Volodymyr Yartys

List of Publications by Citations

212 papers	6,032 citations	42 h-index	69 g-index
239 ext. papers	7,125 ext. citations	5.2 avg, IF	5.85 L-index

#	Paper	IF	Citations
212	Application of hydrides in hydrogen storage and compression: Achievements, outlook and perspectives. *International Journal of Hydrogen Energy*, **2019**, 44, 7780-7808	6.7	273
211	Metal hydride hydrogen compressors: A review. *International Journal of Hydrogen Energy*, **2014**, 39, 5818-5851	6.7	269
210	Magnesium based materials for hydrogen based energy storage: Past, present and future. *International Journal of Hydrogen Energy*, **2019**, 44, 7809-7859	6.7	264
209	Materials for hydrogen-based energy storage – past, recent progress and future outlook. *Journal of Alloys and Compounds*, **2020**, 827, 153548	5.7	264
208	Review of magnesium hydride-based materials: development and optimisation. *Applied Physics A: Materials Science and Processing*, **2016**, 122, 1	2.6	212
207	Aluminum hydride as a hydrogen and energy storage material: Past, present and future. *Journal of Alloys and Compounds*, **2011**, 509, S517-S528	5.7	155
206	The use of metal hydrides in fuel cell applications. *Progress in Natural Science: Materials International*, **2017**, 27, 3-20	3.6	151
205	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
204	Mg-based compounds for hydrogen and energy storage. *Applied Physics A: Materials Science and Processing*, **2016**, 122, 1	2.6	121
203	Mg substitution effect on the hydrogenation behaviour, thermodynamic and structural properties of the La2Ni7–H(D)2 system. *Journal of Solid State Chemistry*, **2008**, 181, 812-821	3.3	107
202	Magnesium–carbon hydrogen storage hybrid materials produced by reactive ball milling in hydrogen. *Carbon*, **2013**, 57, 146-160	10.4	94
201	LaMg11 with a giant unit cell synthesized by hydrogen metallurgy: Crystal structure and hydrogenation behavior. *Acta Materialia*, **2010**, 58, 2510-2519	8.4	94
200	Effect of magnesium on the crystal structure and thermodynamics of the La3–xMgxNi9 hydrides. *Journal of Alloys and Compounds*, **2011**, 509, S540-S548	5.7	88
199	In situ synchrotron X-ray diffraction studies of hydrogen desorption and absorption properties of Mg and Mg–MmNi after reactive ball milling in hydrogen. *Acta Materialia*, **2009**, 57, 3989-4000	8.4	86
198	Short hydrogen–hydrogen separations in novel intermetallic hydrides, RE3Ni3In3D4 (RE=La, Ce and Nd). *Journal of Alloys and Compounds*, **2002**, 330-332, 132-140	5.7	84
197	Double-bridge bonding of aluminium and hydrogen in the crystal structure of gamma-AlH3. *Inorganic Chemistry*, **2007**, 46, 1051-5	5.1	83
196	Annealing effect on phase composition and electrochemical properties of the Co-free La2MgNi9 anode for Ni-metal hydride batteries. *Electrochimica Acta*, **2013**, 96, 27-33	6.7	82

195	Exploits, advances and challenges benefiting beyond Li-ion battery technologies. *Journal of Alloys and Compounds*, **2020**, 817, 153261	5.7	79
194	Kinetics of hydrogen evolution from MgH2: Experimental studies, mechanism and modelling. *International Journal of Hydrogen Energy*, **2010**, 35, 9060-9069	6.7	78
193	Hydrogen storage properties and structure of La1−xMgx(Ni1−yMny)3 intermetallics and their hydrides. *Journal of Alloys and Compounds*, **2007**, 446-447, 166-172	5.7	74
192	Nanostructured MgNiMmNi hydrogen storage alloy: Structure–properties relationship. *Journal of Alloys and Compounds*, **2007**, 446-447, 114-120	5.7	73
191	Desorption characteristics of rare earth (R) hydrides (R=Y, Ce, Pr, Nd, Sm, Gd and Tb) in relation to the HDDR behaviour of R–Fe-based-compounds. *Journal of Alloys and Compounds*, **1997**, 253-254, 128-133	5.7	71
190	Metal hydride hydrogen storage and compression systems for energy storage technologies. *International Journal of Hydrogen Energy*, **2021**, 46, 13647-13657	6.7	66
189	Novel intermetallic hydrides. *Journal of Alloys and Compounds*, **2006**, 408-412, 273-279	5.7	60
