Jacques Huot

List of Publications by Year
in descending order

134 papers	7,818 citations	61945 43 h-index	53190 85 g-index
136 all docs	136 docs citations	136 times ranked	2799 citing authors

#	Article	IF	Citations
1	Catalytic effect of transition metals on hydrogen sorption in nanocrystalline ball milled MgH2â€“Tm (Tm=Ti, V, Mn, Fe and Ni) systems. Journal of Alloys and Compounds, 1999, 292, 247-252.	2.8	995
2	Structural study and hydrogen sorption kinetics of ball-milled magnesium hydride. Journal of Alloys and Compounds, 1999, 293-295, 495-500.	2.8	651
3	Mechanochemical synthesis of hydrogen storage materials. Progress in Materials Science, 2013, 58, 30-75.	16.0	345
4	Hydrogen storage properties of the mechanically milled MgH2â€“V nanocomposite. Journal of Alloys and Compounds, 1999, 291, 295-299.	2.8	326
5	Review of magnesium hydride-based materials: development and optimisation. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	1.1	274
6	Mechanically alloyed metal hydride systems. Applied Physics A: Materials Science and Processing, 2001, 72, 187-195.	1.1	255
7	Hydrogen Cycling of Niobium and Vanadium Catalyzed Nanostructured Magnesium. Journal of the American Chemical Society, 2005, 127, 14348-14354.	6.6	222
8	Nanomaterials by severe plastic deformation: review of historical developments and recent advances. Materials Research Letters, 2022, 10, 163-256.	4.1	215
9	Hydriding behavior of Mgâ€“Al and leached Mgâ€“Al compounds prepared by high-energy ball-milling. Journal of Alloys and Compounds, 2000, 297, 282-293.	2.8	165
10	Mg-based compounds for hydrogen and energy storage. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	1.1	146
11	Recent developments in the applications of nanocrystalline materials to hydrogen technologies. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1999, 267, 240-245.	2.6	132
12	Hydrogen storage properties of the mechanically alloyed LaNi5-based materials. Journal of Alloys and Compounds, 2001, 320, 133-139.	2.8	127
13	Preparation of the hydrides Mg2FeH6 and Mg2CoH5 by mechanical alloying followed by sintering. Journal of Alloys and Compounds, 1997, 248, 164-167.	2.8	118
14	Direct synthesis of Mg2FeH6 by mechanical alloying. Journal of Alloys and Compounds, 1998, 280, 306-309.	2.8	116
15	Mechanical alloying of MgNi compounds under hydrogen and inert atmosphere. Journal of Alloys and Compounds, 1995, 231, 815-819.	2.8	113
16	Activation characteristics of graphite modified hydrogen absorbing materials. Journal of Alloys and Compounds, 2001, 325, 245-251.	2.8	98
17	Rapid activation, enhanced hydrogen sorption kinetics and air resistance in laminated Mgâ€“Pd 2.5at.%. Journal of Alloys and Compounds, 2007, 439, L5-L7.	2.8	90
18	Influence of cycling on the thermodynamic and structure properties of nanocrystalline magnesium based hydride. Journal of Alloys and Compounds, 2000, 305, 264-271.	2.8	89

#	Article	IF	Citations
19	Properties of mechanically alloyed Mgâ€"Niâ€"Ti ternary hydrogen storage alloys for Ni-MH batteries. Journal of Power Sources, 2002, 112, 547-556.	4.0	89
20	Nanoscale Grain Refinement and Hâ€Sorption Properties of MgH₂ Processed by Highâ€Pressure Torsion and Other Mechanical Routes. Advanced Engineering Materials, 2010, 12, 786-792.	1.6	82
21	Recent progress on the development of high entropy alloys (HEAs) for solid hydrogen storage: AÂreview. International Journal of Hydrogen Energy, 2022, 47, 11236-11249.	3.8	77
