4, 032009.	4.6	23
7	Tailoring the equilibrium hydrogen pressure of TiFe via vanadium substitution. Journal of Alloys and Compounds, 2021, 854, 157263.	2.8	23
8	Hydrogen storage behavior and microstructural feature of a TiFeâ€“ZrCr2 alloy. Journal of Alloys and Compounds, 2021, 853, 157099.	2.8	22
9	Understanding first cycle hydrogenation properties of Tiâ€“Feâ€“Zr ternary alloys. International Journal of Hydrogen Energy, 2021, 46, 4241-4251.	3.8	15
10	Activation of Tiâ€“Feâ€“Cr alloys containing identical AB2 fractions. Journal of Alloys and Compounds, 2021, 864, 158876.	2.8	20
11	Effect of Cr addition on room temperature hydrogenation of TiFe alloys. International Journal of Hydrogen Energy, 2021, 46, 19478-19485.	3.8	23
12	Synthesis and crystal structures of decahydro-closo-decaborates of the divalent cations of strontium and manganese. Journal of Solid State Chemistry, 2021, 298, 122133.	1.4	5
13	EBSD microstructural analysis of AB-type TiFe hydrogen storage alloys. Materials Characterization, 2021, 178, 111276.	1.9	3
14	Design of V-Substituted TiFe-Based Alloy for Target Pressure Range and Easy Activation. Materials, 2021, 14, 4829.	1.3	6
15	Mechanical property change and precipitate evolution during long-term aging of 1.25Cr-0.5Mo steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 789, 139663.	2.6	7
16	Ammoniumâ€“Ammonia Complexes, N2H7+, in Ammonium closo-Borate Ammines: Synthesis, Structure, and Properties. Inorganic Chemistry, 2020, 59, 11449-11458.	1.9	6
17	Kinetics and thermodynamics of near eutectic Mg-Mg2Ni composites produced by casting process. International Journal of Hydrogen Energy, 2020, 45, 29009-29022.	3.8	28
18	Structural Diversity and Trends in Properties of an Array of Hydrogen-Rich Ammonium Metal Borohydrides. Inorganic Chemistry, 2020, 59, 12733-12747.	1.9	16

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19	Enhancing the Hydrogen Storage Properties of AxBy Intermetallic Compounds by Partial Substitution: A Short Review. Hydrogen, 2020, 1, 38-63.	1.7	38
20	Ammine Lanthanum and Cerium Borohydrides, M(BH₄)₃Â·nNH₃; Trends in Synthesis, Structures, and Thermal Properties. Inorganic Chemistry, 2020, 59, 7768-7778.	1.9	19
21	The mechanism of Mg²⁺ conduction in ammine magnesium borohydride promoted by a neutral molecule. Physical Chemistry Chemical Physics, 2020, 22, 9204-9209.	1.3	70
22	Ammonia-assisted fast Li-ion conductivity in a new hemiammine lithium borohydride, LiBH₄Â·1/2NH₃. Chemical Communications, 2020, 56, 3971-3974.	2.2	60
23	Crystal Structures and Energy Storage Properties of Ammine Sodium Decahydro-closo-decaboranes (Na2B10H10Â·nNH3, n = 1, 2). Journal of Physical Chemistry C, 2019, 123, 20160-20166.	1.5	10
24	The role of Fe particle size and oxide distribution on the hydrogenation properties of ball-milled nano-crystalline powder mixtures of Fe and Mg. Journal of Alloys and Compounds, 2019, 806, 1039-1046.	2.8	13
25	Mechanochemical synthesis of CeB6 nanopowder. Ceramics International, 2019, 45, 19442-19446.	2.3	7
26	A finite outlet volume correction to the time lag method: The case of hydrogen permeation through V-alloy and Pd membranes. Journal of Membrane Science, 2019, 585, 253-259.	4.1	11
27	Mechanochemical synthesis of Ce3Al11 powder and its catalytic effect on the hydrogen sorption properties of NaAlH4. Journal of Alloys and Compounds, 2019, 784, 313-318.	2.8	12
28	Synthesis of Mg2FeH6 by hydrogenation of Mg/Fe powder mixture prepared by cold roll milling in air: Effects of microstructure and oxygen distribution. International Journal of Hydrogen Energy, 2018, 43, 16758-16765.	3.8	22