188	An outstanding effect of graphite in nano-MgH2–TiH2 on hydrogen storage performance. *Journal of Materials Chemistry A*, **2018**, 6, 10740-10754	13	58
187	Thermal decomposition of AlH3 studied by in situ synchrotron X-ray diffraction and thermal desorption spectroscopy. *Journal of Alloys and Compounds*, **2007**, 446-447, 280-289	5.7	56
186	Nanostructured rapidly solidified LaMg11Ni alloy: Microstructure, crystal structure and hydrogenation properties. *International Journal of Hydrogen Energy*, **2012**, 37, 3548-3557	6.7	54
185	Vanadium-based BCC alloys: phase-structural characteristics and hydrogen sorption properties. *Journal of Alloys and Compounds*, **2005**, 404-406, 421-426	5.7	53
184	Modelling of phase equilibria in metal–hydrogen systems. *Journal of Alloys and Compounds*, **2003**, 356-357, 27-31	5.7	52
183	Crystal chemistry of RT5H(D)x, RT2H(D)x and RT3H(D)x hydrides based on intermetallic compounds of CaCu5, MgCu2, MgZn2 and PuNi3 structure types. *International Journal of Hydrogen Energy*, **1982**, 7, 957-965	6.7	52
182	Hydrogen in La2MgNi9D13: the role of magnesium. *Inorganic Chemistry*, **2012**, 51, 4231-8	5.1	50
181	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
180	Nanostructured rapidly solidified LaMg11Ni alloy. II. In situ synchrotron X-ray diffraction studies of hydrogen absorption–desorption behaviours. *International Journal of Hydrogen Energy*, **2012**, 37, 5710-5722	6.7	48
179	Hydrogen storage behavior of magnesium catalyzed by nickel-graphene nanocomposites. *International Journal of Hydrogen Energy*, **2019**, 44, 29212-29223	6.7	47
178	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

177	Effect of magnesium content and quenching rate on the phase structure and composition of rapidly solidified La2MgNi9 metal hydride battery electrode alloy. *Journal of Alloys and Compounds*, **2013**, 555, 201-208	5.7	46
176	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
175	Microstructural optimization of LaMg12 alloy for hydrogen storage. *Journal of Alloys and Compounds*, **2011**, 509, S633-S639	5.7	45
174	Structure□properties relationship in RE3□MgxNi9H10□13 (RE = La,Pr,Nd) hydrides for energy storage. *Journal of Alloys and Compounds*, **2015**, 645, S412-S418	5.7	44
173	Surface-modified advanced hydrogen storage alloys for hydrogen separation and purification. *Journal of Alloys and Compounds*, **2011**, 509, S555-S561	5.7	42
172	Short hydrogen-hydrogen separation in RNiInH1.333(R=La, Ce, Nd). *Physical Review B*, **2003**, 67,	3.3	42
171	Metal hydride hydrogen compression: recent advances and future prospects. *Applied Physics A: Materials Science and Processing*, **2016**, 122, 1	2.6	42
170	Unusual effects on hydrogenation: anomalous expansion and volume contraction. *Journal of Alloys and Compounds*, **2003**, 356-357, 109-113	5.7	41
169	Microstructure and novel hydrogen storage properties of melt-spun MgNi□Mm alloys. *Journal of Alloys and Compounds*, **2009**, 477, 262-266	5.7	39
168	Problem of hydrogen storage and prospective uses of hydrides for hydrogen accumulation. *Russian Journal of General Chemistry*, **2007**, 77, 694-711	0.7	39
167	Full-cell hydride-based solid-state Li batteries for energy storage. *International Journal of Hydrogen Energy*, **2019**, 44, 7875-7887	6.7	37
166	Metal hydrides as negative electrode materials for Ni□MH batteries. *Applied Physics A: Materials Science and Processing*, **2016**, 122, 1	2.6	37
165	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
164	Modelling and experimental results of heat transfer in a metal hydride store during hydrogen charge and discharge. *International Journal of Hydrogen Energy*, **2009**, 34, 5121-5130	6.7	34
163	Hexagonal LaNiSnD2 with a filled ZrBeSi-type structure. *Journal of Alloys and Compounds*, **2002**, 330-332, 141-145	5.7	34
162	Crystal chemistry and thermodynamic properties of anisotropic Ce2Ni7H4.7 hydride. *Journal of Solid State Chemistry*, **2007**, 180, 2566-2576	3.3	32
161	Hydrogen absorption□desorption, crystal structure and magnetism in RENiAl intermetallic compounds and their hydrides. *Journal of Alloys and Compounds*, **1997**, 253-254, 343-346	5.7	31