22	Structure of nanocomposite metal hydrides. Journal of Alloys and Compounds, 2002, 330-332, 727-731.	2.8	74
23	Study of the activation process of Mg-based hydrogen storage materials modified by graphite and other carbonaceous compounds. Journal of Materials Research, 2001, 16, 2893-2905.	1.2	72
24	Study of Mg6Pd alloy synthesized by cold rolling. Journal of Alloys and Compounds, 2007, 446-447, 147-151.	2.8	71
25	Effect of Zr, Ni and Zr 7 Ni 10 alloy on hydrogen storage characteristics of TiFe alloy. International Journal of Hydrogen Energy, 2015, 40, 16921-16927.	3.8	71
26	Mechanochemistry of Metal Hydrides: Recent Advances. Materials, 2019, 12, 2778.	1.3	71
27	Synthesis and hydrogen storage behavior of Mgâ€"Vâ€"Alâ€"Crâ€"Ni high entropy alloys. International Journal of Hydrogen Energy, 2021, 46, 2351-2361.	3.8	69
28	Hydrogenation improvement of TiFe by adding ZrMn2. Energy, 2017, 138, 375-382.	4.5	67
29	Analysis of hydrogen storage performance of metal hydride reactor with phase change materials. International Journal of Hydrogen Energy, 2019, 44, 28893-28908.	3.8	66
30	Hydrogen storage in bulk Mgâ€"Ti and Mgâ€"stainless steel multilayer composites synthesized via accumulative roll-bonding (ARB). International Journal of Hydrogen Energy, 2011, 36, 3022-3036.	3.8	64
31	A new approach to the processing of metal hydrides. Journal of Alloys and Compounds, 2011, 509, L18-L22.	2.8	63
32	Hydrogen storage properties of Ti0.95FeZr0.05, TiFe0.95Zr0.05 and TiFeZr0.05 alloys. International Journal of Hydrogen Energy, 2016, 41, 22128-22133.	3.8	62
33	Hydrogenation characteristics of air-exposed magnesium films. Journal of Alloys and Compounds, 2002, 345, 158-166.	2.8	61
34	Application of Severe Plastic Deformation Techniques to Magnesium for Enhanced Hydrogen Sorption Properties. Metals, 2012, 2, 329-343.	1.0	58
35	Crystal structure, phase abundance and electrode performance of Laves phase compounds (Zr,) Tj ETQq1 1 0.784314 rgBT /Overlock 10	2.8	56
36	Mechanically driven crystallization of amorphous MgNi alloy during prolonged milling: applications in Niâ€"MH batteries. Journal of Alloys and Compounds, 2002, 339, 195-201.	2.8	56

#	Article	IF	Citations
37	Microstructure and first hydrogenation properties of TiFe alloy with Zr and Mn as additives. International Journal of Hydrogen Energy, 2020, 45, 787-797.	3.8	56
38	Nanostructured MgH2 prepared by cold rolling and cold forging. Journal of Alloys and Compounds, 2011, 509, S444-S448.	2.8	54
39	Effect of cold rolling on hydrogen sorption properties of die-cast and as-cast magnesium alloys. Journal of Alloys and Compounds, 2012, 520, 287-294.	2.8	50
40	Effect of ball milling and cryomilling on the microstructure and first hydrogenation properties of TiFe+4 wt.% Zr alloy. Journal of Materials Research and Technology, 2019, 8, 1828-1834.	2.6	49
41	Microstructure and hydrogen storage properties of Tiâ€“Vâ€“Cr based BCC-type high entropy alloys. International Journal of Hydrogen Energy, 2021, 46, 28709-28718.	3.8	49
42	Hydrogenation properties of TiFe with Zr7Ni10 alloy as additive. Journal of Alloys and Compounds, 2015, 636, 375-380.	2.8	47
43	Mechanical activation of air exposed TiFeÂ+Â4Âwt% Zr alloy for hydrogenation by cold rolling and ball milling. International Journal of Hydrogen Energy, 2018, 43, 20795-20800.	3.8	45
44	Selection of phase change materials, metal foams and geometries for improving metal hydride performance. International Journal of Hydrogen Energy, 2020, 45, 14922-14939.	3.8	45
