Mark Paskevicius

List of Publications by Year
in descending order

111 papers	5,557 citations	109321 35 h-index	85541 71 g-index
113 all docs	113 docs citations	113 times ranked	3548 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	Metal borohydrides and derivatives â€“ synthesis, structure and properties. Chemical Society Reviews, 2017, 46, 1565-1634.	38.1	320
4	Thermodynamic Changes in Mechanochemically Synthesized Magnesium Hydride Nanoparticles. Journal of the American Chemical Society, 2010, 132, 5077-5083.	13.7	304
5	Hydrogen Storage Materials for Mobile and Stationary Applications: Current State of the Art. ChemSusChem, 2015, 8, 2789-2825.	6.8	302
6	Concentrating Solar Thermal Heat Storage Using Metal Hydrides. Proceedings of the IEEE, 2012, 100, 539-549.	21.3	154
7	Metal hydride thermal heat storage prototype for concentrating solar thermal power. Energy, 2015, 88, 469-477.	8.8	122
8	Structure and Hydrogenation Properties of a HfNbTiVZr High-Entropy Alloy. Inorganic Chemistry, 2018, 57, 2103-2110.	4.0	121
9	Thermal Stability of Li₂B₁₂H₁₂ and its Role in the Decomposition of LiBH₄. Journal of the American Chemical Society, 2013, 135, 6930-6941.	13.7	120
10	Metal boranes: Progress and applications. Coordination Chemistry Reviews, 2016, 323, 60-70.	18.8	120
11	Eutectic melting in metal borohydrides. Physical Chemistry Chemical Physics, 2013, 15, 19774.	2.8	113
12	Future perspectives of thermal energy storage with metal hydrides. International Journal of Hydrogen Energy, 2019, 44, 7738-7745.	7.1	112
13	Role of O-containing functional groups in biochar during the catalytic steam reforming of tar using the biochar as a catalyst. Fuel, 2019, 253, 441-448.	6.4	104
14	Metal hydrides for concentrating solarÂthermal power energy storage. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	95
15	In-Situ X-ray Diffraction Study of Î³-Mg(BH₄)₂ Decomposition. Journal of Physical Chemistry C, 2012, 116, 15231-15240.	3.1	86
16	Thermodynamics of Hydrogen Desorption from NaMgH₃ and Its Application As a Solar Heat Storage Medium. Chemistry of Materials, 2011, 23, 4298-4300.	6.7	82
17	Complex and liquid hydrides for energy storage. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	81
18	First-order phase transition in the Li2B12H12 system. Physical Chemistry Chemical Physics, 2013, 15, 15825.	2.8	78

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19	Hydriding characteristics of NaMgH₂F with preliminary technical and cost evaluation of magnesium-based metal hydride materials for concentrating solar power thermal storage. RSC Advances, 2014, 4, 26552-26562.	3.6	77
20	Halogenated Sodium-<i>closo</i>-Dodecaboranes as Solid-State Ion Conductors. Chemistry of Materials, 2017, 29, 3423-3430.	6.7	73
21	The synthesis of nanoscopic Ti based alloys and their effects on the MgH2 system compared with the MgH2Â+Â0.01Nb2O5 benchmark. International Journal of Hydrogen Energy, 2012, 37, 4227-4237.	7.1	72
22	<i>In situ</i> X-ray diffraction environments for high-pressure reactions. Journal of Applied Crystallography, 2015, 48, 1234-1241.	4.5	67
23	Multifunctionality of silver closo-boranes. Nature Communications, 2017, 8, 15136.	12.8	66
24	Magnesium Hydride Formation within Carbon Aerogel. Journal of Physical Chemistry C, 2011, 115, 1757-1766.	3.1	55
