Roman V Denys

List of Publications by Year
in descending order

98 papers	3,834 citations	136950 32 h-index	133252 59 g-index
100 all docs	100 docs citations	100 times ranked	1968 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.	5.5	518
2	Magnesium based materials for hydrogen based energy storage: Past, present and future. International Journal of Hydrogen Energy, 2019, 44, 7809-7859.	7.1	460
3	Mg substitution effect on the hydrogenation behaviour, thermodynamic and structural properties of the La2Ni7â€“H(D)2 system. Journal of Solid State Chemistry, 2008, 181, 812-821.	2.9	120
4	Magnesiumâ€“carbon hydrogen storage hybrid materials produced by reactive ball milling in hydrogen. Carbon, 2013, 57, 146-160.	10.3	120
5	LaMg11 with a giant unit cell synthesized by hydrogen metallurgy: Crystal structure and hydrogenation behavior. Acta Materialia, 2010, 58, 2510-2519.	7.9	99
6	Effect of magnesium on the crystal structure and thermodynamics of the La3â^’xMgxNi9 hydrides. Journal of Alloys and Compounds, 2011, 509, S540-S548.	5.5	97
7	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.	7.9	96
8	An outstanding effect of graphite in nano-MgH₂â€“TiH₂ on hydrogen storage performance. Journal of Materials Chemistry A, 2018, 6, 10740-10754.	10.3	91
9	Short hydrogenâ€“hydrogen separations in novel intermetallic hydrides, RE3Ni3In3D4 (RE=La, Ce and Nd). Journal of Alloys and Compounds, 2002, 330-332, 132-140.	5.5	90
10	Hydrogen storage properties and structure of La1â^’xMgx(Ni1â^’yMny)3 intermetallics and their hydrides. Journal of Alloys and Compounds, 2007, 446-447, 166-172.	5.5	89
11	Double-Bridge Bonding of Aluminium and Hydrogen in the Crystal Structure of Î³-AlH3. Inorganic Chemistry, 2007, 46, 1051-1055.	4.0	89
12	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.	5.2	89
13	Nanostructured Mgâ€“Mmâ€“Ni hydrogen storage alloy: Structureâ€“properties relationship. Journal of Alloys and Compounds, 2007, 446-447, 114-120.	5.5	79
14	Novel intermetallic hydrides. Journal of Alloys and Compounds, 2006, 408-412, 273-279.	5.5	67
15	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.	5.5	66
16	Hydrogen in La₂MgNi₉D₁₃: The Role of Magnesium. Inorganic Chemistry, 2012, 51, 4231-4238.	4.0	60
17	Nanostructured rapidly solidified LaMg11Ni alloy: Microstructure, crystal structure and hydrogenation properties. International Journal of Hydrogen Energy, 2012, 37, 3548-3557.	7.1	58
18	Nanostructured rapidly solidified LaMg11Ni alloy. II. In situ synchrotron X-ray diffraction studies of hydrogen absorptionâ€“desorption behaviours. International Journal of Hydrogen Energy, 2012, 37, 5710-5722.	7.1	56