45	Reactivity during cycling of nanocrystalline Mg-based hydrogen storage compounds. International Journal of Hydrogen Energy, 2002, 27, 909-913.	3.8	44
46	Effects of equal-channel angular pressing and accumulative roll-bonding on hydrogen storage properties of a commercial ZK60 magnesium alloy. International Journal of Hydrogen Energy, 2015, 40, 16971-16976.	3.8	44
47	Crystal structure of multiphase alloys (Zr,Ti)(Mn,V)2. Journal of Alloys and Compounds, 1995, 231, 85-89.	2.8	42
48	Crystal structure and phase composition of alloys Zr1 âˆ’ xTix(Mn1 âˆ’ yVy)2. Journal of Alloys and Compounds, 1995, 228, 181-187.	2.8	41
49	Formation of the Ternary Complex Hydride Mg₂FeH₆ from Magnesium Hydride (Î²-MgH₂) and Iron: An Electron Microscopy and Energy-Loss Spectroscopy Study. Journal of Physical Chemistry C, 2012, 116, 25701-25714.	1.5	39
50	Synthesis, phase transformation, and hydrogen storage properties of ball-milled TiV0.9Mn1.1. Journal of Alloys and Compounds, 2008, 453, 203-209.	2.8	37
51	Nanocrystalline Metal Hydrides Obtained by Severe Plastic Deformations. Metals, 2012, 2, 22-40.	1.0	36
52	Hydrogenation Properties of TiFe Doped with Zirconium. Materials, 2015, 8, 7864-7872.	1.3	36
53	Influence of the evaporation rate and the evaporation mode on the hydrogen sorption kinetics of air-exposed magnesium films. Thin Solid Films, 2006, 496, 683-687.	0.8	35
54	Nanostructured Mg2Ni materials prepared by cold rolling and used as negative electrode for Niâ€“MH batteries. Journal of Power Sources, 2008, 185, 566-569.	4.0	35

#	Article	IF	Citations
55	Effect of air contamination on ball milling and cold rolling of magnesium hydride. Journal of Alloys and Compounds, 2011, 509, L175-L179.	2.8	35
56	Effect of annealing on microstructure and hydrogenation properties of TiFeÂ+ÂXÂwt% Zr (XÂ=Â4, 8). International Journal of Hydrogen Energy, 2018, 43, 6238-6243.	3.8	35
57	Hydrogenation rate limiting step, diffusion and thermal conductivity in cold rolled magnesium hydride. Journal of Alloys and Compounds, 2014, 583, 116-120.	2.8	33
58	First hydrogenation kinetics of Zr and Mn doped TiFe alloy after air exposure and reactivation by mechanical treatment. International Journal of Hydrogen Energy, 2020, 45, 11625-11631.	3.8	33
59	First Hydrogenation Enhancement in TiFe Alloys for Hydrogen Storage Doped with Yttrium. Metals, 2019, 9, 242.	1.0	29
60	Hydrogen storage properties and cycling degradation of single-phase La0.60R0.15Mg0Â·25Ni3.45 alloys with A2B7-type superlattice structure. Energy, 2020, 192, 116617.	4.5	29
61	Magnesium- and intermetallic alloys-based hydrides for energy storage: modelling, synthesis and properties. Progress in Energy, 2022, 4, 032007.	4.6	29
62	Addition of catalysts to magnesium hydride by means of cold rolling. Journal of Alloys and Compounds, 2012, 512, 290-295.	2.8	28
63	The role of morphology and severe plastic deformation on the hydrogen storage properties of magnesium. International Journal of Hydrogen Energy, 2014, 39, 12778-12783.	3.8	28
64	Synthesis and hydrogen sorption properties of TiV(2â^'x)Mnx BCC alloys. Journal of Alloys and Compounds, 2015, 624, 247-250.	2.8	28
65	Hydrogen storage in filed magnesium. Journal of Alloys and Compounds, 2016, 687, 586-594.	2.8	28
66	Effect of cooling rate on the microstructure and hydrogen storage properties of TiFe with 4 wt% Zr as an additive. Journal of Materials Research and Technology, 2019, 8, 5623-5630.	2.6	28