160	Study of hydrogen storage and electrochemical properties of AB2-type Ti0.15Zr0.85La0.03Ni1.2Mn0.7V0.12Fe0.12 alloy. *Journal of Alloys and Compounds*, **2019**, 793, 564-575	5.7	30

159	Kinetics of hydrogen desorption from the powders of metal hydrides. *Journal of Alloys and Compounds*, **2005**, 404-406, 312-316	5.7	30
158	Microstructural evolution and improved hydrogenation–dehydrogenation kinetics of nanostructured melt-spun Mg–Ni–Mm alloys. *Journal of Alloys and Compounds*, **2011**, 509, S640-S645	5.7	29
157	Nanostructured surface coatings for the improvement of AB5-type hydrogen storage intermetallics. *International Journal of Energy Research*, **2009**, 33, 1171-1179	4.5	29
156	Synthesis of carbon nanostructures by arc evaporation of graphite rods with Co–Ni and Y–Ni2 catalysts. *Carbon*, **2003**, 41, 1357-1364	10.4	29
155	Hydrogen sorption properties of arc generated single-wall carbon nanotubes. *Journal of Alloys and Compounds*, **2003**, 356-357, 510-514	5.7	29
154	Phase-structural transformations in a metal hydride battery anode La1.5Nd0.5MgNi9 alloy and its electrochemical performance. *International Journal of Hydrogen Energy*, **2016**, 41, 9954-9967	6.7	28
153	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
152	The effect of solidification rate on microstructural evolution of a melt-spun Mg–20Ni–8Mm hydrogen storage alloy. *Journal of Alloys and Compounds*, **2007**, 446-447, 178-182	5.7	28
151	Hydrides of the RNiIn (R=La, Ce, Nd) intermetallic compounds: crystallographic characterisation and thermal stability. *Journal of Alloys and Compounds*, **1999**, 284, 256-261	5.7	28
150	Mechanistic and Kinetic Study of the Electrochemical Charge and Discharge of La2MgNi9 by in Situ Powder Neutron Diffraction. *Journal of Physical Chemistry C*, **2014**, 118, 12162-12169	3.8	27
149	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
148	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
147	Neutron diffraction studies of Zr-containing intermetallic hydrides with ordered hydrogen sublattice. I. Crystal structure of Zr2FeD5. *Journal of Alloys and Compounds*, **1998**, 274, 217-221	5.7	26
146	Hydrogen induced antiferromagnetism in the Kondo semimetal CeNiSn. *Journal of Alloys and Compounds*, **2003**, 359, 62-65	5.7	26
145	Hydrogen diffusion in La1.5Nd0.5MgNi9 alloy electrodes of the Ni/MH battery. *Journal of Alloys and Compounds*, **2015**, 645, S288-S291	5.7	25
144	Structural studies of deuterides of yttrium carbide. *Journal of Alloys and Compounds*, **2003**, 351, 151-157	5.7	25
143	Deuterofullerene C60D24 studied by XRD, IR and XPS. *Journal of Alloys and Compounds*, **2001**, 314, 296-300	5.7	25
142	In situ neutron powder diffraction study of phase-structural transformations in the La–Mg–Ni battery anode alloy. *Journal of Alloys and Compounds*, **2016**, 670, 210-216	5.7	24

141	Influence of Cr on the hydrogen storage properties of Ti-rich TiV Cr alloys. *International Journal of Hydrogen Energy*, **2012**, 37, 7624-7628	6.7	24
140	Hydrogenation behaviour, neutron diffraction studies and microstructural characterisation of boron oxide-doped Zr V alloys. *Journal of Alloys and Compounds*, **1999**, 293-295, 93-100	5.7	23
139	Electrochemical studies and phase-structural characterization of a high-capacity La-doped AB2 Laves type alloy and its hydride. *Journal of Power Sources*, **2019**, 418, 193-201	8.9	23
138	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
137	Neutron diffraction studies of Zr-containing intermetallic hydrides with ordered hydrogen sublattice. II. Orthorhombic Zr3FeD6.7 with filled Re3B-type structure. *Journal of Alloys and Compounds*, **1998**, 278, 252-259	5.7	21
136	Phase-structural characteristics of (Ti1 Zrx)4Ni2O0.3 alloys and their hydrogen gas and electrochemical absorption desorption properties. *Journal of Alloys and Compounds*, **2001**, 314, 124-131	5.7	21
135	Structural Chemistry of Hydrides of Intermetallic Compounds. *Russian Chemical Reviews*, **1983**, 52, 299-317	6.8	21
