Mykhaylo Lototskyy

List of Publications by Year
in descending order

107	5,740	94269 37	79541 73
papers	citations	h-index	g-index

107	107	107	2803
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Materials for hydrogen-based energy storage â€“ past, recent progress and future outlook. Journal of Alloys and Compounds, 2020, 827, 153548.	2.8	518
2	Application of hydrides in hydrogen storage and compression: Achievements, outlook and perspectives. International Journal of Hydrogen Energy, 2019, 44, 7780-7808.	3.8	486
3	Magnesium based materials for hydrogen based energy storage: Past, present and future. International Journal of Hydrogen Energy, 2019, 44, 7809-7859.	3.8	460
4	Metal hydride hydrogen compressors: A review. International Journal of Hydrogen Energy, 2014, 39, 5818-5851.	3.8	361
5	The use of metal hydrides in fuel cell applications. Progress in Natural Science: Materials International, 2017, 27, 3-20.	1.8	222
6	Metal hydride hydrogen storage and compression systems for energy storage technologies. International Journal of Hydrogen Energy, 2021, 46, 13647-13657.	3.8	193
7	Microstructure and hydrogenation behavior of ball-milled and melt-spun Mgâ€“10Niâ€“2Mm alloys. Journal of Alloys and Compounds, 2008, 466, 176-181.	2.8	153
8	Magnesiumâ€“carbon hydrogen storage hybrid materials produced by reactive ball milling in hydrogen. Carbon, 2013, 57, 146-160.	5.4	120
9	Metal hydride systems for hydrogen storage and supply for stationary and automotive low temperature PEM fuel cell power modules. International Journal of Hydrogen Energy, 2015, 40, 11491-11497.	3.8	105
10	Metal hydride hydrogen storage and supply systems for electric forklift with low-temperature proton exchange membrane fuel cell power module. International Journal of Hydrogen Energy, 2016, 41, 13831-13842.	3.8	100
11	In situ synchrotron X-ray diffraction studies of hydrogen desorption and absorption properties of Mg and Mgâ€“Mmâ€“Ni after reactive ball milling in hydrogen. Acta Materialia, 2009, 57, 3989-4000.	3.8	96
12	An outstanding effect of graphite in nano-MgH₂â€“TiH₂ on hydrogen storage performance. Journal of Materials Chemistry A, 2018, 6, 10740-10754.	5.2	91
13	Hydrogen storage behavior of magnesium catalyzed by nickel-graphene nanocomposites. International Journal of Hydrogen Energy, 2019, 44, 29212-29223.	3.8	87
14	Metal hydride hydrogen storage tank for fuel cell utility vehicles. International Journal of Hydrogen Energy, 2020, 45, 7958-7967.	3.8	84
15	Nanostructured Mgâ€“Mmâ€“Ni hydrogen storage alloy: Structureâ€“properties relationship. Journal of Alloys and Compounds, 2007, 446-447, 114-120.	2.8	79
16	Metal hydride hydrogen storage tank for light fuel cell vehicle. International Journal of Hydrogen Energy, 2019, 44, 29263-29272.	3.8	75
17	Investigation of hydrogen storage capacity of multi-walled carbon nanotubes deposited with Pd or V. International Journal of Hydrogen Energy, 2009, 34, 6669-6675.	3.8	72
18	Chemical surface modification for the improvement of the hydrogenation kinetics and poisoning resistance of TiFe. Journal of Alloys and Compounds, 2011, 509, S770-S774.	2.8	67

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19	Vanadium-based BCC alloys: phase-structural characteristics and hydrogen sorption properties. Journal of Alloys and Compounds, 2005, 404-406, 421-426.	2.8	66
20	Metal hydride hydrogen compression: recent advances and future prospects. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	1.1	63
21	Problem of hydrogen storage and prospective uses of hydrides for hydrogen accumulation. Russian Journal of General Chemistry, 2007, 77, 694-711.	0.3	62