67	Hydrogen sorption properties of Tiâ€"Cr alloys synthesized by ball milling and cold rolling. Intermetallics, 2010, 18, 140-144.	1.8	27
68	Hydrogen storage properties of cold rolled magnesium hydrides with oxides catalysts. Journal of Alloys and Compounds, 2012, 512, 33-38.	2.8	27
69	H-sorption properties and structural evolution of Mg processed by severe plastic deformation. Journal of Alloys and Compounds, 2013, 580, S187-S191.	2.8	27
70	Hydrogen sorption enhancement in cold rolled LaNi5. Journal of Alloys and Compounds, 2014, 595, 22-27.	2.8	27
71	Crystal structure and hydrogen storage properties of body centered cubic 52Tiâ€"12Vâ€"36Cr alloy doped with Zr7Ni10. Journal of Alloys and Compounds, 2014, 607, 251-257.	2.8	25
72	MgH2Â+ÂFeNb nanocomposites for hydrogen storage. Materials Chemistry and Physics, 2014, 147, 557-562.	2.0	25

#	Article	IF	Citations
73	Effect of Cold Rolling on Metal Hydrides. Materials Transactions, 2019, 60, 1571-1576.	0.4	25
74	Investigation of the microstructure, crystal structure and hydrogenation kinetics of Ti-V-Cr alloy with Zr addition. Journal of Alloys and Compounds, 2019, 785, 1115-1120.	2.8	25
75	Effect of cold rolling and ball milling on first hydrogenation of Ti0.5Zr0.5 (Mn1-xFex) Cr1, xâ€‰=â€‰0, 0.2, 0.4. Journal of Alloys and Compounds, 2019, 775, 912-920.	2.8	25
76	Effect of doping and particle size on hydrogen absorption properties of BCC solid solution 52Ti-12V-36Cr. International Journal of Hydrogen Energy, 2017, 42, 11523-11527.	3.8	24
77	Effects of the Chromium Content in (TiVNb)100â^'xCrx Body-Centered Cubic High Entropy Alloys Designed for Hydrogen Storage Applications. Energies, 2021, 14, 3068.	1.6	24
78	MgH2 as dopant for improved activation of commercial Mg ingot. Journal of Alloys and Compounds, 2013, 575, 364-369.	2.8	23
79	First hydrogenation enhancement in TiFe alloys for hydrogen storage. Journal Physics D: Applied Physics, 2017, 50, 375303.	1.3	23
80	Effect of addition of Zr, Ni, and Zr-Ni alloy on the hydrogen absorption of Body Centred Cubic 52Ti-12V-36Cr alloy. International Journal of Hydrogen Energy, 2018, 43, 7424-7429.	3.8	23
81	Effect of ball milling and cold rolling on hydrogen storage properties of nanocrystalline TiV1.6Mn0.4 alloy. Journal of Alloys and Compounds, 2009, 484, 154-158.	2.8	22
82	Effect of particle size, pressure and temperature on the activation process of hydrogen absorption in TiVZrHfNb high entropy alloy. Journal of Alloys and Compounds, 2021, 861, 158615.	2.8	22
83	Hydrogen storage in TiCr1.2(FeV)x BCC solid solutions. Journal of Alloys and Compounds, 2009, 472, 247-251.	2.8	21
84	Effect of Magnesium Fluoride on Hydrogenation Properties of Magnesium Hydride. Energies, 2015, 8, 12546-12556.	1.6	21
85	First hydrogenation of mechanically processed TiFe-based alloy synthesized by gas atomization. International Journal of Hydrogen Energy, 2021, 46, 7381-7389.	3.8	21
86	Hydrogen storage in Tiâ€"Mnâ€"(FeV) BCC alloys. Journal of Alloys and Compounds, 2009, 480, 5-8.	2.8	20
87	Enhanced hydrogen storage properties of 2LiNH2/MgH2 through the addition of Mg(BH4)2. Journal of Alloys and Compounds, 2017, 704, 44-50.	2.8	20
88	Microstructure Optimization of Mg-Alloys by the ECAP Process Including Numerical Simulation, SPD Treatments, Characterization, and Hydrogen Sorption Properties. Molecules, 2019, 24, 89.	1.7	20
89	Low temperature rolling of AZ91 alloy for hydrogen storage. International Journal of Hydrogen Energy, 2017, 42, 29394-29405.	3.8	19