29	Disorder induced polymorphic transitions in the high hydrogen density compound Sr(BH₄)₂(NH₃BH₃)₂. Dalton Transactions, 2018, 47, 16737-16746.	1.6	5
30	Effect of Thermal Charging of Hydrogen on the Microstructure of Metastable Austenitic Stainless Steel. Steel Research International, 2017, 88, 1600063.	1.0	2
31	Si/iron silicide nanocomposite anodes with furfuryl-alcohol-derived carbon coating for Li-ion batteries. Journal of Materials Science, 2017, 52, 5027-5037.	1.7	17
32	Mechanism for Z-phase formation in 11CrMoVNbN martensitic heat-resistant steel. Materials Characterization, 2017, 129, 40-45.	1.9	14
33	Oxidation behavior and area specific resistance of La, Cu and B alloyed Fe-22Cr ferritic steels for solid oxide fuel cell interconnects. Journal of Power Sources, 2017, 369, 13-26.	4.0	9
34	Fast Lithium Ion Migration in Room Temperature LiBH₄. Journal of Physical Chemistry C, 2017, 121, 17773-17779.	1.5	12
35	Enhanced Li Ion Conductivity in LiBH₄â€“Al₂O₃ Mixture via Interface Engineering. Journal of Physical Chemistry C, 2017, 121, 26209-26215.	1.5	57
36	Low temperature formation of Mg 2 FeH 6 by hydrogenation of ball-milled nano-crystalline powder mixture of Mg and Fe. Materials and Design, 2017, 135, 239-245.	3.3	21

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37	Enhanced high temperature hydrogen permeation characteristics of Vâ€“Ni alloy membranes containing a trace amount of yttrium. Scripta Materialia, 2016, 116, 122-126.	2.6	25
38	Interface-enhanced Li ion conduction in a LiBH₄â€“SiO₂ solid electrolyte. Physical Chemistry Chemical Physics, 2016, 18, 22540-22547.	1.3	72
39	Long term high temperature oxidation characteristics of La and Cu alloyed ferritic stainless steels for solid oxide fuel cell interconnects. Journal of Power Sources, 2016, 327, 104-118.	4.0	19
40	Lithium Ion Disorder and Conduction Mechanism in LiCe(BH₄)₃Cl. Journal of Physical Chemistry C, 2016, 120, 19035-19042.	1.5	20
41	Solid state synthesis, structural characterization and ionic conductivity of bimetallic alkali-metal yttrium borohydrides MY(BH₄)₄ (M = Li and Na). Journal of Materials Chemistry A, 2016, 4, 8793-8802.	5.2	37
42	First-principles study on the thermal expansion of Ni-X binary alloys based on the quasi-harmonic Debye model. Metals and Materials International, 2016, 22, 1065-1072.	1.8	8
43	Structural and magnetocaloric properties of novel gadolinium borohydrides. Journal of Alloys and Compounds, 2016, 664, 378-384.	2.8	45
44	Effect of thermodynamic properties on the infrared radiation behavior of Ti-based solid solutions. Journal of Alloys and Compounds, 2016, 656, 753-757.	2.8	4
45	Ammine Calcium and Strontium Borohydrides: Syntheses, Structures, and Properties. ChemSusChem, 2015, 8, 3472-3482.	3.6	24
46	Trends in Syntheses, Structures, and Properties for Three Series of Ammine Rare-Earth Metal Borohydrides, M(BH₄)₃Â·nNH₃ (M = Y, Gd, and Dy). Inorganic Chemistry, 2015, 54, 7402-7414.	1.9	41
47	Discovery of Fluidic LiBH₄ on Scaffold Surfaces and Its Application for Fast Co-confinement of LiBH₄â€“Ca(BH₄)₂ into Mesopores. Journal of Physical Chemistry C, 2015, 119, 9025-9035.	1.5	12
48	Probing molecular dynamics of metal borohydrides on the surface of mesoporous scaffolds by multinuclear high resolution solid state NMR. Journal of Alloys and Compounds, 2015, 645, S316-S319.	2.8	13
49	Identifying the nature of interaction between LiBH4 and two-dimensional substrates: DFT study with van der Waals correction. Journal of Alloys and Compounds, 2014, 587, 428-436.	2.8	4
