

Roman V Denys

List of Publications by Year in descending order

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98
papers

3,834
citations

136740

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133063

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100
all docs

100
docs citations

100
times ranked

1968
citing authors

#	ARTICLE	IF	CITATIONS
1	Effect of Ti-based nanosized additives on the hydrogen storage properties of MgH ₂ . International Journal of Hydrogen Energy, 2022, 47, 7289-7298.	3.8	47
2	Neutron vibrational spectroscopic evidence for short H TM â TM H contacts in the RNiH _{1.4} ; 1.6 (R = Ce, La) metal hydride. Journal of Alloys and Compounds, 2022, 894, 162381.	2.8	5
3	Neutron Vibrational Spectroscopic Evidence for Short H TM â TM H Contacts in the $\langle i \rangle R \langle /i \rangle NiH_{1.4; 1.6} \langle /sub \rangle$ ($\langle i \rangle R \langle /i \rangle = Ce, La$) Metal Hydride. Neutron News, 2022, 33, 7-9.	0.1	1
4	Magnesium- and intermetallic alloys-based hydrides for energy storage: modelling, synthesis and properties. Progress in Energy, 2022, 4, 032007.	4.6	29
5	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
6	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
7	Effect of Mg content in the La _{3-x} Mg _x Ni ₉ battery anode alloys on the structural, hydrogen storage and electrochemical properties. Journal of Alloys and Compounds, 2021, 856, 157443.	2.8	15
8	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
9	Towards understanding the influence of Mg content on phase transformations in the La _{3-x} Mg _x Ni ₉ alloys by in-situ neutron powder diffraction study. Progress in Natural Science: Materials International, 2021, , .	1.8	6
10	Effects of Ti substitution for Zr on the electrochemical characteristics and structure of AB ₂ -type Laves-phase alloys as metal hydride anodes. Journal of Alloys and Compounds, 2021, 889, 161655.	2.8	9
11	The electrochemical performance of melt-spun C14-Laves type Ti Zr-based alloy. International Journal of Hydrogen Energy, 2020, 45, 1297-1303.	3.8	9
12	TbMgNi _{4-x} Co _x â€(H,D) ₂ System. I: Synthesis, Hydrogenation Properties, and Crystal and Electronic Structures. Journal of Physical Chemistry C, 2020, 124, 196-204.	1.5	9
13	Materials for hydrogen-based energy storage â€ past, recent progress and future outlook. Journal of Alloys and Compounds, 2020, 827, 153548.	2.8	518
14	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.	2.8	34
15	Studies of Zr-based C15 type metal hydride battery anode alloys prepared by rapid solidification. Journal of Alloys and Compounds, 2019, 804, 527-537.	2.8	13
16	Effect of oxygen on the mechanism of phase-structural transformations in O-Containing titanium hydride. International Journal of Hydrogen Energy, 2019, 44, 24821-24828.	3.8	7
17	Magnesium based materials for hydrogen based energy storage: Past, present and future. International Journal of Hydrogen Energy, 2019, 44, 7809-7859.	3.8	460
18	Study of hydrogen storage and electrochemical properties of AB ₂ -type Ti _{0.15} Zr _{0.85} La _{0.03} Ni _{1.2} Mn _{0.7} V _{0.12} Fe _{0.12} alloy. Journal of Alloys and Compounds, 2019, 793, 564-575.	2.8	46