90	Magnesium-Nickel alloy for hydrogen storage produced by melt spinning followed by cold rolling. Materials Research, 2012, 15, 813-817.	0.6	18

#	Article	IF	Citations
91	Hydrogen storage properties of MgH2 processed by cold forging. Journal of Alloys and Compounds, 2014, 615, S719-S724.	2.8	18
92	Synthesis, characterization and hydrogen sorption properties of a Body Centered Cubic 42Tiâ€“21Vâ€“37Cr alloy doped with Zr7Ni10. Journal of Alloys and Compounds, 2015, 620, 101-108.	2.8	18
93	Nanostructure development in refractory metals: ECAP processing of Niobium and Tantalum using indirect-extrusion technique. International Journal of Refractory Metals and Hard Materials, 2019, 79, 1-9.	1.7	18
94	Effect of ball milling on the first hydrogenation of TiFe alloy doped with 4Âwt% (Zrâ€‰+â€‰2Mn) additive. Journal of Materials Science, 2018, 53, 13751-13757.	1.7	17
95	Phase transformation in magnesium hydride induced by ball milling. European Journal of Control, 2006, 31, 135-144.	1.6	17
96	Structural, microstructural and hydrogenation characteristics of Ti-V-Cr alloy with Zr-Ni addition. Journal of Alloys and Compounds, 2019, 776, 614-619.	2.8	16
97	Hydrogen Activation Behavior of Commercial Magnesium Processed by Different Severe Plastic Deformation Routes. Materials Science Forum, 2010, 667-669, 1047-1051.	0.3	15
98	Effect of Al presence and synthesis method on phase composition of the hydrogen absorbing Laâ€“Mgâ€“Ni-based compounds. International Journal of Hydrogen Energy, 2017, 42, 30135-30144.	3.8	14
99	Investigation of Effect of Milling Atmosphere and Starting Composition on Mg2FeH6 Formation. Metals, 2014, 4, 388-400.	1.0	13
100	Effect of Hafnium Addition on the Hydrogenation Process of TiFe Alloy. Energies, 2019, 12, 3477.	1.6	13
101	Differential Scanning Calorimetry (DSC) and Synchrotron X-ray Diffraction Study of Unmilled and Milled LiBH4: A Partial Release of Hydrogen at Moderate Temperatures. Crystals, 2012, 2, 1-21.	1.0	12
102	Hydrogen storage properties of V0.3Ti0.3Cr0.25Mn0.1Nb0.05 high entropy alloy. International Journal of Hydrogen Energy, 2022, 47, 25724-25732.	3.8	12
103	Enhancement of the initial hydrogenation of Mg by ball milling with alkali metal amides MNH2(M = Li) Tj ETQq1 1 0.784314 rgBT /Overlo	1.6	11
104	Hydrogen sorption enhancement in cold-rolled and ball-milled CaNi5. Journal of Materials Science, 2017, 52, 11911-11918.	1.7	11
105	Investigation of Crystal Structure, Microstructure, and Hydrogenation Behavior of Heat-Treated Ti₅₂V₁₂Cr₃₆ Alloy. ACS Applied Energy Materials, 2020, 3, 794-799.	2.5	11
106	Formation reaction of Mg2FeH6: effect of hydrogen absorption/desorption kinetics. Materials Research, 2013, 16, 1373-1378.	0.6	10
107	Effect of cold rolling on the hydrogen absorption and desorption kinetics of Zircaloy-4. Materials Chemistry and Physics, 2015, 155, 241-245.	2.0	10
108	In-situ neutron diffraction investigation of Mg2FeH6 dehydrogenation. International Journal of Hydrogen Energy, 2017, 42, 3087-3096.	3.8	10

#	Article	IF	Citations
109	Microstructure and Hydrogen Storage Properties of Ti1V0.9Cr1.1 Alloy with Addition of x wt % Zr (x =) Tj ETQq1 1 0.784314 rgBT /Over	1.2	10
110	Crystal structure of as-cast and heat-treated Ti0.5Zr0.5(Mn1-xFex)Cr1, x=0, 0.2, 0.4. Journal of Alloys and Compounds, 2018, 767, 432-438.	2.8	10