22	Surface modification of TiFe hydrogen storage alloy by metal-organic chemical vapour deposition of palladium. International Journal of Hydrogen Energy, 2011, 36, 9743-9750.	3.8	62
23	Comparative analysis of the efficiencies of hydrogen storage systems utilising solid state H storage materials. Journal of Alloys and Compounds, 2015, 645, S365-S373.	2.8	62
24	A review on crucibles for induction melting of titanium alloys. Materials and Design, 2020, 186, 108295.	3.3	62
25	Modelling of phase equilibria in metalâ€“hydrogen systems. Journal of Alloys and Compounds, 2003, 356-357, 27-31.	2.8	61
26	Performance of electric forklift with low-temperature polymer exchange membrane fuel cell power module and metal hydride hydrogen storage extension tank. Journal of Power Sources, 2016, 316, 239-250.	4.0	59
27	Influence of intrinsic hydrogenation/dehydrogenation kinetics on the dynamic behaviour of metal hydrides: A semi-empirical model and its verification. International Journal of Hydrogen Energy, 2007, 32, 1041-1049.	3.8	57
28	Selection of metal hydrides-based thermal energy storage: Energy storage efficiency and density targets. International Journal of Hydrogen Energy, 2018, 43, 22568-22583.	3.8	57
29	A concept of combined cooling, heating and power system utilising solar power and based on reversible solid oxide fuel cell and metal hydrides. International Journal of Hydrogen Energy, 2018, 43, 18650-18663.	3.8	57
30	Performance analysis of cylindrical metal hydride beds with various heat exchange options. Journal of Alloys and Compounds, 2015, 645, S89-S95.	2.8	55
31	Cycling stability of RNi5 (RÂ=ÂLa, La+Ce) hydrides during the operation of metal hydride hydrogen compressor. International Journal of Hydrogen Energy, 2018, 43, 4415-4427.	3.8	55
32	Poisoning-tolerant metal hydride materials and their application for hydrogen separation from CO2/CO containing gas mixtures. International Journal of Hydrogen Energy, 2013, 38, 9800-9810.	3.8	52
33	Niche applications of metal hydrides and related thermal management issues. Journal of Alloys and Compounds, 2015, 645, S117-S122.	2.8	52
34	Fuel cell-battery hybrid powered light electric vehicle (golf cart): Influence of fuel cell on the driving performance. International Journal of Hydrogen Energy, 2013, 38, 10630-10639.	3.8	51
35	Surface-modified advanced hydrogen storage alloys for hydrogen separation and purification. Journal of Alloys and Compounds, 2011, 509, S555-S561.	2.8	49
36	Microstructure and novel hydrogen storage properties of melt-spun Mgâ€“Niâ€“Mm alloys. Journal of Alloys and Compounds, 2009, 477, 262-266.	2.8	43

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37	Laves type intermetallic compounds as hydrogen storage materials: A review. Journal of Alloys and Compounds, 2022, 916, 165219.	2.8	40
38	Thermally Driven Metal Hydride Hydrogen Compressor for Medium-Scale Applications. Energy Procedia, 2012, 29, 347-356.	1.8	37
39	Metal Hydride Beds-Phase Change Materials: Dual Mode Thermal Energy Storage for Medium-High Temperature Industrial Waste Heat Recovery. Energies, 2019, 12, 3949.	1.6	37
40	Nanostructured hydrogen storage materials prepared by high-energy reactive ball milling of magnesium and ferrovanadium. International Journal of Hydrogen Energy, 2019, 44, 6687-6701.	3.8	37
41	New model of phase equilibria in metal â€“ hydrogen systems: Features and software. International Journal of Hydrogen Energy, 2016, 41, 2739-2761.	3.8	36
42	Induction melted AB 2 -type metal hydrides for hydrogen storage and compression applications. Materials Today: Proceedings, 2018, 5, 10470-10478.	0.9	36
43	Nanostructured surface coatings for the improvement of AB₅-type hydrogen storage intermetallics. International Journal of Energy Research, 2009, 33, 1171-1179.	2.2	35
