Pierre Millet

List of Publications by Year
in descending order

97 papers	5,815 citations	109264 35 h-index	76872 74 g-index
104 all docs	104 docs citations	104 times ranked	4139 citing authors

#	Article	IF	Citations
1	Water electrolysis: from textbook knowledge to the latest scientific strategies and industrial developments. Chemical Society Reviews, 2022, 51, 4583-4762.	18.7	453
2	Current status, research trends, and challenges in water electrolysis science and technology. International Journal of Hydrogen Energy, 2020, 45, 26036-26058.	3.8	390
3	PEM water electrolyzers: From electrocatalysis to stack development. International Journal of Hydrogen Energy, 2010, 35, 5043-5052.	3.8	333
4	Evaluation of carbon-supported Pt and Pd nanoparticles for the hydrogen evolution reaction in PEM water electrolysers. Journal of Power Sources, 2008, 177, 281-285.	4.0	289
5	Electrochemical performances of PEM water electrolysis cells and perspectives. International Journal of Hydrogen Energy, 2011, 36, 4134-4142.	3.8	289
6	Optimization of porous current collectors for PEM water electrolysers. International Journal of Hydrogen Energy, 2009, 34, 4968-4973.	3.8	243
7	Design and performance of a solid polymer electrolyte water electrolyzer. International Journal of Hydrogen Energy, 1996, 21, 87-93.	3.8	237
8	High-pressure PEM water electrolysis and corresponding safety issues. International Journal of Hydrogen Energy, 2011, 36, 2721-2728.	3.8	183
9	Hydrogen safety aspects related to high-pressure polymer electrolyte membrane water electrolysis. International Journal of Hydrogen Energy, 2009, 34, 5986-5991.	3.8	180
10	Influence of iridium oxide loadings on the performance of PEM water electrolysis cells: Part Iâ€"Pure IrO 2 -based anodes. Applied Catalysis B: Environmental, 2016, 182, 153-160.	10.8	172
11	New solid polymer electrolyte composites for water electrolysis. Journal of Applied Electrochemistry, 1989, 19, 162-166.	1.5	167
12	Influence of iridium oxide loadings on the performance of PEM water electrolysis cells: Part II â€" Advanced oxygen electrodes. Applied Catalysis B: Environmental, 2016, 182, 123-131.	10.8	132
13	Electroactivity of cobalt and nickel glyoximes with regard to the electro-reduction of protons into molecular hydrogen in acidic media. Electrochemistry Communications, 2007, 9, 54-58.	2.3	129
14	Failure of PEM water electrolysis cells: Case study involving anode dissolution and membrane thinning. International Journal of Hydrogen Energy, 2014, 39, 20440-20446.	3.8	116
15	GenHyPEM: A research program on PEM water electrolysis supported by the European Commission. International Journal of Hydrogen Energy, 2009, 34, 4974-4982.	3.8	115
16	Cobalt Clathrochelate Complexes as Hydrogenâ€Producing Catalysts. Angewandte Chemie - International Edition, 2008, 47, 9948-9950.	7.2	113
17	Electrochemical characterization of Polymer Electrolyte Membrane Water Electrolysis Cells. Electrochimica Acta, 2014, 131, 160-167.	2.6	112
18	Scientific and engineering issues related to PEM technology: Water electrolysers, fuel cells and unitized regenerative systems. International Journal of Hydrogen Energy, 2011, 36, 4156-4163.	3.8	105