134	Combustion-type hydrogenation of nanostructured Mg-based composites for hydrogen storage. *International Journal of Energy Research*, **2009**, 33, 1114-1125	4.5	20
133	(Hf,Zr)2Fe and Zr4Fe2O0.6 compounds and their hydrides: phase equilibria, crystal structure and magnetic properties. *Journal of Alloys and Compounds*, **1998**, 265, 6-14	5.7	20
132	Magnetic properties and crystal structure of HoNiAl and UNiAl hydrides. *Journal of Applied Physics*, **2000**, 87, 6815-6817	2.5	20
131	Hydrogen-assisted phase transition in a trihydride MgNi2H3 synthesized at high H2 pressures: Thermodynamics, crystallographic and electronic structures. *Acta Materialia*, **2015**, 82, 316-327	8.4	19
130	Crystal chemistry and metal-hydrogen bonding in anisotropic and interstitial hydrides of intermetallics of rare earth (R) and transition metals (T), RT3 and R2T7. *Zeitschrift F Kristallographie*, **2008**, 223,		19
129	Crystal structure of TbNiSiD1.78. *Journal of Alloys and Compounds*, **2001**, 322, 160-165	5.7	19
128	Hydrides of Laves type Ti r alloys with enhanced H storage capacity as advanced metal hydride battery anodes. *Journal of Alloys and Compounds*, **2020**, 828, 154354	5.7	18
127	In operando neutron diffraction study of a commercial graphite/(Ni, Mn, Co) oxide-based multi-component lithium ion battery. *Journal of Power Sources*, **2016**, 326, 93-103	8.9	18
126	The effects of rapid solidification on microstructure and hydrogen sorption properties of binary BCC Ti V alloys. *Journal of Alloys and Compounds*, **2014**, 582, 540-546	5.7	18
125	Selective hydrogen absorption from gaseous mixtures by BCC Ti-V alloys. *International Journal of Hydrogen Energy*, **2012**, 37, 4127-4138	6.7	18
124	Ce-valence state and hydrogen-induced volume effects in Ce-based intermetallic compounds and their hydrides. *Journal of Alloys and Compounds*, **2005**, 404-406, 144-149	5.7	18

123	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
122	Crystal structure of Th2Al deuterides. *Journal of Alloys and Compounds*, **2000**, 309, 154-164	5.7	18
121	Anisotropic hydrogen decrepitation and corrosion behaviour in NdFeB magnets. *Journal of Alloys and Compounds*, **1994**, 206, L7-L10	5.7	18
120	In operando neutron diffraction study of LaNdMgNi9H13 as a metal hydride battery anode. *Journal of Power Sources*, **2017**, 343, 502-512	8.9	17
119	Nanostructured magnesium silicide Mg2Si and its electrochemical performance as an anode of a lithium ion battery. *Journal of Alloys and Compounds*, **2017**, 718, 478-491	5.7	17
118	Hydrogenation of fullerenes C60 and C70 in the presence of hydride-forming metals and intermetallic compounds. *Journal of Alloys and Compounds*, **1997**, 253-254, 25-28	5.7	17
117	Comparison of C14- and C15-Predomiated AB2 Metal Hydride Alloys for Electrochemical Applications. *Batteries*, **2017**, 3, 22	5.7	16
116	RNiAl hydrides and their magnetic properties. *Journal of Alloys and Compounds*, **1997**, 262-263, 206-210	5.7	16
115	Hydrogen sorption properties of intermetallic TbNiAl and crystal structure of TbNiAlD1.1. *Journal of Alloys and Compounds*, **1998**, 279, L4-L7	5.7	15
114	Non-isothermal kinetics and in situ SR XRD studies of hydrogen desorption from dihydrides of binary TiV alloys. *International Journal of Hydrogen Energy*, **2013**, 38, 14704-14714	6.7	14
113	Hydrogenation and microstructural study of melt-spun Ti0.8V0.2. *Journal of Alloys and Compounds*, **2011**, 509, S775-S778	5.7	14
112	Orthorhombic NdNiSnD with filled TiNiSi-type structure. *Journal of Alloys and Compounds*, **2002**, 336, 181-186	5.7	14
111	Neutron diffraction studies of Zr-containing intermetallic hydrides with ordered hydrogen sublattice.: V. Orthorhombic Zr3CoD6.9 with filled Re3B-type structure. *Journal of Alloys and Compounds*, **2000**, 296, 312-316	5.7	14
110	In situ powder neutron diffraction study of LaNiInD1.63 with short DD distances. *Journal of Alloys and Compounds*, **2003**, 356-357, 65-68	5.7	13
