

Carmen M. Rangel

List of Publications by Year in descending order

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118
papers

3,144
citations

147566

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182168

51
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125
docs citations

125
times ranked

3406
citing authors

#	ARTICLE	IF	CITATIONS
1	New proton conductive membranes of indazole- and condensed pyrazolebisphosphonic acid-Nafion membranes for PEMFC. <i>Renewable Energy</i> , 2022, 196, 1187-1196.	4.3	9
2	New modified Nafion-bisphosphonic acid composite membranes for enhanced proton conductivity and PEMFC performance. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 17562-17571.	3.8	29
3	Rehydrogenation of Sodium Borates to Close the NaBH ₄ -H ₂ Cycle: A Review. <i>Energies</i> , 2021, 14, 3567.	1.6	16
4	Water availability and water usage solutions for electrolysis in hydrogen production. <i>Journal of Cleaner Production</i> , 2021, 315, 128124.	4.6	49
5	TiO ₂ -reduced graphene oxide-Pt nanocomposites for the photogeneration of hydrogen from ethanol liquid and gas phases. <i>Catalysis Today</i> , 2021, 380, 41-52.	2.2	8
6	The hydrogen roadmap in the Portuguese energy system – Developing the P2G case. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 25646-25657.	3.8	29
7	Origin of photocatalytic activity enhancement in Pd/Pt-deposited anatase N-TiO ₂ – experimental insights and DFT study of the (001) surface. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 18536-18547.	1.3	6
8	Electrochemical production of syngas from CO ₂ at pressures up to 30 bar in electrolytes containing ionic liquid. <i>Reaction Chemistry and Engineering</i> , 2019, 4, 1982-1990.	1.9	15
9	Enhanced proton conductivity of Nafion-azolebisphosphonate membranes for PEM fuel cells. <i>New Journal of Chemistry</i> , 2019, 43, 15249-15257.	1.4	12
10	Comprehensive review and future perspectives on the photocatalytic hydrogen production. <i>Journal of Chemical Technology and Biotechnology</i> , 2019, 94, 3049-3063.	1.6	136
11	Nafion phosphonic acid composite membranes for proton exchange membranes fuel cells. <i>Applied Surface Science</i> , 2019, 487, 889-897.	3.1	41
12	State of the art Energy Materials. <i>Applied Surface Science</i> , 2019, 474, 1.	3.1	0
13	Challenges arising from the use of TiO ₂ /rGO/Pt photocatalysts to produce hydrogen from crude glycerol compared to synthetic glycerol. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 28494-28506.	3.8	27
14	Syngas production by electrochemical CO ₂ reduction in an ionic liquid based-electrolyte. <i>Journal of CO₂ Utilization</i> , 2017, 18, 62-72.	3.3	52
15	Modification of N-doped TiO ₂ photocatalysts using noble metals (Pt, Pd) – a combined XPS and DFT study. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 7062-7071.	1.3	60
16	Performance of an Active Micro Direct Methanol Fuel Cell Using Reduced Catalyst Loading MEAs. <i>Energies</i> , 2017, 10, 1683.	1.6	13
17	Synthesis and electrocatalytic properties of La _{0.8} Sr _{0.2} FeO _{3-δ} perovskite oxide for oxygen reactions. <i>AIMS Materials Science</i> , 2017, 4, 991-1009.	0.7	6
18	Stability and durability under potential cycling of Pt/C catalyst with new surface-functionalized carbon support. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 12962-12975.	3.8	28