50	An updated version of wannier90: A tool for obtaining maximally-localised Wannier functions. Computer Physics Communications, 2014, 185, 2309-2310.	3.0	1,561
51	Synthesis, Crystal Structure, Thermal Decomposition, and ¹¹B MAS NMR Characterization of Mg(BH₄)₂(NH₃BH₃)₂. Journal of Physical Chemistry C, 2014, 118, 12141-12153.	1.5	41
52	Complex hydrides for hydrogen storage â€“ new perspectives. Materials Today, 2014, 17, 122-128.	8.3	408
53	Boronâ€“nitrogen based hydrides and reactive composites for hydrogen storage. Materials Today, 2014, 17, 129-135.	8.3	165
54	Mitigation of degradation in the dehydrogenation behavior of air-exposed MgH2 catalyzed with NbF5. Journal of Alloys and Compounds, 2013, 575, 393-398.	2.8	18

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55	Thermal properties of Y(BH4)3 synthesized via two different methods. International Journal of Hydrogen Energy, 2013, 38, 9263-9270.	3.8	17
56	Direct measurement of hydrogen diffusivity through Pd-coated Ni-based amorphous metallic membranes. Journal of Membrane Science, 2013, 436, 195-201.	4.1	25
57	Prediction of hydrogen permeability in Vâ€“Al and Vâ€“Ni alloys. Journal of Membrane Science, 2013, 430, 234-241.	4.1	24
58	Is Y2(B12H12)3 the main intermediate in the decomposition process of Y(BH4)3?. Chemical Communications, 2013, 49, 5234.	2.2	33
59	Atomistic simulation of hydrogen diffusion at tilt grain boundaries in vanadium. Metals and Materials International, 2013, 19, 1221-1225.	1.8	10
60	Controlling the Dehydrogenation Reaction toward Reversibility of the LiBH₄â€“Ca(BH₄)₂ Eutectic System. Journal of Physical Chemistry C, 2013, 117, 8878-8886.	1.5	20
61	Microstructural Analysis of Dehydrogenation Products of the Ca(BH₄)₂â€“MgH₂ Composite. Microscopy and Microanalysis, 2013, 19, 149-151.	0.2	1
62	Microscopic Origin of Universal Quasilinear Band Structures of Transparent Conducting Oxides. Physical Review Letters, 2012, 108, 196404.	2.9	24
63	Hydrogen Back-Pressure Effects on the Dehydrogenation Reactions of Ca(BH₄)₂. Journal of Physical Chemistry C, 2012, 116, 25715-25720.	1.5	24
64	Investigation of the Dehydrogenation Reaction Pathway of Ca(BH₄)₂ and Reversibility of Intermediate Phases. Journal of Physical Chemistry C, 2012, 116, 4330-4334.	1.5	37
65	Thermodynamics of the dehydrogenation of the LiBH4â€“YH3 composite: Experimental and theoretical studies. Journal of Alloys and Compounds, 2012, 510, L9-L12.	2.8	19
66	Prediction of elastic properties of precipitation-hardened aluminum cast alloys. Computational Materials Science, 2012, 51, 365-371.	1.4	5
67	In Situ NMR Study on the Interaction between LiBH4â€“Ca(BH4)2 and Mesoporous Scaffolds. Journal of Physical Chemistry Letters, 2012, 3, 2922-2927.	2.1	23
68	Role of alloying elements in vanadium-based binary alloy membranes for hydrogen separation. Journal of Membrane Science, 2012, 423-424, 332-341.	4.1	26
69	Synthesis and Structural Investigation of Zr(BH₄)₄. Journal of Physical Chemistry C, 2012, 116, 20239-20245.	1.5	43
70	LiCe(BH₄)₃Cl, a New Lithium-Ion Conductor and Hydrogen Storage Material with Isolated Tetranuclear Anionic Clusters. Chemistry of Materials, 2012, 24, 1654-1663.	3.2	128
71	A mixed-cation mixed-anion borohydride NaY(BH4)2Cl2. International Journal of Hydrogen Energy, 2012, 37, 8428-8438.	3.8	33
72	Enhanced Desorption and Absorption Properties of Eutectic LiBH₄â€“Ca(BH₄)₂ Infiltrated into Mesoporous Carbon. Journal of Physical Chemistry C, 2011, 115, 20027-20035.	1.5	48

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73	On the Formation and the Structure of the First Bimetallic Borohydride Borate, LiCa₃(BH₄)(BO₃)₂. Journal of Physical Chemistry C, 2011, 115, 10298-10304.	1.5	19