109	Hydrogen absorptionesorption characteristics of the LaNi5Sn intermetallic compound. *Journal of Alloys and Compounds*, **2004**, 373, 161-166	5.7	13
108	Neutron diffraction studies of Zr-containing intermetallic hydrides with ordered hydrogen sublattice,. *Journal of Alloys and Compounds*, **1999**, 287, 189-194	5.7	13
107	Hydrogen absorption and phase structural characteristics of oxygen-containing Zr?V alloys substituted by Hf, Ti, Nb, Fe. *Journal of Alloys and Compounds*, **1995**, 219, 34-37	5.7	13
106	Further studies of anisotropic hydrogen decrepitation in Nd16Fe76B8 sintered magnets. *Journal of Alloys and Compounds*, **1996**, 239, 50-54	5.7	13

105	Hydrogen ordering and H-induced phase transformations in Zr-based intermetallic hydrides. *Journal of Alloys and Compounds*, **1999**, 293-295, 74-87	5.7	12
104	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
103	High temperature hydrogenation of TiV alloys: The effect of cycling and carbon monoxide on the bulk and surface properties. *International Journal of Hydrogen Energy*, **2016**, 41, 1699-1710	6.7	11
102	Modeling of metal hydride battery anodes at high discharge current densities and constant discharge currents. *Electrochimica Acta*, **2014**, 147, 73-81	6.7	11
101	High pressure in situ diffraction studies of metal–hydrogen systems. *Journal of Alloys and Compounds*, **2011**, 509, S817-S822	5.7	11
100	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
99	In situ SR-XRD studies of hydrogen absorption–desorption in LaNi4.7Sn0.3. *Journal of Alloys and Compounds*, **2005**, 404-406, 604-608	5.7	11
98	The use of metal hydride powder blending in the production of NdFeB-type magnets. *International Journal of Hydrogen Energy*, **2001**, 26, 441-448	6.7	11
97	Crystal and magnetic structure of TbNiAl-based deuterides, TbNiAlD0.30 and TbNiAlD1.04, studied by neutron diffraction and synchrotron radiation. *Journal of Alloys and Compounds*, **1999**, 293-295, 178-184	5.7	11
96	LaNi5-Assisted Hydrogenation of MgNi2 in the Hybrid Structures of La1.09Mg1.91Ni9D9.5 and La0.91Mg2.09Ni9D9.4. *Energies*, **2015**, 8, 3198-3211	3.1	10
95	Further studies of hydrogenation, disproportionation, desorption and recombination processes in a Nd5Fe2B6 boride. *Journal of Alloys and Compounds*, **1997**, 253-254, 134-139	5.7	10
94	Thermodynamic properties of the RENiIn hydrides with RE=La, Ce, Pr and Nd. *Journal of Alloys and Compounds*, **2005**, 397, 99-103	5.7	10
93	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
92	An Overview of Hydrogen Storage Methods. *NATO Science Series Series II, Mathematics, Physics and Chemistry*, **2004**, 75-104		10
91	Application of Metal Hydrides in Hydrogen Ion Sources*. *Zeitschrift Fur Physikalische Chemie*, **1994**, 183, 479-483	3.1	10
90	Structure and chemical bonding in MgNi2H3 from combined high resolution synchrotron and neutron diffraction studies and ab initio electronic structure calculations. *Acta Materialia*, **2015**, 98, 416-422	8.4	9
89	Cell Performance Comparison between C14- and C15-Predomiated AB2 Metal Hydride Alloys. *Batteries*, **2017**, 3, 29	5.7	9
88	Synchrotron diffraction studies and thermodynamics of hydrogen absorption–desorption processes in La0.5Ce0.5Ni4Co. *Journal of Alloys and Compounds*, **2011**, 509, S844-S848	5.7	9

87	Microstructural evolution of melt-spun Mg-10Ni-2Mm hydrogen storage alloy. *Transactions of Nonferrous Metals Society of China*, **2011**, 21, 121-126	3.3	9
86	Desorption behaviour of hydrogen in the LaNi4.7Sn0.3-H system. *Journal of Alloys and Compounds*, **2005**, 396, 197-201	5.7	9
85	Zr4Al3D2.68 and Zr3Al2D2.26: new Zr-containing intermetallic hydrides with ordered hydrogen sublattice. *Journal of Alloys and Compounds*, **2003**, 356-357, 91-95	5.7	9
84	Hydrogen Generation by the Hydrolysis of MgH2. *Materials Science*, **2020**, 56, 1-14	0.7	9
83	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
82	Studies of Zr-based C15 type metal hydride battery anode alloys prepared by rapid solidification. *Journal of Alloys and Compounds*, **2019**, 804, 527-537	5.7	8