44	HYDRIDE4MOBILITY: An EU HORIZON 2020 project on hydrogen powered fuel cell utility vehicles using metal hydrides in hydrogen storage and refuelling systems. International Journal of Hydrogen Energy, 2021, 46, 35896-35909.	3.8	34
45	Hydrogen sorption properties of arc generated single-wall carbon nanotubes. Journal of Alloys and Compounds, 2003, 356-357, 510-514.	2.8	33
46	Influence of aminosilane surface functionalization of rare earth hydride-forming alloys on palladium treatment by electroless deposition and hydrogen sorption kinetics of composite materials. Materials Chemistry and Physics, 2009, 115, 136-141.	2.0	32
47	Influence of oxygen introduced in TiFe-based hydride forming alloy on its morphology, structural and hydrogen sorption properties. International Journal of Hydrogen Energy, 2012, 37, 18155-18162.	3.8	32
48	Hydrogen South Africa (HySA) Systems Competence Centre: Mission, objectives, technological achievements and breakthroughs. International Journal of Hydrogen Energy, 2014, 39, 3577-3596.	3.8	32
49	Magnesium-based hydrogen storage nanomaterials prepared by high energy reactive ball milling in hydrogen at the presence of mixed titaniumâ€“iron oxide. Journal of Alloys and Compounds, 2015, 645, S454-S459.	2.8	32
50	Effect of microstructure on the phase composition and hydrogen absorption-desorption behaviour of melt-spun Mg-20Ni-8Mm alloys. International Journal of Hydrogen Energy, 2012, 37, 1495-1508.	3.8	31
51	Microstructural evolution and improved hydrogenationâ€“dehydrogenation kinetics of nanostructured melt-spun Mgâ€“Niâ€“Mm alloys. Journal of Alloys and Compounds, 2011, 509, S640-S645.	2.8	30
52	Magnesium- and intermetallic alloys-based hydrides for energy storage: modelling, synthesis and properties. Progress in Energy, 2022, 4, 032007.	4.6	29
53	Application of surface-modified metal hydrides for hydrogen separation from gas mixtures containing carbon dioxide and monoxide. Journal of Alloys and Compounds, 2013, 580, S382-S385.	2.8	28
54	Hydrogen refuelling station with integrated metal hydride compressor: Layout features and experience of three-year operation. International Journal of Hydrogen Energy, 2020, 45, 5415-5429.	3.8	28

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55	Oxygen-, Boron- and Nitrogen-Containing Zirconium-Vanadium Alloys as Hydrogen Getters with Enhanced Properties*. Zeitschrift Fur Physikalische Chemie, 1994, 183, 485-489.	1.4	27
56	On the synthesis and hydrogenation behaviour of MmNi5â^'xFex alloys and computer simulation of their Pâ€“Câ€“T curves. Journal of Alloys and Compounds, 2004, 373, 208-213.	2.8	27
57	â€œDistributed hybridâ€•MHâ€“CGH2 system for hydrogen storage and its supply to LT PEMFC power modules. Journal of Alloys and Compounds, 2015, 645, S329-S333.	2.8	27
58	Thermodynamical, structural, hydrogen storage properties and simulation studies of Pâ€“C isotherms of (La,Mm)Ni5-yFey. International Journal of Hydrogen Energy, 2007, 32, 2971-2976.	3.8	26
59	Experimental set-up for investigations of hydrogen-sorption characteristics of carbon nanomaterials. International Journal of Hydrogen Energy, 2016, 41, 401-406.	3.8	25
60	Numerical and experimental study of heat-and-mass transfer processes in two-stage metal hydride hydrogen compressor. International Journal of Hydrogen Energy, 2018, 43, 21874-21885.	3.8	25
61	Combustion-type hydrogenation of nanostructured Mg-based composites for hydrogen storage. International Journal of Energy Research, 2009, 33, 1114-1125.	2.2	24
62	Metal hydride â€“ Graphene composites for hydrogen based energy storage. Journal of Alloys and Compounds, 2022, 896, 162881.	2.8	24