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19	Nanostructured hydrogen storage materials prepared by high-energy reactive ball milling of magnesium and ferrovandium. International Journal of Hydrogen Energy, 2019, 44, 6687-6701.	3.8	37
20	Electrochemical studies and phase-structural characterization of a high-capacity La-doped AB ₂ Laves type alloy and its hydride. Journal of Power Sources, 2019, 418, 193-201.	4.0	29
21	Y ₆ Mg ₉ Co ₂ and Y ₉ Mg ₃₀ Co ₂ : Novel magnesium-rich compounds representing new structure types. Journal of Alloys and Compounds, 2018, 737, 613-622.	2.8	6
22	An outstanding effect of graphite in nano-MgH ₂ •TiH ₂ on hydrogen storage performance. Journal of Materials Chemistry A, 2018, 6, 10740-10754.	5.2	91
23	Modelling of hydrogen thermal desorption spectra. Materials Today: Proceedings, 2018, 5, 10440-10449.	0.9	7
24	In operando neutron diffraction study of LaNdMgNi ₉ H ₁₃ as a metal hydride battery anode. Journal of Power Sources, 2017, 343, 502-512.	4.0	22
25	Nd ₂ Ni ₂ MgH ₈ hydride: Synthesis, structure and magnetic properties. Intermetallics, 2017, 87, 13-20.	1.8	6
26	Phase equilibria in the Nd-Mg-Co system at 300 and 500 °C, crystal structure and hydrogenation behavior of selected compounds. Intermetallics, 2017, 87, 61-69.	1.8	21
27	Nanostructured magnesium silicide Mg ₂ Si and its electrochemical performance as an anode of a lithium ion battery. Journal of Alloys and Compounds, 2017, 718, 478-491.	2.8	19
28	Crystal structure, hydrogen absorption-desorption behavior and magnetic properties of the Nd ₃ MgCo ₉ alloys. Journal of Alloys and Compounds, 2017, 695, 1426-1435.	2.8	19
29	Comparison of C14- and C15-Predominated AB ₂ Metal Hydride Alloys for Electrochemical Applications. Batteries, 2017, 3, 22.	2.1	29
30	Cell Performance Comparison between C14- and C15-Predominated AB ₂ Metal Hydride Alloys. Batteries, 2017, 3, 29.	2.1	13
31	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.	4.0	21
32	Phase-structural transformations in a metal hydride battery anode La _{1.5} Nd _{0.5} MgNi ₉ alloy and its electrochemical performance. International Journal of Hydrogen Energy, 2016, 41, 9954-9967.	3.8	35
33	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.	2.8	29
34	Hydrogenation behavior of the R ₄ MgCo (R=Y, La, Nd, Tb) compounds. Journal of Solid State Chemistry, 2015, 229, 135-140.	1.4	11
35	LaNi ₅ -Assisted Hydrogenation of MgNi ₂ in the Hybrid Structures of La _{1.09} Mg _{1.91} Ni ₉ D _{9.5} and La _{0.91} Mg _{2.09} Ni ₉ D _{9.4} . Energies, 2015, 8, 3198-3211.	1.6	14
36	Structure-properties relationship in RE ₃ MgNi ₉ H ₁₀ (RE = La, Pr, Nd) hydrides for energy storage. Journal of Alloys and Compounds, 2015, 645, S412-S418.	2.8	48