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19	Hydrogenation properties and crystal structure of YMgT4 (Ð¢=Co, Ni, Cu) compounds. Journal of Alloys and Compounds, 2014, 603, 7-13.	5.5	51
20	Microstructural optimization of LaMg12 alloy for hydrogen storage. Journal of Alloys and Compounds, 2011, 509, S633-S639.	5.5	50
21	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.	5.5	48
22	Structureâ€“properties relationship in RE3â^’Mg Ni9H10â€“13 (RE = La,Pr,Nd) hydrides for energy storage. Journal of Alloys and Compounds, 2015, 645, S412-S418.	5.5	48
23	Effect of Ti-based nanosized additives on the hydrogen storage properties of MgH2. International Journal of Hydrogen Energy, 2022, 47, 7289-7298.	7.1	47
24	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.	5.5	46
25	New CeMgCo4 and Ce2MgCo9 compounds: Hydrogenation properties and crystal structure of hydrides. Journal of Solid State Chemistry, 2012, 187, 1-6.	2.9	40
26	New Mgâ€“Mnâ€“Ni alloys as efficient hydrogen storage materials. Intermetallics, 2010, 18, 1579-1585.	3.9	38
27	Nanostructured hydrogen storage materials prepared by high-energy reactive ball milling of magnesium and ferrovanadium. International Journal of Hydrogen Energy, 2019, 44, 6687-6701.	7.1	37
28	Crystal chemistry and thermodynamic properties of anisotropic Ce2Ni7H4.7 hydride. Journal of Solid State Chemistry, 2007, 180, 2566-2576.	2.9	35
29	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.	7.1	35
30	Hydrides of the RNiIn (R=La, Ce, Nd) intermetallic compounds: crystallographic characterisation and thermal stability. Journal of Alloys and Compounds, 1999, 284, 256-261.	5.5	34
31	Facile synthesis and regeneration of Mg(BH₄)₂by high energy reactive ball milling of MgB₂. Chemical Communications, 2013, 49, 828-830.	4.1	34
32	Hydrides of Laves type Tiâ€“Zr alloys with enhanced H storage capacity as advanced metal hydride battery anodes. Journal of Alloys and Compounds, 2020, 828, 154354.	5.5	34
33	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.	7.1	34
34	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.	4.0	32
35	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.	3.1	31
36	Effect of Co substitution on hydrogenation and magnetic properties of NdMgNi4 alloy. Journal of Alloys and Compounds, 2015, 639, 526-532.	5.5	30

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37	In situ neutron powder diffraction study of phase-structural transformations in the Laâ€“Mgâ€“Ni battery anode alloy. Journal of Alloys and Compounds, 2016, 670, 210-216.	5.5	29
38	Comparison of C14- and C15-Predomiated AB2 Metal Hydride Alloys for Electrochemical Applications. Batteries, 2017, 3, 22.	4.5	29
39	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.	7.8	29
40	Magnesium- and intermetallic alloys-based hydrides for energy storage: modelling, synthesis and properties. Progress in Energy, 2022, 4, 032007.	10.9	29
41	Hydrogen diffusion in La1.5Nd0.5MgNi9 alloy electrodes of the Ni/MH battery. Journal of Alloys and Compounds, 2015, 645, S288-S291.	5.5	27
42	Combustion-type hydrogenation of nanostructured Mg-based composites for hydrogen storage. International Journal of Energy Research, 2009, 33, 1114-1125.	4.5	24
43	Hydrogen-assisted phase transition in a trihydride MgNi2H3 synthesized at high H2 pressures: Thermodynamics, crystallographic and electronic structures. Acta Materialia, 2015, 82, 316-327.	7.9	24
44	Sn-containing (La,Mm)Ni5âˆ'Sn H5âˆ'6 intermetallic hydrides: thermodynamic, structural and kinetic properties. Journal of Alloys and Compounds, 2003, 356-357, 773-778.	5.5	22
45	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 FÃ¼r Kristallographie, 2008, 223, 674-689.	1.1	22
46	In operando neutron diffraction study of LaNdMgNi9H13 as a metal hydride battery anode. Journal of Power Sources, 2017, 343, 502-512.	7.8	22
47	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.	7.1	22
48	Phase equilibria in the Tb-Mg-Co system at 500Â°C, crystal structure and hydrogenation properties of selected compounds. Journal of Solid State Chemistry, 2015, 232, 228-235.	2.9	21
49	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.	7.8	21
50	Phase equilibria in the Ndâ€“Mgâ€“Co system at 300 and 500ÂÂ°C, crystal structure and hydrogenation behavior of selected compounds. Intermetallics, 2017, 87, 61-69.	3.9	21
51	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.	5.5	19
52	Crystal structure, hydrogen absorption-desorption behavior and magnetic properties of the Nd3âˆ'Mg Co9 alloys. Journal of Alloys and Compounds, 2017, 695, 1426-1435.	5.5	19
53	Hydrogen-induced changes in crystal structure and magnetic properties of the Zr3MOx (M = Fe, Co) phases. Journal of Alloys and Compounds, 2005, 386, 26-34.	5.5	18
54	Phase equilibria in the Mgâ€“Tiâ€“Ni system at 500ÂÂ°C and hydrogenation properties of selected alloys. Intermetallics, 2013, 32, 167-175.	3.9	17