74	A modified embedded-atom method interatomic potential for the Vâ€“H system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2011, 35, 302-307.	0.7	8
75	Hydrogen-induced interactions in vanadium from first-principles calculations. Physical Review B, 2011, 83, .	1.1	45
76	Polymorphism and Thermodynamics of Y(BH₄)₃ from First Principles. Journal of Physical Chemistry C, 2010, 114, 12833-12837.	1.5	32
77	Thermodynamics and sorption reaction of some light metal borohydrides for reversible hydrogen storage. , 2010, , .		0
78	Effect of Hydrogen Back Pressure on Dehydrogenation Behavior of LiBH4-Based Reactive Hydride Composites. Journal of Physical Chemistry Letters, 2010, 1, 59-63.	2.1	76
79	Rehydrogenation and cycle studies of LiBH4â€“CaH2 composite. International Journal of Hydrogen Energy, 2010, 35, 6578-6582.	3.8	35
80	Investigation of the surface chemical and electronic states of pyridine-capped CdSe nanocrystal films after plasma treatments using H2, O2, and Ar gases. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2010, 28, 559-563.	0.9	2
81	Hydrogenation reaction of CaH2â€“CaB6â€“Mg mixture. Journal of Alloys and Compounds, 2010, 492, 597-600.	2.8	16
82	Metal halide doped metal borohydrides for hydrogen storage: The case of Ca(BH4)2â€“CaX2 (X=F, Cl) mixture. Journal of Alloys and Compounds, 2010, 506, 721-727.	2.8	44
83	Numerical simulation of long-term precipitate evolution in austenitic heat-resistant steels. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2010, 34, 105-112.	0.7	44
84	Predictions on atomic structures of Ti1â^'xMoxC using combined approach of first-principles calculation and the cluster expansion method. Metals and Materials International, 2009, 15, 797-801.	1.8	5
85	Identification of the Dehydrogenated Product of Ca(BH₄)₂. Journal of Physical Chemistry C, 2009, 113, 5865-5871.	1.5	82
86	Decomposition Reactions and Reversibility of the LiBH₄â^'Ca(BH₄)₂ Composite. Journal of Physical Chemistry C, 2009, 113, 15080-15086.	1.5	105
87	Crystal structure and phonon instability of high-temperature<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Î²</mml:mi><mml:mtext>-Ca</mml:mtext><mml:msub><mml:mrow><mml:mrow><mml:mo>(	1.1	36
	Physical Review B, 2009, 79, .		
88	Spin Channels in Functionalized Graphene Nanoribbons. Nano Letters, 2009, 9, 3425-3429.	4.5	103
89	wannier90: A tool for obtaining maximally-localised Wannier functions. Computer Physics Communications, 2008, 178, 685-699.	3.0	2,947
90	Reversible Hydrogen Storage in LiBH4â^'MH2 (M = Ce, Ca) Composites. Journal of Physical Chemistry C, 2008, 112, 9520-9524.	1.5	95

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91	Dehydrogenation behavior of LiBH4/CaH2 composite with NbF5. Scripta Materialia, 2008, 59, 1251-1254.	2.6	33
92	Cycloadditions to Control Bond Breaking in Naphthalenes, Fullerenes, and Carbon Nanotubes:â€‰ A First-Principles Study. Journal of Physical Chemistry C, 2008, 112, 4480-4485.	1.5	22
93	Cycloaddition Functionalizations to Preserve or Control the Conductance of Carbon Nanotubes. Physical Review Letters, 2006, 97, 116801.	2.9	133
94	Band Structure and Quantum Conductance of Nanostructures from Maximally Localized Wannier Functions: The Case of Functionalized Carbon Nanotubes. Physical Review Letters, 2005, 95, 076804.	2.9	187
95	Surface reaction kinetics in oxygen nonstoichiometry re-equilibration of BaTiO3â˜Î´. Solid State Ionics, 2003, 160, 381-387.	1.3	7
96	Currentâ€“voltage characteristic of BaTiO3â˜Î´ in its mixed n/p regime under oxygen potential gradients. Solid State Ionics, 2002, 150, 373-382.	1.3	5