63	Influence of co-milling with palladium black on hydrogen sorption performance and poisoning tolerance of surface modified AB5-type hydrogen storage alloy. Journal of Alloys and Compounds, 2018, 750, 523-529.	2.8	23
64	Sn-containing (La,Mm)Ni5â^'Sn H5â^'6 intermetallic hydrides: thermodynamic, structural and kinetic properties. Journal of Alloys and Compounds, 2003, 356-357, 773-778.	2.8	22
65	Study of hydrogen storage properties of oxygen modified Ti- based AB2 type metal hydride alloy. International Journal of Hydrogen Energy, 2021, 46, 13658-13663.	3.8	22
66	Modelling of metal hydride hydrogen compressors from thermodynamics of hydrogen â€“ Metal interactions viewpoint: Part I. Assessment of the performance of metal hydride materials. International Journal of Hydrogen Energy, 2021, 46, 2330-2338.	3.8	22
67	Sample pilot plant of industrial metal-hydridecompressor. International Journal of Hydrogen Energy, 1999, 24, 645-648.	3.8	21
68	Improved tolerance of Pd/Cu-treated metal hydride alloys towards air impurities. International Journal of Hydrogen Energy, 2010, 35, 8626-8630.	3.8	21
69	Industrial-scale metal hydride hydrogen compressors developed at the South African Institute for Advanced Materials Chemistry. Materials Today: Proceedings, 2018, 5, 10514-10523.	0.9	20
70	Cryo-hydride high-pressure hydrogen compressor. International Journal of Hydrogen Energy, 1999, 24, 649-650.	3.8	18
71	Development of a Portable Polymer Electrolyte Membrane Fuel Cell System Using Metal Hydride as the Hydrogen Storage Medium. ECS Transactions, 2016, 75, 553-562.	0.3	18
72	STRUCTURAL AND METHODICAL FEATURES OF THE INSTALLATION FOR INVESTIGATIONS OF HYDROGEN-SORPTION CHARACTERISTICS OF CARBON NANOMATERIALS AND THEIR COMPOSITES. , 2007, , 365-382.		18

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73	Metal hydride hydrogen compressors for energy storage systems: layout features and results of long-term tests. JPhys Energy, 2020, 2, 024005.	2.3	17
74	Oxide-modified Zrî—Fe alloys: thermodynamic calculations, X-ray analysis and hydrogen absorption properties. Journal of Alloys and Compounds, 1995, 219, 38-40.	2.8	16
75	Metal hydride thermosorption compressors with improved dynamic characteristics. International Journal of Hydrogen Energy, 1996, 21, 1053-1055.	3.8	16
76	200 NL H2 hydrogen storage tank using MgH2â€“TiH2â€“C nanocomposite as H storage material. International Journal of Hydrogen Energy, 2021, 46, 19046-19059.	3.8	16
77	Application of Metal Hydrides in Hydrogen Ion Sources*. Zeitschrift Fur Physikalische Chemie, 1994, 183, 479-483.	1.4	15
78	Applications of Zrâ€“V hydrogen getters in vacuum-plasma devices: Phase-structural and hydrogen sorption characteristics. Journal of Alloys and Compounds, 2005, 404-406, 724-727.	2.8	15
79	Hydrogen energetics: Past, present, prospects. Russian Journal of General Chemistry, 2007, 77, 660-675.	0.3	15
80	Manufacturing of Hydride-Forming Alloys from Mixed Titanium-Iron Oxide. Advanced Materials Research, 0, 746, 14-22.	0.3	15
81	The formation of excited H species using metal hydrides. Journal of Alloys and Compounds, 1995, 231, 856-859.	2.8	14
82	Research and development of hydrogen carrier based solutions for hydrogen compression and storage. Progress in Energy, 2022, 4, 042005.	4.6	14
83	On the computer simulation of the Pâ€“C isotherms of ZrFe2 type hydrogen storage materials. International Journal of Hydrogen Energy, 2003, 28, 1425-1431.	3.8	13
84	Optimal Design of Combined Two-Tank Latent and Metal Hydrides-Based Thermochemical Heat Storage Systems for High-Temperature Waste Heat Recovery. Energies, 2020, 13, 4216.	1.6	13
85	Metallography and hydrogenation behaviour of the alloy Mg-72mass%â€“Ni-20mass%â€“La-8mass%. Journal of Alloys and Compounds, 2007, 446-447, 183-187.	2.8	12