81	Microstructure and hydrogen storage properties of as-cast and rapidly solidified Ti-rich TiV alloys. *Transactions of Nonferrous Metals Society of China*, **2012**, 22, 1831-1838	3.3	8
80	Hydrogenation behaviour and structure of R5Fe2B6 (R=Ce, Pr, Nd, Sm, Gd and Tb) borides. *Journal of Alloys and Compounds*, **1997**, 252, 201-208	5.7	8
79	Crystallographic and magnetic structure of Pr6Fe13AuD. *Journal of Alloys and Compounds*, **2003**, 356-357, 142-146	5.7	8
78	Structure and magnetic properties of TbNiAl-based deuterides. *Journal of Alloys and Compounds*, **2002**, 330-332, 169-174	5.7	8
77	Structural and magnetic properties of equiatomicrare-earth ternaries. *International Journal of Hydrogen Energy*, **1999**, 24, 119-127	6.7	8
76	Thermodynamics and crystal chemistry of the RE2MgNi9H12-13 (RE = La and Nd) hydrides. *Chemistry of Metals and Alloys*, **2014**, 7, 1-8	1	8
75	Hydrogen sorption and electrochemical properties of intermetallic compounds La2MgNi9 and La1.9Mg1.1Ni9. *Russian Chemical Bulletin*, **2016**, 65, 1971-1976	1.7	8
74	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
73	Nanostructured Metal Hydrides for Hydrogen Storage Studied by IN Situ Synchrotron and Neutron Diffraction. *Materials Research Society Symposia Proceedings*, **2010**, 1262, 1		7
72	Structural studies of the deuterides of carbon containing yttrium alloys. *Journal of Alloys and Compounds*, **2003**, 356-357, 475-479	5.7	7
71	Powder neutron diffraction study of Nd6Fe13GaD12.3 with a filled Nd6Fe13Si-type structure. *Journal of Alloys and Compounds*, **2000**, 312, 158-164	5.7	7
70	Hydrogen-induced phase and magnetic transformations in Nd1.1Fe4B4. *Journal of Magnetism and Magnetic Materials*, **1996**, 157-158, 119-120	2.8	7

69	Hydrogen Interaction with Intermetallic Compounds of Rare Earth Metals, Cobalt and Nickel with Aluminium, Gallium and Indium*. *Zeitschrift Fur Physikalische Chemie*, **1993**, 179, 275-279	3.1	7
68	Studies of the Hydrolysis of Aluminum Activated by Additions of Ga□In□Sn Eutectic Alloy, Bismuth, or Antimony. *Materials Science*, **2020**, 55, 536-547	0.7	6
67	Hydrogen assisted order□disorder transformations in Cu□Sn sublattices of the (La,Ce)CuSnD□2 systems. *Journal of Alloys and Compounds*, **2005**, 404-406, 112-117	5.7	6
66	Thermodynamic properties of the NdNi5Sn-H system. *Journal of Alloys and Compounds*, **2004**, 379, 171-175	5.7	6
65	M□ssbauer study of the RENiSnD (RE: Pr, Nd) monodeuterides. *Journal of Alloys and Compounds*, **2004**, 366, 81-85	5.7	6
64	The magnetic structure of TbNiAlD1.1. *Journal of Alloys and Compounds*, **2000**, 311, 114-119	5.7	6
63	Hydrogen absorption-desorption and crystallographic characteristics of RCo3□Gax(R ? Y, Gd; x = 0.6□1.2) intermetallics. *Journal of Alloys and Compounds*, **1992**, 189, L27-L29	5.7	6
62	The electrochemical performance of melt-spun C14-Laves type Ti Zr-based alloy. *International Journal of Hydrogen Energy*, **2020**, 45, 1297-1303	6.7	6
61	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
60	Effect of Mg content in the La3-xMgxNi9 battery anode alloys on the structural, hydrogen storage and electrochemical properties. *Journal of Alloys and Compounds*, **2021**, 856, 157443	5.7	6
59	Modelling of hydrogen thermal desorption spectra. *Materials Today: Proceedings*, **2018**, 5, 10440-10449	1.4	6
58	MgCo2-D2 and MgCoNi-D2 systems synthesized at high pressures and interaction mechanism during the HDDR processing. *Progress in Natural Science: Materials International*, **2017**, 27, 74-80	3.6	5
57	Effect of oxygen on the mechanism of phase-structural transformations in O-Containing titanium hydride. *International Journal of Hydrogen Energy*, **2019**, 44, 24821-24828	6.7	5
56	New FCC Mg□Zr and Mg□ZrTi deuterides obtained by reactive milling. *Journal of Solid State Chemistry*, **2015**, 226, 237-242	3.3	5
55	Synchrotron X-ray diffraction study of ErMn2D2. *Journal of Alloys and Compounds*, **2007**, 437, 140-145	5.7	5
54	H2 reactivity on the surface of LaNi4.7Sn0.3. *Journal of Alloys and Compounds*, **2005**, 402, 219-223	5.7	5