25	Encapsulation and Sustained Release of Curcumin using Superparamagnetic Silica Reservoirs. Chemistry - A European Journal, 2009, 15, 5661-5665.	3.3	52
26	Novel solvates M(BH₄)₃S(CH₃)₂ and properties of halide-free M(BH₄)₃ (M = Y or Gd). Dalton Transactions, 2014, 43, 13333-13342.	3.3	52
27	Dolomite: a low cost thermochemical energy storage material. Journal of Materials Chemistry A, 2019, 7, 1206-1215.	10.3	50
28	Mechanochemical synthesis of aluminium nanoparticles and their deuterium sorption properties to 2kbar. Journal of Alloys and Compounds, 2009, 481, 595-599.	5.5	48
29	From Metal Hydrides to Metal Borohydrides. Inorganic Chemistry, 2018, 57, 10768-10780.	4.0	45
30	Inexpensive thermochemical energy storage utilising additive enhanced limestone. Journal of Materials Chemistry A, 2020, 8, 9646-9653.	10.3	45
31	Thermodynamic destabilisation of MgH2 and NaMgH3 using Group IV elements Si, Ge or Sn. Journal of Alloys and Compounds, 2015, 623, 109-116.	5.5	44
32	Characterisation of mechanochemically synthesised alane (AlH3) nanoparticles. Journal of Alloys and Compounds, 2009, 487, 370-376.	5.5	42
33	Thermal optimisation of metal hydride reactors for thermal energy storage applications. Sustainable Energy and Fuels, 2017, 1, 1820-1829.	4.9	42
34	Reaction kinetic behaviour with relation to crystallite/grain size dependency in the Mgâ€“Siâ€“H system. Acta Materialia, 2015, 95, 244-253.	7.9	40
35	Research on metal hydrides revived for next-generation solutions to renewable energy storage. MRS Bulletin, 2013, 38, 1012-1013.	3.5	36
36	A synthesis method for cobalt doped carbon aerogels with high surface area and their hydrogen storage properties. International Journal of Hydrogen Energy, 2010, 35, 13242-13246.	7.1	35

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37	In Situ Neutron Diffraction Study of the Deuteration of Isotopic Mg¹¹B₂. Journal of Physical Chemistry C, 2011, 115, 22669-22679.	3.1	35
38	Nanoconfinement degradation in NaAlH4/CMK-1. International Journal of Hydrogen Energy, 2014, 39, 11103-11109.	7.1	33
39	Preparation, microstructure and hydrogen sorption properties of nanoporous carbon aerogels under ambient drying. Nanotechnology, 2008, 19, 475605.	2.6	32
40	Mg₂Si Nanoparticle Synthesis for High Pressure Hydrogenation. Journal of Physical Chemistry C, 2014, 118, 1240-1247.	3.1	32
41	Wormlike Micelles from a Cage Amine Metallosurfactant. Langmuir, 2007, 23, 11986-11990.	3.5	31
42	Hydrogen Desorption from the NaNH₂â^'MgH₂ System. Journal of Physical Chemistry C, 2011, 115, 8407-8413.	3.1	31
43	Thermodynamics and performance of the Mgâ€"Hâ€"F system for thermochemical energy storage applications. Physical Chemistry Chemical Physics, 2018, 20, 2274-2283.	2.8	31
44	Acetic acid catalysed carbon xerogels derived from resorcinol-furfural for hydrogen storage. International Journal of Hydrogen Energy, 2011, 36, 671-679.	7.1	30
45	A thermal energy storage prototype using sodium magnesium hydride. Sustainable Energy and Fuels, 2019, 3, 985-995.	4.9	29
46	Performance analysis of a high-temperature magnesium hydride reactor tank with a helical coil heat exchanger for thermal storage. International Journal of Hydrogen Energy, 2021, 46, 1038-1055.	7.1	29
47	Magnesium- and intermetallic alloys-based hydrides for energy storage: modelling, synthesis and properties. Progress in Energy, 2022, 4, 032007.	10.9	29