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37	Hydrogen diffusion in La _{1.5} Nd _{0.5} MgNi ₉ alloy electrodes of the Ni/MH battery. <i>Journal of Alloys and Compounds</i> , 2015, 645, S288-S291.	2.8	27
38	Effect of Co substitution on hydrogenation and magnetic properties of NdMgNi ₄ alloy. <i>Journal of Alloys and Compounds</i> , 2015, 639, 526-532.	2.8	30
39	Phase equilibria in the Tb-Mg-Co system at 500°C, crystal structure and hydrogenation properties of selected compounds. <i>Journal of Solid State Chemistry</i> , 2015, 232, 228-235.	1.4	21
40	Structure and chemical bonding in MgNi ₂ H ₃ from combined high resolution synchrotron and neutron diffraction studies and ab initio electronic structure calculations. <i>Acta Materialia</i> , 2015, 98, 416-422.	3.8	13
41	Hydrogen-assisted phase transition in a trihydride MgNi ₂ H ₃ synthesized at high H ₂ pressures: Thermodynamics, crystallographic and electronic structures. <i>Acta Materialia</i> , 2015, 82, 316-327.	3.8	24
42	Hydrogenation properties and crystal structure of YMgT ₄ (T = Co, Ni, Cu) compounds. <i>Journal of Alloys and Compounds</i> , 2014, 603, 7-13.	2.8	51
43	Mechanistic and Kinetic Study of the Electrochemical Charge and Discharge of La ₂ MgNi ₉ by in Situ Powder Neutron Diffraction. <i>Journal of Physical Chemistry C</i> , 2014, 118, 12162-12169.	1.5	31
44	Modeling of metal hydride battery anodes at high discharge current densities and constant discharge currents. <i>Electrochimica Acta</i> , 2014, 147, 73-81.	2.6	13
45	Non-isothermal kinetics and in situ SR XRD studies of hydrogen desorption from dihydrides of binary Ti-V alloys. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 14704-14714.	3.8	15
46	Effect of magnesium content and quenching rate on the phase structure and composition of rapidly solidified La ₂ MgNi ₉ metal hydride battery electrode alloy. <i>Journal of Alloys and Compounds</i> , 2013, 555, 201-208.	2.8	48
47	Facile synthesis and regeneration of Mg(BH ₄) ₂ by high energy reactive ball milling of MgB ₂ . <i>Chemical Communications</i> , 2013, 49, 828-830.	2.2	34
48	Annealing effect on phase composition and electrochemical properties of the Co-free La ₂ MgNi ₉ anode for Ni-metal hydride batteries. <i>Electrochimica Acta</i> , 2013, 96, 27-33.	2.6	89
49	Magnesium-carbon hydrogen storage hybrid materials produced by reactive ball milling in hydrogen. <i>Carbon</i> , 2013, 57, 146-160.	5.4	120
50	Phase equilibria in the Mg-Ti-Ni system at 500°C and hydrogenation properties of selected alloys. <i>Intermetallics</i> , 2013, 32, 167-175.	1.8	17
51	Hydrogen in La ₂ MgNi ₉ D ₁₃ : The Role of Magnesium. <i>Inorganic Chemistry</i> , 2012, 51, 4231-4238.	1.9	60
52	Microstructure and hydrogen storage properties of as-cast and rapidly solidified Ti-rich Ti-V alloys. <i>Transactions of Nonferrous Metals Society of China</i> , 2012, 22, 1831-1838.	1.7	8
53	Nanostructured rapidly solidified LaMg ₁₁ Ni alloy: Microstructure, crystal structure and hydrogenation properties. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 3548-3557.	3.8	58
54	Nanostructured rapidly solidified LaMg ₁₁ Ni alloy. II. In situ synchrotron X-ray diffraction studies of hydrogen absorption-desorption behaviours. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 5710-5722.	3.8	56