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19	Description and characterization of an electrochemical hydrogen compressor/concentrator based on solid polymer electrolyte technology. International Journal of Hydrogen Energy, 2011, 36, 4148-4155.	3.8	103
20	An analysis of PEM water electrolysis cells operating at elevated current densities. International Journal of Hydrogen Energy, 2019, 44, 9708-9717.	3.8	95
21	A critical review on the definitions used to calculate the energy efficiency coefficients of water electrolysis cells working under near ambient temperature conditions. Journal of Power Sources, 2020, 447, 227350.	4.0	92
22	Cell failure mechanisms in PEM water electrolyzers. International Journal of Hydrogen Energy, 2012, 37, 17478-17487.	3.8	91
23	Solid polymer electrolyte water electrolysis: electrocatalysis and long-term stability. International Journal of Hydrogen Energy, 1994, 19, 421-427.	3.8	86
24	Design and characterization of bi-functional electrocatalytic layers for application in PEM unitized regenerative fuel cells. International Journal of Hydrogen Energy, 2010, 35, 5070-5076.	3.8	76
25	Water Electrolysis Technologies. , 2013, , 19-41.		76
26	Platinum and palladium nano-particles supported by graphitic nano-fibers as catalysts for PEM water electrolysis. International Journal of Hydrogen Energy, 2011, 36, 4143-4147.	3.8	74
27	The role of surface states during photocurrent switching: Intensity modulated photocurrent spectroscopy analysis of BiVO4 photoelectrodes. Applied Catalysis B: Environmental, 2018, 237, 401-408.	10.8	73
28	Preparation of new solid polymer electrolyte composites for water electrolysis. International Journal of Hydrogen Energy, 1990, 15, 245-253.	3.8	70
29	Characterization of membrane-electrode assemblies for solid polymer electrolyte water electrolysis. Journal of Applied Electrochemistry, 1993, 23, 322-331.	1.5	66
30	Implementing molecular catalysts for hydrogen production in proton exchange membrane water electrolysers. Coordination Chemistry Reviews, 2012, 256, 2435-2444.	9.5	51
31	Green synthesis of gold nanoparticles using Parsley leaves extract and their applications as an alternative catalytic, antioxidant, anticancer, and antibacterial agents. Advanced Powder Technology, 2020, 31, 4390-4400.	2.0	51
32	Development and characterization of new nickel coatings for application in alkaline water electrolysis. International Journal of Hydrogen Energy, 2016, 41, 36-45.	3.8	44
33	Time and frequency domain analysis of hydrogen permeation across PdCu metallic membranes for hydrogen purification. International Journal of Hydrogen Energy, 2010, 35, 4883-4892.	3.8	42
34	Highly textured boron/nitrogen co-doped TiO2 with honeycomb structure showing enhanced visible-light photoelectrocatalytic activity. Applied Surface Science, 2020, 505, 144419.	3.1	38
35	Plasma-assisted Pt and Ptâ€"Pd nano-particles deposition on carbon carriers for application in PEM electrochemical cells. International Journal of Hydrogen Energy, 2013, 38, 8568-8574.	3.8	35
36	Characterization of carbon-supported platinum nano-particles synthesized using magnetron sputtering for application in PEM electrochemical systems. International Journal of Hydrogen Energy, 2013, 38, 426-430.	3.8	35

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37	On the ability of pem water electrolysers to provide power grid services. International Journal of Hydrogen Energy, 2019, 44, 9690-9700.	3.8	35
38	Development and performances of a 0.5ÂkW high-pressure alkaline water electrolyser. International Journal of Hydrogen Energy, 2019, 44, 29441-29449.	3.8	34
39	Hydrogen production by proton exchange membrane water electrolysis using cobalt and iron hexachloroclathrochelates as efficient hydrogen-evolving electrocatalysts. International Journal of Hydrogen Energy, 2017, 42, 27845-27850.	3.8	33
40	Hydrogen-based PEM auxiliary power unit. International Journal of Hydrogen Energy, 2009, 34, 4983-4989.	3.8	31
41	Synthesis and characterization of Bi-doped g-C3N4 for photoelectrochemical water oxidation. Solar Energy, 2020, 211, 478-487.	2.9	31
42	Operando current mapping on PEM water electrolysis cells. Influence of mechanical stress. International Journal of Hydrogen Energy, 2017, 42, 25848-25859.	3.8	30
43	Novel nano-architectured water splitting photoanodes based on TiO2-nanorod mats surface sensitized by ZIF-67 coatings. International Journal of Hydrogen Energy, 2019, 44, 30949-30964.	3.8	29
44	Reduced Graphene Oxide-Supported Pt-Based Catalysts for PEM Fuel Cells with Enhanced Activity and Stability. Catalysts, 2021, 11, 256.	1.6	29
45	Development and characterisation of a pressurized PEM bi-stack electrolyser. International Journal of Energy Research, 2013, 37, 449-456.	2.2	27
46	Engineering a cobalt clathrochelate/glassy carbon interface for the hydrogen evolution reaction. Applied Catalysis B: Environmental, 2019, 250, 292-300.	10.8	27
47	Surface sensitization of TiO2 nanorod mats by electrodeposition of ZIF-67 for water photo-oxidation. Electrochimica Acta, 2020, 339, 135882.	2.6	24
48	Advances in hydride phase growth: Automatic high precision calorimeter-volumetric devices, for thermodynamic and kinetics analyses. Review of Scientific Instruments, 2000, 71, 142-153.	0.6	21
49	Pneumatochemical Impedance Spectroscopy. 1. Principles. Journal of Physical Chemistry B, 2005, 109, 24016-24024.	1.2	21
50	Characterization of Rh:SrTiO3 photoelectrodes surface-modified with a cobalt clathrochelate and their application to the hydrogen evolution reaction. Electrochimica Acta, 2017, 258, 255-265.	2.6	19
51	Water electrolysis using EME technology: temperature profile inside a nafion membrane during electrolysis. Electrochimica Acta, 1991, 36, 263-267.	2.6	18
52	Hydrogen production with a designed clathrochelate-based electrocatalytic materials: Synthesis, X-ray structure and redox-properties of the iron cage complexes with pendant (poly)aryl-terminated ribbed substituents. International Journal of Hydrogen Energy, 2017, 42, 27894-27909.	3.8	18
53	Fe/Ni Bimetallic Organic Framework Deposited on TiO2 Nanotube Array for Enhancing Higher and Stable Photoelectrochemical Activity of Oxygen Evaluation Reaction. Nanomaterials, 2020, 10, 1688.	1.9	18
54	One-pot synthesis of TiO2/Sb2S3/RGO complex multicomponent heterostructures for highly enhanced photoelectrochemical water splitting. International Journal of Hydrogen Energy, 2021, 46, 31216-31227.	3.8	18