48	Hydrogen Absorption Kinetics of the Transition-Metal-Chloride-Enhanced NaAlH4 System. Journal of Physical Chemistry C, 2012, 116, 14205-14217.	3.1	28
49	An experimental high temperature thermal battery coupled to a low temperature metal hydride for solar thermal energy storage. Sustainable Energy and Fuels, 2020, 4, 285-292.	4.9	28
50	Structure, morphology and hydrogen storage properties of a Ti0.97Zr0.019V0.439Fe0.097Cr0.045Al0.026Mn1.5 alloy. International Journal of Hydrogen Energy, 2011, 36, 7587-7593.	7.1	26
51	Stabilization of volatile Ti(BH₄)₃ by nano-confinement in a metalâ€"organic framework. Chemical Science, 2016, 7, 666-672.	7.4	26
52	Difference in tar reforming activities between biochar catalysts activated in H2O and CO2. Fuel, 2020, 271, 117636.	6.4	26
53	Metallic and complex hydride-based electrochemical storage of energy. Progress in Energy, 2022, 4, 032001.	10.9	26
54	Structural and kinetic investigation of the hydride composite Ca(BH₄)₂ + MgH₂ system doped with NbF₅ for solid-state hydrogen storage. Physical Chemistry Chemical Physics, 2015, 17, 27328-27342.	2.8	25

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55	A SAXS study of the pore structure evolution in biochar during gasification in H2O, CO2 and H2O/CO2. Fuel, 2021, 292, 120384.	6.4	25
56	Complex hydrides as thermal energy storage materials: characterisation and thermal decomposition of Na2Mg2NiH6. Journal of Materials Chemistry A, 2018, 6, 9099-9108.	10.3	24
57	Methods for accurate high-temperature Sieverts-type hydrogen measurements of metal hydrides. Journal of Alloys and Compounds, 2019, 787, 1225-1237.	5.5	24
58	In situ SAXS studies of the pore development in biochar during gasification. Carbon, 2021, 172, 454-462.	10.3	24
59	Insights into the mechanism of tar reforming using biochar as a catalyst. Fuel, 2021, 296, 120672.	6.4	24
60	Hydrogen storage in complex hydrides: past activities and new trends. Progress in Energy, 2022, 4, 032009.	10.9	23
61	Hydrogen absorption kinetics and structural features of NaAlH4 enhanced with transition-metal and Ti-based nanoparticles. International Journal of Hydrogen Energy, 2012, 37, 15175-15186.	7.1	21
62	Effect of Al and Mo substitution on the structural and hydrogen storage properties of CaNi5. International Journal of Hydrogen Energy, 2013, 38, 2325-2331.	7.1	21
63	Hydrogen Storage Stability of Nanoconfined MgH2 upon Cycling. Inorganics, 2017, 5, 57.	2.7	21
64	Hydrated alkali-B₁₁H₁₄ salts as potential solid-state electrolytes. Journal of Materials Chemistry A, 2021, 9, 15027-15037.	10.3	21
65	The Mechanochemical synthesis of magnesium hydride nanoparticles. Journal of Alloys and Compounds, 2010, 492, L72-L74.	5.5	20
66	Mechanochemical synthesis of amorphous silicon nanoparticles. RSC Advances, 2014, 4, 21979-21983.	3.6	20
67	Nanoscopic Al1â˘’xCex phases in the NaHÂ+ÂAlÂ+Â0.02CeCl3 system. International Journal of Hydrogen Energy, 2011, 36, 8403-8411.	7.1	19
68	Novel methods for synthesizing halide-free alane without the formation of adducts. Applied Physics A: Materials Science and Processing, 2012, 107, 173-181.	2.3	19
69	Kinetic limitations in the Mgâ€"Siâ€"H system. International Journal of Hydrogen Energy, 2011, 36, 10779-10786.	7.1	18
70	The location of Ti containing phases after the completion of the NaAlH4+xTiCl3 milling process. Journal of Alloys and Compounds, 2012, 513, 597-605.	5.5	18
