Mykhaylo Lototskyy

List of Publications by Citations

103 papers	3,666 citations	34 h-index	57 g-index
107 ext. papers	4,597 ext. citations	5.5 avg, IF	5.55 L-index

#	Paper	IF	Citations
103	Application of hydrides in hydrogen storage and compression: Achievements, outlook and perspectives. *International Journal of Hydrogen Energy*, **2019**, 44, 7780-7808	6.7	273
102	Metal hydride hydrogen compressors: A review. *International Journal of Hydrogen Energy*, **2014**, 39, 5818-5851	6.7	269
101	Magnesium based materials for hydrogen based energy storage: Past, present and future. *International Journal of Hydrogen Energy*, **2019**, 44, 7809-7859	6.7	264
100	Materials for hydrogen-based energy storage – past, recent progress and future outlook. *Journal of Alloys and Compounds*, **2020**, 827, 153548	5.7	264
99	The use of metal hydrides in fuel cell applications. *Progress in Natural Science: Materials International*, **2017**, 27, 3-20	3.6	151
98	Microstructure and hydrogenation behavior of ball-milled and melt-spun Mg–10Ni–2Mm alloys. *Journal of Alloys and Compounds*, **2008**, 466, 176-181	5.7	145
97	Magnesium–carbon hydrogen storage hybrid materials produced by reactive ball milling in hydrogen. *Carbon*, **2013**, 57, 146-160	10.4	94
96	In situ synchrotron X-ray diffraction studies of hydrogen desorption and absorption properties of Mg and MgMmNi after reactive ball milling in hydrogen. *Acta Materialia*, **2009**, 57, 3989-4000	8.4	86
95	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	6.7	80
94	Nanostructured MgMmNi hydrogen storage alloy: Structure–properties relationship. *Journal of Alloys and Compounds*, **2007**, 446-447, 114-120	5.7	73
93	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	6.7	68
92	Metal hydride hydrogen storage and compression systems for energy storage technologies. *International Journal of Hydrogen Energy*, **2021**, 46, 13647-13657	6.7	66
91	Investigation of hydrogen storage capacity of multi-walled carbon nanotubes deposited with Pd or V. *International Journal of Hydrogen Energy*, **2009**, 34, 6669-6675	6.7	65
90	An outstanding effect of graphite in nano-MgH2–TiH2 on hydrogen storage performance. *Journal of Materials Chemistry A*, **2018**, 6, 10740-10754	13	58
89	Vanadium-based BCC alloys: phase-structural characteristics and hydrogen sorption properties. *Journal of Alloys and Compounds*, **2005**, 404-406, 421-426	5.7	53
88	Modelling of phase equilibria in metal–hydrogen systems. *Journal of Alloys and Compounds*, **2003**, 356-357, 27-31	5.7	52
87	Comparative analysis of the efficiencies of hydrogen storage systems utilising solid state H storage materials. *Journal of Alloys and Compounds*, **2015**, 645, S365-S373	5.7	48