111	Influence of Ball Milling, Cold Rolling and Doping (Zrâ€‰+â€‰2Cr) on Microstructure, First Hydrogenation Properties and Anti-poisoning Ability of TiFe Alloy. Metals and Materials International, 2021, 27, 1346-1357.	1.8	10
112	Study of the Microstructural and First Hydrogenation Properties of TiFe Alloy with Zr, Mn and V as Additives. Processes, 2021, 9, 1217.	1.3	10
113	Synthesis of Metal Hydrides by Cold Rolling. Materials Science Forum, 0, 570, 33-38.	0.3	9
114	Enhancement of Hydrogen Storage in Metals by Using a New Technique in Severe Plastic Deformations. Key Engineering Materials, 0, 799, 173-178.	0.4	9
115	Replacement of Vanadium by Ferrovanadium in Ti-Based BCC Alloys for Hydrogen Storage. Solid State Phenomena, 0, 170, 144-149.	0.3	8
116	Kinetics and Thermodynamics. Green Energy and Technology, 2008, , 471-500.	0.4	7
117	Catalytic effects of pseudo AB2 phases on hydrogen sorption. Journal of Alloys and Compounds, 2009, 469, 137-141.	2.8	7
118	Improvement of hydrogen storage properties of magnesium alloys by cold rolling and forging. IOP Conference Series: Materials Science and Engineering, 2014, 63, 012114.	0.3	7
119	Effect of Cold Rolling on the Hydrogen Desorption Behavior of Binary Metal Hydride Powders under Microwave Irradiation. Metals, 2015, 5, 2021-2033.	1.0	7
120	Replacement of Vanadium by Ferrovanadium in a Ti-Based Body Centred Cubic (BCC) Alloy: Towards a Low-Cost Hydrogen Storage Material. Applied Sciences (Switzerland), 2018, 8, 1151.	1.3	7
121	Microstructure and First Hydrogenation Properties of TiHfZrNb1â^'xV1+x Alloy for x = 0, 0.1, 0.2, 0.4, 0.6 and 1. Molecules, 2022, 27, 1054.	1.7	7
122	Effect of HPT on the First Hydrogenation of LaNi5 Metal Hydride. Energies, 2021, 14, 6710.	1.6	6
123	Enhancement of First Hydrogenation of Ti1V0.9Cr1.1 BCC Alloy by Cold Rolling and Ball Milling. Materials, 2020, 13, 3106.	1.3	5
124	Microstructure and Hydrogen Storage Properties of the Multiphase Ti0.3V0.3Mn0.2Fe0.1Ni0.1 Alloy. Reactions, 2021, 2, 287-300.	0.9	5
125	Effect of Hard Cyclic Viscoplastic Deformation on the Microstructure, Mechanical Properties, and Electrical Conductivity of Cu-Cr Alloy. Journal of Materials Engineering and Performance, 2022, 31, 9690-9702.	1.2	5
126	Equal Channel Angular Pressing. SpringerBriefs in Applied Sciences and Technology, 2016, , 19-26.	0.2	4

#	Article	IF	Citations
127	Reactions in a multilayered Si (substrate)/Ta/Mg/Fe/Ta/Pd thin-film structure during annealing and deuterium absorption. Acta Materialia, 2015, 90, 259-271.	3.8	3
128	Ti-based BCC Alloy: Dehydrogenation Characterization Using Synchrotron and Neutron Diffraction. Materials Research, 2016, 19, 8-12.	0.6	3
129	Investigation of dehydrogenation of Tiâ€"Vâ€"Cr alloy by using in-situ neutron diffraction. Journal of Alloys and Compounds, 2020, 844, 156130.	2.8	3
130	Hydrogenation of TixFe2-x-based alloys with overstoichiometric Ti ratio (xÂ=Â=1.1, 1.15 and 1.2). International Journal of Hydrogen Energy, 2021, , .	3.8	3
131	Effect of Heat Treatment on Crystal Structure, Microstructure, and Hydrogenation Behavior of BCC 52Ti-12V-36Cr Alloys with Zr and Zr-Ni Additives. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 1945-1952.	1.1	3
132	High-Pressure Torsion. SpringerBriefs in Applied Sciences and Technology, 2016, , 11-17.	0.2	1
133	Effect of the Addition of 4Âwt% Zr to BCC Solid Solution Ti52V12Cr36 at Melting/Milling on Hydrogen Sorption Properties. Frontiers in Materials, 2022, 8, .	1.2	1
134	Cold Rolling. SpringerBriefs in Applied Sciences and Technology, 2016, , 27-38.	0.2	0