71	Cycle life and hydrogen storage properties of mechanical alloyed Ca1â˘’xZrxNi5â˘’yCry; (xÂ=Â0, 0.05 and) Tj ETQq1 1 0.784314 rgBT /O	7.1	18
72	New directions for hydrogen storage: sulphur destabilised sodium aluminium hydride. Journal of Materials Chemistry A, 2013, 1, 12775.	10.3	18

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73	Hydrogenation properties of lithium and sodium hydride â€“ <i>closo</i>-borate, [B₁₀H₁₀]^{2âˆ’} and [B₁₂H₁₂]^{2âˆ’}, composites. Physical Chemistry Chemical Physics, 2018, 20, 16266-16275.	2.8	18
74	Diverse morphologies of zinc oxide nanoparticles and their electrocatalytic performance in hydrogen production. Journal of Energy Chemistry, 2021, 56, 162-170.	12.9	18
75	Nanoscale cobalt doped carbon aerogel: microstructure and isosteric heat of hydrogen adsorption. International Journal of Hydrogen Energy, 2011, 36, 10855-10860.	7.1	17
76	Hydrogen storage properties of eutectic metal borohydrides melt-infiltrated into porous Al scaffolds. Journal of Alloys and Compounds, 2019, 775, 474-480.	5.5	17
77	Exploring halide destabilised calcium hydride as a high-temperature thermal battery. Journal of Alloys and Compounds, 2020, 819, 153340.	5.5	17
78	Hydroxylated <i>closo</i>-Dodecaborates M₂B₁₂(OH)₁₂ (M = Li,) Tj ETQq0 0 0 rgBT /Overlock 1 Physical Chemistry C, 2020, 124, 11340-11349.	3.1	17
79	Cyclic stability and structure of nanoconfined Ti-doped NaAlH 4. International Journal of Hydrogen Energy, 2016, 41, 4159-4167.	7.1	16
80	Thermal properties of thermochemical heat storage materials. Physical Chemistry Chemical Physics, 2020, 22, 4617-4625.	2.8	16
81	Amorphous Al1âˆ’xTix, Al1âˆ’xVx, and Al1âˆ’xFex phases in the hydrogen cycled TiCl3, VCl3 and FeCl3 enhanced NaAlH4 systems. Journal of Alloys and Compounds, 2012, 521, 112-120.	5.5	15
82	Metal borohydride formation from aluminium boride and metal hydrides. Physical Chemistry Chemical Physics, 2016, 18, 27545-27553.	2.8	15
83	Thermochemical energy storage properties of a barium based reactive carbonate composite. Journal of Materials Chemistry A, 2020, 8, 10935-10942.	10.3	15
84	Functionality of the nanoscopic crystalline Al/amorphous Al50Ti50 surface embedded composite observed in the NaAlH4+xTiCl3 system after milling. Journal of Alloys and Compounds, 2012, 514, 163-169.	5.5	14
85	Synthesis of closo-CB11H12â€“ Salts Using Common Laboratory Reagents. Inorganic Chemistry, 2021, 60, 14744-14751.	4.0	14
86	Thermochemical energy storage system development utilising limestone. Chemical Engineering Journal Advances, 2021, 8, 100168.	5.2	14
87	Carbon aerogels from acetic acid catalysed resorcinolâ€“furfural using supercritical drying for hydrogen storage. Journal of Supercritical Fluids, 2011, 55, 1115-1117.	3.2	13
88	A structural review of nanoscopic Al1âˆ’xTMx phase formation in the TMCln enhanced NaAlH4 system. Journal of Alloys and Compounds, 2012, 527, 16-24.	5.5	12
89	Molten metal <i>closo</i>-borate solvates. Chemical Communications, 2019, 55, 3410-3413.	4.1	12
90	Sulfurized metal borohydrides. Dalton Transactions, 2016, 45, 639-645.	3.3	10

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91	Reorientational Motions and Ionic Conductivity in (NH4)2B10H10and (NH4)2B12H12. Journal of Physical Chemistry C, 2018, 122, 17073-17079.	3.1	10
92	Destabilized Calcium Hydride as a Promising High-Temperature Thermal Battery. Journal of Physical Chemistry C, 2020, 124, 17512-17519.	3.1	10