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55	New CeMgCo ₄ and Ce ₂ MgCo ₉ compounds: Hydrogenation properties and crystal structure of hydrides. <i>Journal of Solid State Chemistry</i> , 2012, 187, 1-6.	1.4	40
56	Microstructural optimization of LaMg ₁₂ alloy for hydrogen storage. <i>Journal of Alloys and Compounds</i> , 2011, 509, S633-S639.	2.8	50
57	Synchrotron diffraction studies and thermodynamics of hydrogen absorption-desorption processes in La _{0.5} Ce _{0.5} Ni ₄ Co. <i>Journal of Alloys and Compounds</i> , 2011, 509, S844-S848.	2.8	13
58	Effect of magnesium on the crystal structure and thermodynamics of the La ₃ ~ _x Mg _x Ni ₉ hydrides. <i>Journal of Alloys and Compounds</i> , 2011, 509, S540-S548.	2.8	97
59	High pressure in situ diffraction studies of metal-hydrogen systems. <i>Journal of Alloys and Compounds</i> , 2011, 509, S817-S822.	2.8	13
60	Crystal structure of the novel Mg ₃ MnNi ₂ D ₃ ~ _x interstitial deuteride. <i>Intermetallics</i> , 2011, 19, 1563-1566.	1.8	7
61	LaMg ₁₁ with a giant unit cell synthesized by hydrogen metallurgy: Crystal structure and hydrogenation behavior. <i>Acta Materialia</i> , 2010, 58, 2510-2519.	3.8	99
62	Palladium mixed-metal surface-modified AB ₅ -type intermetallics enhance hydrogen sorption kinetics. <i>South African Journal of Science</i> , 2010, 106, .	0.3	6
63	Nanostructured Metal Hydrides for Hydrogen Storage Studied by <i>In Situ</i> Synchrotron and Neutron Diffraction. <i>Materials Research Society Symposia Proceedings</i> , 2010, 1262, 1.	0.1	8
64	New Mg-Mn-Ni alloys as efficient hydrogen storage materials. <i>Intermetallics</i> , 2010, 18, 1579-1585.	1.8	38
65	Influence of aminosilane surface functionalization of rare earth hydride-forming alloys on palladium treatment by electroless deposition and hydrogen sorption kinetics of composite materials. <i>Materials Chemistry and Physics</i> , 2009, 115, 136-141.	2.0	32
66	Combustion-type hydrogenation of nanostructured Mg-based composites for hydrogen storage. <i>International Journal of Energy Research</i> , 2009, 33, 1114-1125.	2.2	24
67	In situ synchrotron X-ray diffraction studies of hydrogen desorption and absorption properties of Mg and Mg-Mn-Ni after reactive ball milling in hydrogen. <i>Acta Materialia</i> , 2009, 57, 3989-4000.	3.8	96
68	Mechanochemical methods for the synthesis of new magnesium-based composite materials for hydrogen accumulation. <i>Materials Science</i> , 2009, 45, 248-257.	0.3	5
69	Hydrogenation of Ti _{4-x} Zr _x Fe ₂ O _y alloys and crystal structure analysis of their deuterides. <i>Chemistry of Metals and Alloys</i> , 2009, 2, 59-67.	0.2	15
70	Mg substitution effect on the hydrogenation behaviour, thermodynamic and structural properties of the La ₂ Ni ₇ -H(D) ₂ system. <i>Journal of Solid State Chemistry</i> , 2008, 181, 812-821.	1.4	120
71	Crystal chemistry and metal-hydrogen bonding in anisotropic and interstitial hydrides of intermetallics of rare earth (R) and transition metals (T), RT ₃ and R ₂ T ₇ . <i>Zeitschrift für Kristallographie</i> , 2008, 223, 674-689.	1.1	22
72	Thermal decomposition of AlH ₃ studied by in situ synchrotron X-ray diffraction and thermal desorption spectroscopy. <i>Journal of Alloys and Compounds</i> , 2007, 446-447, 280-289.	2.8	66