86	Hydrogen storage behavior of magnesium catalyzed by nickel-graphene nanocomposites. *International Journal of Hydrogen Energy*, **2019**, 44, 29212-29223	6.7	47
85	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	6.7	47
84	Chemical surface modification for the improvement of the hydrogenation kinetics and poisoning resistance of TiFe. *Journal of Alloys and Compounds*, **2011**, 509, S770-S774	5.7	46
83	Surface-modified advanced hydrogen storage alloys for hydrogen separation and purification. *Journal of Alloys and Compounds*, **2011**, 509, S555-S561	5.7	42
82	Surface modification of TiFe hydrogen storage alloy by metal-organic chemical vapour deposition of palladium. *International Journal of Hydrogen Energy*, **2011**, 36, 9743-9750	6.7	42
81	Metal hydride hydrogen compression: recent advances and future prospects. *Applied Physics A: Materials Science and Processing*, **2016**, 122, 1	2.6	42
80	Metal hydride hydrogen storage tank for light fuel cell vehicle. *International Journal of Hydrogen Energy*, **2019**, 44, 29263-29272	6.7	42
79	Cycling stability of RNi5 (R=La, La+Ce) hydrides during the operation of metal hydride hydrogen compressor. *International Journal of Hydrogen Energy*, **2018**, 43, 4415-4427	6.7	40
78	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	8.9	40
77	Microstructure and novel hydrogen storage properties of melt-spun MgNiMm alloys. *Journal of Alloys and Compounds*, **2009**, 477, 262-266	5.7	39
76	Problem of hydrogen storage and prospective uses of hydrides for hydrogen accumulation. *Russian Journal of General Chemistry*, **2007**, 77, 694-711	0.7	39
75	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	6.7	38
74	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	6.7	37
73	Performance analysis of cylindrical metal hydride beds with various heat exchange options. *Journal of Alloys and Compounds*, **2015**, 645, S89-S95	5.7	37
72	Metal hydride hydrogen storage tank for fuel cell utility vehicles. *International Journal of Hydrogen Energy*, **2020**, 45, 7958-7967	6.7	37
71	Niche applications of metal hydrides and related thermal management issues. *Journal of Alloys and Compounds*, **2015**, 645, S117-S122	5.7	36
70	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	6.7	35
69	Selection of metal hydrides-based thermal energy storage: Energy storage efficiency and density targets. *International Journal of Hydrogen Energy*, **2018**, 43, 22568-22583	6.7	33

68	Thermally Driven Metal Hydride Hydrogen Compressor for Medium-Scale Applications. *Energy Procedia*, **2012**, 29, 347-356	2.3	32
67	Microstructural evolution and improved hydrogenation–dehydrogenation kinetics of nanostructured melt-spun MgNiMm alloys. *Journal of Alloys and Compounds*, **2011**, 509, S640-S645	5.7	29
66	Nanostructured surface coatings for the improvement of AB5-type hydrogen storage intermetallics. *International Journal of Energy Research*, **2009**, 33, 1171-1179	4.5	29
65	Hydrogen sorption properties of arc generated single-wall carbon nanotubes. *Journal of Alloys and Compounds*, **2003**, 356-357, 510-514	5.7	29
64	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	6.7	28
63	Nanostructured hydrogen storage materials prepared by high-energy reactive ball milling of magnesium and ferrovanadium. *International Journal of Hydrogen Energy*, **2019**, 44, 6687-6701	6.7	26
62	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	4.4	26
61	A review on crucibles for induction melting of titanium alloys. *Materials and Design*, **2020**, 186, 108295	8.1	25
60	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	5.7	23
59	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	6.7	23
58	Magnesium-based hydrogen storage nanomaterials prepared by high energy reactive ball milling in hydrogen at the presence of mixed titanium–iron oxide. *Journal of Alloys and Compounds*, **2015**, 645, S454-S459	5.7	22
57	New model of phase equilibria in metal–hydrogen systems: Features and software. *International Journal of Hydrogen Energy*, **2016**, 41, 2739-2761	6.7	22
56	Thermodynamical, structural, hydrogen storage properties and simulation studies of P–C isotherms of (La,Mm)Ni5-yFey. *International Journal of Hydrogen Energy*, **2007**, 32, 2971-2976	6.7	22
55	On the synthesis and hydrogenation behaviour of MmNi5−xFex alloys and computer simulation of their P–C–T curves. *Journal of Alloys and Compounds*, **2004**, 373, 208-213	5.7	22
54	Oxygen-, Boron- and Nitrogen-Containing Zirconium-Vanadium Alloys as Hydrogen Getters with Enhanced Properties*. *Zeitschrift Fur Physikalische Chemie*, **1994**, 183, 485-489	3.1	22
53	Distributed hybrid MH–CGH2 system for hydrogen storage and its supply to LT PEMFC power modules. *Journal of Alloys and Compounds*, **2015**, 645, S329-S333	5.7	20
52	Combustion-type hydrogenation of nanostructured Mg-based composites for hydrogen storage. *International Journal of Energy Research*, **2009**, 33, 1114-1125	4.5	20
51	Hydrogen South Africa (HySA) Systems Competence Centre: Mission, objectives, technological achievements and breakthroughs. *International Journal of Hydrogen Energy*, **2014**, 39, 3577-3596	6.7	19