53	An interrelation of RHx coordination and H ordering in the structures of intermetallic hydrides. *Journal of Alloys and Compounds*, **2002**, 330-332, 234-240	5.7	5
52	Neutron diffraction studies of Zr-containing intermetallic hydrides with ordered hydrogen sublattice.: IV. Hexagonal Zr6FeAl2Dx (x=1.3 and 5.6) with partially filled Fe2P-type structure. *Journal of Alloys and Compounds*, **1999**, 290, 157-163	5.7	5

51	200 NL H2 hydrogen storage tank using MgH2–TiH2 nanocomposite as H storage material. *International Journal of Hydrogen Energy*, **2021**, 46, 19046-19059	6.7	5
50	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
49	Effects of Ti substitution for Zr on the electrochemical characteristics and structure of AB2-type Laves-phase alloys as metal hydride anodes. *Journal of Alloys and Compounds*, **2022**, 889, 161655	5.7	5
48	Recent progress on hydrogen generation from the hydrolysis of light metals and hydrides. *Journal of Alloys and Compounds*, **2022**, 164831	5.7	5
47	Nd2Ni2MgH8 hydride: Synthesis, structure and magnetic properties. *Intermetallics*, **2017**, 87, 13-20	3.5	4
46	Effect of nanoparticle (Pd, Pd/Pt, Ni) deposition on high temperature hydrogenation of Ti-V alloys in gaseous flow containing CO. *Progress in Natural Science: Materials International*, **2017**, 27, 93-98	3.6	4
45	Postsynthetic Modification of a Network Polymer of Intrinsic Microporosity and Its Hydrogen Adsorption Properties. *Journal of Physical Chemistry C*, **2019**, 123, 6998-7009	3.8	4
44	The Effect of Thermal Treatment on the Hydrogen-Storage Properties of PIM-1. *ChemPhysChem*, **2019**, 20, 1613-1623	3.2	4
43	Palladium mixed-metal surface-modified AB5-type intermetallides enhance hydrogen sorption kinetics. *South African Journal of Science*, **2010**, 106,	1.3	4
42	Crystal and magnetic structure of. *Journal of Alloys and Compounds*, **2005**, 404-406, 200-203	5.7	4
41	Hydrogenation and crystal structures of the Nd(Ni1–xCux)(In1–yAly) intermetallics and their hydrides. *Journal of Alloys and Compounds*, **2005**, 404-406, 107-111	5.7	4
40	Crystal structure of LaNi5Sn. *Journal of Alloys and Compounds*, **2005**, 397, 165-168	5.7	4
39	Studies of hydrogen absorption-desorptionproperties and HDDR behaviour of a Nd5Co2B6 boride. *International Journal of Hydrogen Energy*, **1999**, 24, 189-194	6.7	4
38	Kinetics of Hydrogen Absorption and Desorption in Titanium. *Bulletin of Chemical Reaction Engineering and Catalysis*, **2017**, 12, 312	1.7	4
37	Hydrogen-Induced Phase Transformations In H-Storing Alloys of Zirconium **1998**, 303-314		4
36	Thermal desorption spectroscopy studies of hydrogen desorption from rare earth metal trihydrides REH3 (RE=Dy, Ho, Er). *Journal of Alloys and Compounds*, **2020**, 842, 155530	5.7	4
35	Synthesis of Mg2FeH6 assisted by heat treatment of starting materials. *Materials Today: Proceedings*, **2018**, 5, 10533-10541	1.4	4
34	Synthesis of hydrides by interaction of intermetallic compounds with ammonia. *Journal of Alloys and Compounds*, **2015**, 645, S261-S266	5.7	3

33	Features of the Hydrogenation of Magnesium with a Ni-Graphene Coating. *Russian Journal of Physical Chemistry A*, **2020**, 94, 996-1001	0.7	3
32	Metal-hydride hydrogen compressors for laboratory use. *JPhys Energy*, **2020**, 2, 034004	4.9	3
31	Crystal and magnetic structure of TbNiSnD studied by neutron powder diffraction. *Journal of Magnetism and Magnetic Materials*, **2007**, 311, 639-643	2.8	3
30	The magnetic structure of TbNiSiD1.78. *Journal of Alloys and Compounds*, **2002**, 340, 62-66	5.7	3
29	Neutron diffraction studies of Zr-containing intermetallic hydrides.: Cubic Zr3V3B0.24O0.36D8.0 and Zr3V3B0.40O0.60D6.4 with filled □1-type structures. *Journal of Alloys and Compounds*, **2001**, 317-318, 92-97	5.7	3
28	Neutron vibrational spectroscopic evidence for short H□ contacts in the RNiInH1.4; 1.6 (R = Ce, La) metal hydride. *Journal of Alloys and Compounds*, **2022**, 894, 162381	5.7	3