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55	Non-isothermal kinetics and in situ SR XRD studies of hydrogen desorption from dihydrides of binary Tiâ€“V alloys. International Journal of Hydrogen Energy, 2013, 38, 14704-14714.	7.1	15
56	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.	5.5	15
57	Hydrogenation of Ti4-xZrxFe2Oy alloys and crystal structure analysis of their deuterides. Chemistry of Metals and Alloys, 2009, 2, 59-67.	0.1	15
58	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	14
59	In situ powder neutron diffraction study of LaNiInD1.63 with short Dâ€¦D distances. Journal of Alloys and Compounds, 2003, 356-357, 65-68.	5.5	13
60	Synchrotron diffraction studies and thermodynamics of hydrogen absorptionâ€“desorption processes in La0.5Ce0.5Ni4Co. Journal of Alloys and Compounds, 2011, 509, S844-S848.	5.5	13
61	High pressure in situ diffraction studies of metalâ€“hydrogen systems. Journal of Alloys and Compounds, 2011, 509, S817-S822.	5.5	13
62	Modeling of metal hydride battery anodes at high discharge current densities and constant discharge currents. Electrochimica Acta, 2014, 147, 73-81.	5.2	13
63	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.	7.9	13
64	Cell Performance Comparison between C14- and C15-Predomiated AB2 Metal Hydride Alloys. Batteries, 2017, 3, 29.	4.5	13
65	Studies of Zr-based C15 type metal hydride battery anode alloys prepared by rapid solidification. Journal of Alloys and Compounds, 2019, 804, 527-537.	5.5	13
66	Title is missing!. Materials Science, 2001, 37, 544-550.	0.9	12
67	Interaction of hydrogen with RECu2 and RE(Cu,Ni)2 intermetallic compounds (RE=Y, Pr, Dy, Ho). Journal of Alloys and Compounds, 2003, 358, 146-151.	5.5	12
68	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.	7.1	12
69	Thermodynamic properties of the RENiIn hydrides with RE=La, Ce, Pr and Nd. Journal of Alloys and Compounds, 2005, 397, 99-103.	5.5	11
70	Hydrides of substituted derivatives based on the YNi3 compound. Materials Science, 2007, 43, 499-507.	0.9	11
71	Hydrogenation behavior of the R4MgCo (R=Y, La, Nd, Tb) compounds. Journal of Solid State Chemistry, 2015, 229, 135-140.	2.9	11
72	Powder neutron diffraction study of Nd6Fe13GaD12.3 with a filled Nd6Fe13Si-type structure. Journal of Alloys and Compounds, 2000, 312, 158-164.	5.5	10