50	Sample pilot plant of industrial metal-hydridecompressor. *International Journal of Hydrogen Energy*, **1999**, 24, 645-648	6.7	19
49	Sn-containing (La,Mm)Ni5Sn H5 intermetallic hydrides: thermodynamic, structural and kinetic properties. *Journal of Alloys and Compounds*, **2003**, 356-357, 773-778	5.7	18
48	Cryo-hydride high-pressure hydrogen compressor. *International Journal of Hydrogen Energy*, **1999**, 24, 649-650	6.7	18
47	Induction melted AB 2 -type metal hydrides for hydrogen storage and compression applications. *Materials Today: Proceedings*, **2018**, 5, 10470-10478	1.4	18
46	Improved tolerance of Pd/Cu-treated metal hydride alloys towards air impurities. *International Journal of Hydrogen Energy*, **2010**, 35, 8626-8630	6.7	17
45	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	6.7	16
44	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	6.7	16
43	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	5.7	15
42	Metal Hydride Beds-Phase Change Materials: Dual Mode Thermal Energy Storage for Medium-High Temperature Industrial Waste Heat Recovery. *Energies*, **2019**, 12, 3949	3.1	14
41	Hydrogen absorption study of high-energy reactive ball milled Mg composites with palladium additives. *Journal of Alloys and Compounds*, **2013**, 580, S144-S148	5.7	12
40	Oxide-modified Zr?Fe alloys: thermodynamic calculations, X-ray analysis and hydrogen absorption properties. *Journal of Alloys and Compounds*, **1995**, 219, 38-40	5.7	12
39	Metallography and hydrogenation behaviour of the alloy Mg-72mass%Ni-20mass%La-8mass%. *Journal of Alloys and Compounds*, **2007**, 446-447, 183-187	5.7	11
38	On the computer simulation of the PCI isotherms of ZrFe2 type hydrogen storage materials. *International Journal of Hydrogen Energy*, **2003**, 28, 1425-1431	6.7	11
37	Metal hydride thermosorption compressors with improved dynamic characteristics. *International Journal of Hydrogen Energy*, **1996**, 21, 1053-1055	6.7	11
36	Development of a Portable Polymer Electrolyte Membrane Fuel Cell System Using Metal Hydride as the Hydrogen Storage Medium. *ECS Transactions*, **2016**, 75, 553-562	1	11
35	Industrial-scale metal hydride hydrogen compressors developed at the South African Institute for Advanced Materials Chemistry. *Materials Today: Proceedings*, **2018**, 5, 10514-10523	1.4	11
34	Hydrogen energetics: Past, present, prospects. *Russian Journal of General Chemistry*, **2007**, 77, 660-675	0.7	10
33	Applications of ZrV hydrogen getters in vacuum-plasma devices: Phase-structural and hydrogen sorption characteristics. *Journal of Alloys and Compounds*, **2005**, 404-406, 724-727	5.7	10