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55	Comparative analysis of the hydriding kinetics of LaNi5, La0.8Nd0.2Ni5 and La0.7Ce0.3Ni5 compounds. International Journal of Hydrogen Energy, 2011, 36, 4178-4184.	3.8	17
56	Effect of the ligand framework of cobalt clathrochelates on hydrogen evolution electrocatalysis: electrochemical, spectroscopic and Density Functional Theory analyses. Electrochimica Acta, 2017, 245, 1065-1074.	2.6	17
57	Electrocatalytic hydrogen production using the designed hexaphenanthrene iron, cobalt and ruthenium(II) cage complexes as cathode (pre)catalysts immobilized on carbonaceous substrates. International Journal of Hydrogen Energy, 2020, 45, 26206-26216.	3.8	16
58	Hydriding kinetics analysis by the frequency response method.. Journal of Alloys and Compounds, 2002, 330-332, 476-482.	2.8	14
59	Experimental requirements for measuring pneumatochemical impedances. Review of Scientific Instruments, 2007, 78, 123902.	0.6	14
60	Hydrogen sorption by Pd77Ag23 metallic membranes. Role of hydrogen content, temperature and sample microstructure. International Journal of Hydrogen Energy, 2011, 36, 4262-4269.	3.8	14
61	Kinetics of hydrogen sorption by palladium nanoparticles. International Journal of Hydrogen Energy, 2013, 38, 966-972.	3.8	14
62	Effect of morphology and non-metal doping (P and S) on the activity of graphitic carbon nitride toward photoelectrochemical water oxidation. Solar Energy Materials and Solar Cells, 2021, 232, 111326.	3.0	14
63	PEC water splitting using mats of calcined TiO2 rutile nanorods photosensitized by a thin layer of Ni-benzene dicarboxylic acid MOF. Electrochimica Acta, 2021, 393, 139014.	2.6	14
64	Hydrogen production by polymer electrolyte membrane waterÂelectrolysis. , 2015, , 255-286.		13
65	Intermetallic hydrides: (I) investigation of the rate of phase transformation. Journal of Alloys and Compounds, 1995, 231, 427-433.	2.8	12
66	Electrocatalytic properties of {Mo₃S₄}-based complexes with regard to the hydrogen evolution reaction and application to PEM water electrolysis. Materials Advances, 2020, 1, 430-440.	2.6	11
67	Metal and metal oxides based membrane composites for solid polymer electrolyte water electrolysers. Journal of Membrane Science, 1991, 61, 157-165.	4.1	10
68	A new approach to the kinetics of LaNi5â€“H2(g) systems based on impedance spectroscopy analysis. Journal of Alloys and Compounds, 1997, 253-254, 542-546.	2.8	10
69	Ruthenium-based molecular compounds for oxygen evolution in acidic media. International Journal of Hydrogen Energy, 2013, 38, 8590-8596.	3.8	10
70	Hydrogen production using high-pressure electrolyzers. , 2015, , 179-224.		10
71	Immobilization of functionalized iron(II) clathrochelates with terminal (poly)aromatic group(s) on carbonaceous materials and their detailed cyclic voltammetry study. Electrochimica Acta, 2018, 269, 590-609.	2.6	10
72	Water reduction into hydrogen using Rh-doped SrTiO3 photoelectrodes surface-modified by minute amounts of Pt: Insights from heterogeneous kinetic analysis. Electrochimica Acta, 2019, 297, 696-704.	2.6	10