93	Thermochemical energy storage performance of zinc destabilized calcium hydride at high-temperatures. Physical Chemistry Chemical Physics, 2020, 22, 25780-25788.	2.8	10
94	An operational high temperature thermal energy storage system using magnesium iron hydride. International Journal of Hydrogen Energy, 2021, 46, 38755-38767.	7.1	10
95	Electrochemical Synthesis of Highly Ordered Porous Al Scaffolds Melt-Infiltrated with LiBH₄for Hydrogen Storage. Journal of the Electrochemical Society, 2018, 165, D37-D42.	2.9	9
96	Molecular Dynamics in Ag₂B₁₂H₁₂ Studied by Nuclear Magnetic Resonance. Journal of Physical Chemistry C, 2021, 125, 5534-5541.	3.1	9
97	Ammonia-induced precipitation of zirconyl chloride and zirconylâ€"yttrium chloride solutions under industrially relevant conditions. Powder Technology, 2009, 188, 222-228.	4.2	8
98	Fluorine Substitution in Magnesium Hydride as a Tool for Thermodynamic Control. Journal of Physical Chemistry C, 2020, 124, 9109-9117.	3.1	8
99	Synergetic effect of multicomponent additives on limestone when assessed as a thermochemical energy storage material. Journal of Alloys and Compounds, 2022, 891, 161954.	5.5	8
100	Kinetic investigation and numerical modelling of CaCO3/Al2O3 reactor for high-temperature thermal energy storage application. Solar Energy, 2022, 241, 262-274.	6.1	8
101	Comment on â€œBi-functional Li₂B₁₂H₁₂ for energy storage and conversion applications: solid-state electrolyte and luminescent down-conversion dyeâ€•by J. A. Teprovich Jr, H. ColÃ³n-Mercado, A. L. Washington II, P. A. Ward, S. Greenway, D. M. Missimer, H. Hartman, J. Velten, J. H. Christian and R. Zidan, <i>J. Mater. Chem. A</i>, 2015, 3, 22853. Journal of Materials Chemistry A, 2019, 7, 4185-4187.	10.3	7
102	Crystalline Al_{1â€‰âˆ’â€‰}<i>_x</i>Ti<i>_x</i>phases in the hydrogen cycled NaAlH₄â€‰+â€‰0.02TiCl₃system. Philosophical Magazine, 2013, 93, 1080-1094.	1.6	6
103	Ammoniumâ€"Ammonia Complexes, N2H7+, in Ammonium closo-Borate Ammines: Synthesis, Structure, and Properties. Inorganic Chemistry, 2020, 59, 11449-11458.	4.0	6
104	Polymorphism of Calcium Decahydrido-closo-decaborate and Characterization of Its Hydrates. Inorganic Chemistry, 2021, 60, 10943-10957.	4.0	6
105	A new strontium based reactive carbonate composite for thermochemical energy storage. Journal of Materials Chemistry A, 2021, 9, 20585-20594.	10.3	6
106	Simultaneous preparation of sodium borohydride and ammonia gas by ball milling. International Journal of Hydrogen Energy, 2022, 47, 25347-25356.	7.1	6
107	Analysis of polydisperse bubbles in the aluminiumâ€"hydrogen system using a size-dependent contrast. Journal of Applied Crystallography, 2006, 39, 676-682.	4.5	5
108	Synthesis and crystal structures of decahydro-closo-decaborates of the divalent cations of strontium and manganese. Journal of Solid State Chemistry, 2021, 298, 122133.	2.9	5

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109	Thermodynamic destablization of SrH2 using Al for the next generation of high temperature thermal batteries. Journal of Alloys and Compounds, 2022, 894, 162404.	5.5	4
110	Decomposition pathway of KAlH₄altered by the addition of Al₂S₃. Dalton Transactions, 2019, 48, 5048-5057.	3.3	1
111	Physicochemical Characterization of a Naâ€“Hâ€“F Thermal Battery Material. Journal of Physical Chemistry C, 2020, 124, 5053-5060.	3.1	1