32	The formation of excited H species using metal hydrides. *Journal of Alloys and Compounds*, **1995**, 231, 856-859	5.7	10
31	Application of Metal Hydrides in Hydrogen Ion Sources*. *Zeitschrift Fur Physikalische Chemie*, **1994**, 183, 479-483	3.1	10
30	Modelling of metal hydride hydrogen compressors from thermodynamics of hydrogen Metal interactions viewpoint: Part I. Assessment of the performance of metal hydride materials. *International Journal of Hydrogen Energy*, **2021**, 46, 2330-2338	6.7	9
29	Manufacturing of Hydride-Forming Alloys from Mixed Titanium-Iron Oxide. *Advanced Materials Research*, **2013**, 746, 14-22	0.5	8
28	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**,	6.7	8
27	Metal hydride hydrogen compressors for energy storage systems: layout features and results of long-term tests. *JPhys Energy*, **2020**, 2, 024005	4.9	7
26	On the structural, hydrogenation behaviour and computer simulation studies of P of Zr1xMmxTixFe1.4Cr0.6 (x=0.03, 0.05, 0.07, 0.09) alloys. *Journal of Alloys and Compounds*, **2005**, 397, 140-148	5.7	7
25	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	3.1	7
24	Experimental set-up for investigations of hydrogen-sorption characteristics of carbon nanomaterials. *International Journal of Hydrogen Energy*, **2016**, 41, 401-406	6.7	6
23	Sorption and electrotransfer characteristics of hydrogen-gettering material in contact with a hydrogen plasma. *Journal of Alloys and Compounds*, **1997**, 261, 259-262	5.7	6
22	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	6.7	6
21	Interactions of -ScFe2 and -ScFe1.8 with hydrogen. *Journal of the Less Common Metals*, **1985**, 106, 349-359		6
20	Study of hydrogen storage properties of oxygen modified Ti- based AB2 type metal hydride alloy. *International Journal of Hydrogen Energy*, **2021**, 46, 13658-13663	6.7	6
19	Modelling of hydrogen thermal desorption spectra. *Materials Today: Proceedings*, **2018**, 5, 10440-10449	1.4	6
18	Thermodynamic features of metal hydride thermal sorption compressors and perspectives of their application in hydrogen liquefaction systems. *JPhys Energy*, **2020**, 2, 021007	4.9	5
17	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	6.7	5
16	Investigation of hydrogen plasma interaction withmetal hydride. *International Journal of Hydrogen Energy*, **1999**, 24, 169-174	6.7	5
15	200 NL H2 hydrogen storage tank using MgH2iH2 nanocomposite as H storage material. *International Journal of Hydrogen Energy*, **2021**, 46, 19046-19059	6.7	5

List of Publications

14	Modelling of metal hydride hydrogen compressors from thermodynamics of hydrogen–Metal interactions viewpoint: Part II. Assessment of the performance of metal hydride compressors. *International Journal of Hydrogen Energy*, **2021**, 46, 2339-2350	6.7	5
13	Synthesis of Mg2FeH6 assisted by heat treatment of starting materials. *Materials Today: Proceedings*, **2018**, 5, 10533-10541	1.4	4
12	Hydrogen and Fuel Cell Technologies at the Hydrogen South Africa (HySA) Systems Competence Centre. *Platinum Metals Review*, **2014**, 58, 68-81		3
11	Improved Hydrogenation Kinetics of TiMn Alloy Coated with Palladium through Electroless Deposition. *Materials*, **2021**, 14,	3.5	3
10	Influence of high-power plasma streams irradiation on surface erosion behavior of reversible hydrogen getters. *Journal of Nuclear Materials*, **2003**, 313-316, 465-468	3.3	2
9	Control strategy of a fuel-cell power module for electric forklift. *International Journal of Hydrogen Energy*, **2021**, 46, 35938-35938	6.7	2
8	Zr-V-Fe alloys as efficient hydrogen getters. *Soviet Materials Science*, **1992**, 27, 124-132		1
7	Numerical investigation of heat and mass transfer during hydrogen sorption in a mixture of AB2–AB5 metal hydride for hydrogen storage. *Chemical Product and Process Modeling*, **2021**, 16, 41-53	1.1	1
6	Metal Hydride–Graphene Composites for Hydrogen Based Energy Storage. *Journal of Alloys and Compounds*, **2021**, 162881	5.7	1
5	STRUCTURAL AND METHODICAL FEATURES OF THE INSTALLATION FOR INVESTIGATIONS OF HYDROGEN-SORPTION CHARACTERISTICS OF CARBON NANOMATERIALS AND THEIR COMPOSITES **2007**, 365-382		1
4	Dehydrogenation performance of metal hydride container utilising MgH2-based composite. *Applied Thermal Engineering*, **2022**, 209, 118314	5.8	1
3	Laves Type Intermetallic Compounds As Hydrogen Storage Materials: A Review. *Journal of Alloys and Compounds*, **2022**, 165219	5.7	1
2	AUTONOMOUS WIND-HYDROGEN STATIONS **2007**, 861-865		
1	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	1.7	