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73	Zr4Al3D2.68 and Zr3Al2D2.26: new Zr-containing intermetallic hydrides with ordered hydrogen sublattice. Journal of Alloys and Compounds, 2003, 356-357, 91-95.	5.5	9
74	The electrochemical performance of melt-spun C14-Laves type Ti Zr-based alloy. International Journal of Hydrogen Energy, 2020, 45, 1297-1303.	7.1	9
75	TbMgNi_{4-<i>x</i>}Co_{<i>x</i>}â€“(H,D)₂ System. I: Synthesis, Hydrogenation Properties, and Crystal and Electronic Structures. Journal of Physical Chemistry C, 2020, 124, 196-204.	3.1	9
76	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, 2021, 889, 161655.	5.5	9
77	Nanostructured Metal Hydrides for Hydrogen Storage Studied by <i>In Situ</i> Synchrotron and Neutron Diffraction. Materials Research Society Symposia Proceedings, 2010, 1262, 1.	0.1	8
78	Microstructure and hydrogen storage properties of as-cast and rapidly solidified Ti-rich Tiâ€“V alloys. Transactions of Nonferrous Metals Society of China, 2012, 22, 1831-1838.	4.2	8
79	Studies of hydrogen absorption-desorptionproperties and HDDR behaviour of a Nd5Co2B6 Ï•boride. International Journal of Hydrogen Energy, 1999, 24, 189-194.	7.1	7
80	Crystal structure of the novel Mg3MnNi2D3âˆ’x interstitial deuteride. Intermetallics, 2011, 19, 1563-1566.	3.9	7
81	Modelling of hydrogen thermal desorption spectra. Materials Today: Proceedings, 2018, 5, 10440-10449.	1.8	7
82	Effect of oxygen on the mechanism of phase-structural transformations in O-Containing titanium hydride. International Journal of Hydrogen Energy, 2019, 44, 24821-24828.	7.1	7
83	Synthesis and crystal structure of -Zr9V4SHâˆ¼23. Journal of Alloys and Compounds, 2005, 404-406, 118-121.	5.5	6
84	Crystal and magnetic structure of TbNiSnD studied by neutron powder diffraction. Journal of Magnetism and Magnetic Materials, 2007, 311, 639-643.	2.3	6
85	Palladium mixed-metal surface-modified AB₅-type intermetallides enhance hydrogen sorption kinetics. South African Journal of Science, 2010, 106, .	0.7	6
86	Nd 2 Ni 2 MgH 8 hydride: Synthesis, structure and magnetic properties. Intermetallics, 2017, 87, 13-20.	3.9	6
87	Y6Mg9Co2 and Y9Mg30Co2: Novel magnesium-rich compounds representing new structure types. Journal of Alloys and Compounds, 2018, 737, 613-622.	5.5	6
88	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, , .	4.4	6
89	Hydrogenation and crystal structures of the Nd(Ni1âˆ’xCux)(In1âˆ’yAly) intermetallics and their hydrides. Journal of Alloys and Compounds, 2005, 404-406, 107-111.	5.5	5
90	Mechanochemical methods for the synthesis of new magnesium-based composite materials for hydrogen accumulation. Materials Science, 2009, 45, 248-257.	0.9	5

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91	Neutron vibrational spectroscopic evidence for short Hâˆ™âˆ™âˆ™H contacts in the RNiInH1.4; 1.6 (R = Ce, La) metal hydride. Journal of Alloys and Compounds, 2022, 894, 162381.	5.5	5
92	Thermodynamic characteristics of the Al- and Cu-doped NdNiIn hydrides. Journal of Alloys and Compounds, 2005, 404-406, 43-46.	5.5	3
93	Abrasive wear of plasma coatings with different structures on titanium alloys. Materials Science, 2004, 40, 504-511.	0.9	2
94	Influence of Al- and Cu-doping on the thermodynamic properties of the LaNiInâ€“H system. Journal of Alloys and Compounds, 2005, 400, 184-187.	5.5	2
95	Hydrogenation of the Laves Phases of Gd(Mn, Al)2, Tb(Mn, Al)2, and Tb(Fe, Al)2Compounds. Materials Science, 2003, 39, 849-854.	0.9	1
96	Structural studies of pseudobinary La(Cu1âˆ’xNix)2 compounds and their hydrides. Journal of Alloys and Compounds, 2005, 396, 139-142.	5.5	1
97	Neutron Vibrational Spectroscopic Evidence for Short HÂ·Â·Â·H Contacts in the <i>R</i>NiInH_{1.4;1.6} (<i>R</i> = Ce, La) Metal Hydride. Neutron News, 2022, 33, 7-9.	0.2	1
98	Specific features of the processes of thermal desorption and HDDR in the Zr3FeOxHy system. Materials Science, 2007, 43, 689-693.	0.9	0