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73	Nanostructured Mg _{1-x} Mn _x Ni hydrogen storage alloy: Structure-properties relationship. Journal of Alloys and Compounds, 2007, 446-447, 114-120.	2.8	79
74	Hydrogen storage properties and structure of La _{1-x} Mg _x (Ni _{1-y} Mn _y) ₃ intermetallics and their hydrides. Journal of Alloys and Compounds, 2007, 446-447, 166-172.	2.8	89
75	Double-Bridge Bonding of Aluminium and Hydrogen in the Crystal Structure of β -AlH ₃ . Inorganic Chemistry, 2007, 46, 1051-1055.	1.9	89
76	Crystal chemistry and thermodynamic properties of anisotropic Ce ₂ Ni ₇ H _{4.7} hydride. Journal of Solid State Chemistry, 2007, 180, 2566-2576.	1.4	35
77	Crystal and magnetic structure of TbNiSnD studied by neutron powder diffraction. Journal of Magnetism and Magnetic Materials, 2007, 311, 639-643.	1.0	6
78	Hydrides of substituted derivatives based on the YNi ₃ compound. Materials Science, 2007, 43, 499-507.	0.3	11
79	Specific features of the processes of thermal desorption and HDDR in the Zr ₃ FeO _x H _y system. Materials Science, 2007, 43, 689-693.	0.3	0
80	Novel intermetallic hydrides. Journal of Alloys and Compounds, 2006, 408-412, 273-279.	2.8	67
81	Influence of Al- and Cu-doping on the thermodynamic properties of the LaNi ₅ -H system. Journal of Alloys and Compounds, 2005, 400, 184-187.	2.8	2
82	Hydrogen-induced changes in crystal structure and magnetic properties of the Zr ₃ MO _x (M = Fe, Co) phases. Journal of Alloys and Compounds, 2005, 386, 26-34.	2.8	18
83	Thermodynamic characteristics of the Al- and Cu-doped NdNi ₅ hydrides. Journal of Alloys and Compounds, 2005, 404-406, 43-46.	2.8	3
84	Hydrogenation and crystal structures of the Nd(Ni _{1-x} Cu _x)(In _{1-y} Al _y) intermetallics and their hydrides. Journal of Alloys and Compounds, 2005, 404-406, 107-111.	2.8	5
85	Structural studies of pseudobinary La(Cu _{1-x} Ni _x) ₂ compounds and their hydrides. Journal of Alloys and Compounds, 2005, 396, 139-142.	2.8	1
86	Synthesis and crystal structure of -Zr ₉ V ₄ SH _{1/2} 3. Journal of Alloys and Compounds, 2005, 404-406, 118-121.	2.8	6
87	Thermodynamic properties of the RENi ₅ hydrides with RE=La, Ce, Pr and Nd. Journal of Alloys and Compounds, 2005, 397, 99-103.	2.8	11
88	Abrasive wear of plasma coatings with different structures on titanium alloys. Materials Science, 2004, 40, 504-511.	0.3	2
89	Hydrogenation of the Laves Phases of Gd(Mn, Al) ₂ , Tb(Mn, Al) ₂ , and Tb(Fe, Al) ₂ Compounds. Materials Science, 2003, 39, 849-854.	0.3	1
90	Zr ₄ Al ₃ D _{2.68} and Zr ₃ Al ₂ D _{2.26} : new Zr-containing intermetallic hydrides with ordered hydrogen sublattice. Journal of Alloys and Compounds, 2003, 356-357, 91-95.	2.8	9

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91	Interaction of hydrogen with RECu ₂ and RE(Cu,Ni) ₂ intermetallic compounds (RE=Y, Pr, Dy, Ho). Journal of Alloys and Compounds, 2003, 358, 146-151.	2.8	12
92	In situ powder neutron diffraction study of LaNiInD _{1.63} with short D- D distances. Journal of Alloys and Compounds, 2003, 356-357, 65-68.	2.8	13
93	Sn-containing (La,Mm)Ni ₅ Sn ₆ intermetallic hydrides: thermodynamic, structural and kinetic properties. Journal of Alloys and Compounds, 2003, 356-357, 773-778.	2.8	22
94	Short hydrogen-hydrogen separations in novel intermetallic hydrides, RE ₃ Ni ₃ In ₃ D ₄ (RE=La, Ce and Nd). Journal of Alloys and Compounds, 2002, 330-332, 132-140.	2.8	90
95	Title is missing!. Materials Science, 2001, 37, 544-550.	0.3	12
96	Powder neutron diffraction study of Nd ₆ Fe ₁₃ GaD _{12.3} with a filled Nd ₆ Fe ₁₃ Si-type structure. Journal of Alloys and Compounds, 2000, 312, 158-164.	2.8	10
97	Studies of hydrogen absorption-desorption properties and HDDR behaviour of a Nd ₅ Co ₂ B ₆ boride. International Journal of Hydrogen Energy, 1999, 24, 189-194.	3.8	7
98	Hydrides of the RNiIn (R=La, Ce, Nd) intermetallic compounds: crystallographic characterisation and thermal stability. Journal of Alloys and Compounds, 1999, 284, 256-261.	2.8	34