27	Metallic and complex hydride-based electrochemical storage of energy. *Progress in Energy*,	7.7	3
26	Influence of Al- and Cu-doping on the thermodynamic properties of the LaNiInH□ system. *Journal of Alloys and Compounds*, **2005**, 400, 184-187	5.7	2
25	The nature of the hydrogen bond in the LaNiSnH2 and NdNiSnH hydrides. *Journal of Chemical Physics*, **2005**, 122, 124703	3.9	2
24	Thermodynamic characteristics of the Al- and Cu-doped NdNiIn hydrides. *Journal of Alloys and Compounds*, **2005**, 404-406, 43-46	5.7	2
23	High pressure synchrotron XRD study of the pressure induced structural changes in LaNiInD1.63□. *Journal of Alloys and Compounds*, **2003**, 356-357, 395-399	5.7	2
22	Crystal structure and thermal desorption properties of HoNiAlD1.2. *Journal of Alloys and Compounds*, **2004**, 384, 115-120	5.7	2
21	M□ssbauer study of LaNiSn and NdNiSn compounds and their deuterides. *Journal of Radioanalytical and Nuclear Chemistry*, **2005**, 266, 553-556	1.5	2
20	Application of hydrogen vibration milling in theprocessing of NdFeB and (Nd, Pr)FeB permanent magnets. *International Journal of Hydrogen Energy*, **1999**, 24, 257-261	6.7	2
19	New Aspects on the Structural Chemistry of Hydrides of Intermetallic Compounds*. *Zeitschrift Fur Physikalische Chemie*, **1993**, 179, 171-180	3.1	2
18	Hydrides of Ferromagnetic Nd-Fe-B Alloys: Crystallographic and Magnetic Properties, and Hydrogen Vibrodecrepitation*. *Zeitschrift Fur Physikalische Chemie*, **1993**, 179, 431-437	3.1	2
17	Hydrides of R3Ni6(Al,Ga)2 (R = Y, Sm, Gd, Tb, Dy, Ho, Er) Intermetallic Compounds: Structure and Properties*. *Zeitschrift Fur Physikalische Chemie*, **1993**, 179, 269-273	3.1	2
16	Studies of the effect of melt spinning on the electrochemical properties of the AB2 Laves phase alloys **2021**, 5, 24		2

15	Effect of Various Additives on the Hydrolysis Performance of Nanostructured MgH2 Synthesized by High-Energy Ball Milling in Hydrogen. *Powder Metallurgy and Metal Ceramics*, **2021**, 59, 483-490	0.8	2
14	Control strategy of a fuel-cell power module for electric forklift. *International Journal of Hydrogen Energy*, **2021**, 46, 35938-35938	6.7	2
13	Towards understanding the influence of Mg content on phase transformations in the La3-xMgxNi9 alloys by in-situ neutron powder diffraction study. *Progress in Natural Science: Materials International*, **2021**,	3.6	2
12	A multi-function desalination system based on hydrolysis reaction of hydride and fuel cell water recovery. *Energy Conversion and Management*, **2021**, 247, 114728	10.6	2
11	Studies of Mechanochemically Activated Aluminum Powders for Generating Hydrogen from Water. *Powder Metallurgy and Metal Ceramics*,1	0.8	1
10	Metal Hydride Graphene Composites for Hydrogen Based Energy Storage. *Journal of Alloys and Compounds*, **2021**, 162881	5.7	1
9	Kinetics and mechanism of MgH2 hydrolysis in MgCl2 solutions. *International Journal of Hydrogen Energy*, **2021**, 46, 40278-40278	6.7	1
8	Modeling of the hydrogen sorption kinetics in an AB2 laves type metal hydride alloy. *Journal of Alloys and Compounds*, **2021**, 893, 162135	5.7	1
7	Laves Type Intermetallic Compounds As Hydrogen Storage Materials: A Review. *Journal of Alloys and Compounds*, **2022**, 165219	5.7	1
6	Lattice dynamics of high-pressure hydrides studied by inelastic neutron scattering. *Journal of Alloys and Compounds*, **2022**, 164208	5.7	0
5	Neutron Vibrational Spectroscopic Evidence for Short H H Contacts in the RNiInH1.4;1.6 (R = Ce, La) Metal Hydride. *Neutron News*,1-3	0.4	0
4	H2 reactivity on the surfaces of In and Sn at 298 K. *Applied Surface Science*, **2010**, 256, 3321-3324	6.7	
3	INTERACTION OF Mg-REM-Ni ALLOYS AND COMPOSITES WITH HYDROGEN **2007**, 341-345		
2	SURFACE-MODIFIED AB5 ALLOYS WITH ENHANCED HYDROGEN ABSORPTION KINETICS. *NATO Science for Peace and Security Series C: Environmental Security*, **2008**, 625-636	0.3	
1	Metallographic Investigations And Hydrogenation Peculiarities Of The Alloy Mg-La-Ni. *NATO Science for Peace and Security Series C: Environmental Security*, **2008**, 457-460	0.3	