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73	Pneumatochemical Impedance Spectroscopy. 2. Dynamics of Hydrogen Sorption by Metals. Journal of Physical Chemistry B, 2005, 109, 24025-24030.	1.2	9
74	Non-harmonic electro-chemical and pneumato-chemical impedance spectroscopies for analyzing the hydriding kinetics of palladium. Electrochimica Acta, 2011, 56, 7907-7915.	2.6	9
75	(Invited) Conventional and Innovative Electrocatalysts for PEM Water Electrolysis. ECS Transactions, 2016, 75, 1073-1079.	0.3	8
76	Approach to the Mechanism of Hydrogen Evolution Electrocatalyzed by a Model Co Clathrochelate: A Theoretical Study by Density Functional Theory. ChemPhysChem, 2018, 19, 2549-2558.	1.0	8
77	Polyaromatic-terminated iron(ii) clathrochelates as electrocatalysts for efficient hydrogen production in water electrolysis cells with polymer electrolyte membrane. Mendeleev Communications, 2021, 31, 20-23.	0.6	8
78	Fourier-Domain Analysis of Hydriding Kinetics Using Pneumato-Chemical Impedance Spectroscopy. Research Letters in Physical Chemistry, 2007, 2007, 1-5.	0.3	7
79	Hydriding Reaction of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mrow><mml:mtext>LaNi</mml:mtext></mml:m Correlations between Thermodynamic States and Sorption Kinetics during Activation. Research Letters in Physical Chemistry, 2008, 2008, 1-4.	0.3	7
80	Frequency-domain analysis of hydrogen permeation across Pd77Ag23 metallic membranes. International Journal of Hydrogen Energy, 2009, 34, 5003-5009.	3.8	7
81	Preparation and Electrochemistry of Iron, Ruthenium, and Cobalt(II) Hexaphenanthrene Clathrochelates Designed for Efficient Electrocatalytic Hydrogen Production and Their Physisorption on Carbon Materials. Journal of the Electrochemical Society, 2019, 166, H598-H607.	1.3	7
82	Water Photo-Electrooxidation Using Mats of TiO2 Nanorods, Surface Sensitized by a Metalâ€"Organic Framework of Nickel and 1,2-Benzene Dicarboxylic Acid. Hydrogen, 2021, 2, 58-75.	1.7	7
83	A comparison of water photo-oxidation and photo-reduction using photoelectrodes surface-modified by deposition of co-catalysts: Insights from photo-electrochemical impedance spectroscopy. International Journal of Hydrogen Energy, 2019, 44, 9970-9977.	3.8	6
84	Characterization of metal hydrides using pneumato-chemical impedance spectroscopy. International Journal of Hydrogen Energy, 2009, 34, 4990-4996.	3.8	5
85	Derivation of the diffusion impedance of multi-layer cylinders. Application to the electrochemical permeation of hydrogen through Pd and PdAg hollow cylinders. Electrochimica Acta, 2014, 131, 52-59.	2.6	5
86	A comparative evaluation of palladium and platinum nanoparticles as catalysts in proton exchange membrane electrochemical cells. International Journal of Nuclear Hydrogen Production and Applications, 2008, 1, 343.	0.2	4
87	Spectrophotometrical Study of the Physisorption of Iron(II) Clathrochelates Containing Terminal Phenanthrenyl Group(s) on Carbon Paper. Macroheterocycles, 2018, 11, 449-453.	0.9	4
88	Dynamics of hydrogen permeation across metallic membranes. International Journal of Hydrogen Energy, 2013, 38, 8584-8589.	3.8	3
89	Key Performance Indicators. , 2018, , 33-60.		3
90	Fundamentals of water electrolysis. , 2022, , 37-62.		3

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91	The Individual Proton-Exchange Membrane Cell and Proton-Exchange Membrane Stack. , 2018, , 75-115.		2
92	Alkaline Electrolysers. , 2022, , 459-472.		2
93	Role of photosensitizers in enhancing the performance of nanocrystalline TiO2 for photoelectrochemical water splitting. SPR Nanoscience, 2021, , 181-212.	0.3	2
94	Performance Degradation. , 2018, , 61-94.		1
95	The Use of Density Functional Theory to Decipher the Electrochemical Activity of Metal Clathrochelates with Regard to the Hydrogen Evolution Reaction in the Homogeneous Phase. , 0, , .		1
96	Implementation of a TiO2/N719-Dye Photo-Anode in a DSSC and Performance Analysis. Russian Journal of Electrochemistry, 2020, 56, 929-937.	0.3	1
97	Membrane electrolysers for hydrogen (H 2) production. , 2011, , 568-609.		0