86	Hydrogen absorption study of high-energy reactive ball milled Mg composites with palladium additives. Journal of Alloys and Compounds, 2013, 580, S144-S148.	2.8	12
87	Thermodynamic features of metal hydride thermal sorption compressors and perspectives of their application in hydrogen liquefaction systems. JPhys Energy, 2020, 2, 021007.	2.3	12
88	Modelling of metal hydride hydrogen compressors from thermodynamics of hydrogen â€“ Metal interactions viewpoint: Part II. Assessment of the performance of metal hydride compressors. International Journal of Hydrogen Energy, 2021, 46, 2339-2350.	3.8	12
89	Interactions of Î»3-ScFe2 and Î»2-ScFe1.8 with hydrogen. Journal of the Less Common Metals, 1985, 106, 349-359.	0.9	11
90	Mass spectrometry determination of vibrationally excited states of molecules of hydrogen desorbed from the surface of metal hydrides. International Journal of Hydrogen Energy, 1995, 20, 357-360.	3.8	11

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91	Phase-structural and morphological features, dehydrogenation/re-hydrogenation performance and hydrolysis of nanocomposites prepared by ball milling of MgH2 with germanium. International Journal of Hydrogen Energy, 2019, 44, 23160-23171.	3.8	10
92	Control strategy of a fuel-cell power module for electric forklift. International Journal of Hydrogen Energy, 2021, 46, 35938-35948.	3.8	10
93	Improved Hydrogenation Kinetics of TiMn1.52 Alloy Coated with Palladium through Electroless Deposition. Materials, 2021, 14, 1833.	1.3	9
94	Thermally driven hydrogen compression using metal hydrides. International Journal of Energy Research, 2022, 46, 22049-22069.	2.2	9
95	Sorption and electrotransfer characteristics of hydrogen-gettering material in contact with a hydrogen plasma. Journal of Alloys and Compounds, 1997, 261, 259-262.	2.8	8
96	On the structural, hydrogenation behaviour and computer simulation studies of Pâ€“Câ€“T of Zr1â^'2xMmxTixFe1.4Cr0.6 (x=0.03, 0.05, 0.07, 0.09) alloys. Journal of Alloys and Compounds, 2005, 397, 140-148.	2.8	8
97	Investigation of hydrogen plasma interaction withmetal hydride. International Journal of Hydrogen Energy, 1999, 24, 169-174.	3.8	7
98	Modelling of hydrogen thermal desorption spectra. Materials Today: Proceedings, 2018, 5, 10440-10449.	0.9	7
99	Hydrogen and Fuel Cell Technologies at the Hydrogen South Africa (HySA) Systems Competence Centre. Platinum Metals Review, 2014, 58, 68-81.	1.5	5
100	Synthesis of Mg 2 FeH 6 assisted by heat treatment of starting materials. Materials Today: Proceedings, 2018, 5, 10533-10541.	0.9	5
101	Dehydrogenation performance of metal hydride container utilising MgH2-based composite. Applied Thermal Engineering, 2022, 209, 118314.	3.0	4
102	Influence of high-power plasma streams irradiation on surface erosion behavior of reversible hydrogen getters. Journal of Nuclear Materials, 2003, 313-316, 465-468.	1.3	2
103	Improvement of hydriding kinetics of LaNi5-type metal alloy through substitution of nickel with tin followed by palladium deposition. Bulletin of Materials Science, 2022, 45, 1.	0.8	2
104	Zr-V-Fe alloys as efficient hydrogen getters. Soviet Materials Science, 1992, 27, 124-132.	0.0	1
105	Numerical investigation of heat and mass transfer during hydrogen sorption in a mixture of AB2 â€“ AB5 metal hydride for hydrogen storage. Chemical Product and Process Modeling, 2021, 16, 41-53.	0.5	1
106	Modelling of Thermodynamic Pressure â€“ Composition â€“ Temperature Relationships in the Systems of Metallic Hydride Forming Materials with Gaseous Hydrogen Using C++ Software. Chemical Product and Process Modeling, 2019, 14, .	0.5	0
107	AUTONOMOUS WIND-HYDROGEN STATIONS. , 2007, , 861-865.		0