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19	Electrochemical behavior of europium perovskites (Ca _{0.6} Eu _{0.4} MnO ₃) in alkaline aqueous media. <i>Journal of Solid State Electrochemistry</i> , 2016, 20, 1713-1722.	1.2	2
20	Hydrogen generation and storage by aqueous sodium borohydride (NaBH ₄) hydrolysis for small portable fuel cells (H ₂ PEMFC). <i>International Journal of Hydrogen Energy</i> , 2016, 41, 15426-15432.	3.8	39
21	Key issues to high electroactivity for methanol oxidation and oxygen reduction of Pt-based supported catalyst in fuel cells relevant environment. <i>Ciência & Tecnologia Dos Materiais</i> , 2016, 28, 88-98.	0.5	1
22	Pore scale modelling of a cathode catalyst layer in fuel cell environment: agglomerate reconstruction and variables optimization. <i>Journal of Solid State Electrochemistry</i> , 2016, 20, 541-554.	1.2	8
23	Synthesis of New Azole Phosphonate Precursors for Fuel Cells Proton Exchange Membranes. <i>Heteroatom Chemistry</i> , 2015, 26, 236-248.	0.4	6
24	Development and performance analysis of a metallic passive micro-direct methanol fuel cell for portable applications. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 5408-5415.	3.8	33
25	Enhancing photocatalytic properties of rutile TiO ₂ by codoping with N and metals – Ab initio study. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 9696-9703.	3.8	17
26	Experimental and modeling studies of a micro direct methanol fuel cell. <i>Renewable Energy</i> , 2015, 74, 464-470.	4.3	26
27	Stability of LaNiO ₃ gas diffusion oxygen electrodes. <i>Journal of Solid State Electrochemistry</i> , 2014, 18, 821-831.	1.2	9
28	Review on micro-direct methanol fuel cells. <i>Renewable and Sustainable Energy Reviews</i> , 2014, 34, 58-70.	8.2	90
29	Kinetic modeling of self-hydrolysis of aqueous NaBH ₄ solutions by model-based isoconversional method. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 6567-6576.	3.8	12
30	A dynamic two phase flow model for a pilot scale sodium borohydride hydrogen generation reactor. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 5291-5300.	3.8	13
31	Water management in a passive direct methanol fuel cell. <i>International Journal of Energy Research</i> , 2013, 37, 991-1001.	2.2	26
32	Simulation of a stand-alone residential PEMFC power system with sodium borohydride as hydrogen source. <i>International Journal of Electrical Power and Energy Systems</i> , 2013, 49, 57-65.	3.3	18
33	New azaheterocyclic aromatic diphosphonates for hybrid materials for fuel cell applications. <i>New Journal of Chemistry</i> , 2013, 37, 3084.	1.4	9
34	Oxide loading effect on the electrochemical performance of LaNiO ₃ coatings in alkaline media. <i>Electrochimica Acta</i> , 2013, 89, 106-113.	2.6	21
35	Assessing cell polarity reversal degradation phenomena in PEM fuel cells by electrochemical impedance spectroscopy. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 7684-7696.	3.8	23
36	Gold deposition from 1-butyl-1-methyl-pyrrolidinium dicyanamide ionic liquid at open-circuit and under potentiostatic control. <i>Surface and Coatings Technology</i> , 2013, 232, 645-651.	2.2	7

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37	Dielectric Properties of Al-Nb Amorphous Mixed Oxides. ECS Journal of Solid State Science and Technology, 2013, 2, N205-N210.	0.9	21
38	Modelling and identification of the dominant phenomena in hydrogen fuel-cells by the application of DRT Analysis. Computer Aided Chemical Engineering, 2013, , 283-288.	0.3	3
39	A sodium borohydride hydrogen generation reactor for stationary applications: Experimental and reactor simulation studies. Chemical Engineering Science, 2012, 84, 70-79.	1.9	23
40	Structural Features of Electrodeposited Copper Electrodes for CO ₂ Conversion. Materials Science Forum, 2012, 730-732, 239-244.	0.3	2
41	Three Dimensional Model of a High Temperature PEMFC. Study of the Flow Field Effect on Performance. Fuel Cells, 2012, 12, 566-576.	1.5	26
42	High surface area LaNiO ₃ electrodes for oxygen electrocatalysis in alkaline media. Journal of Applied Electrochemistry, 2012, 42, 325-332.	1.5	30
43	Batch sodium borohydride hydrolysis systems: Effect of sudden valve opening on hydrogen generation rate. International Journal of Hydrogen Energy, 2012, 37, 1947-1953.	3.8	12
44	Water handling challenge on hydrolysis of sodium borohydride in batch reactors. International Journal of Hydrogen Energy, 2012, 37, 6985-6994.	3.8	18
45	Pt-Ru catalysts supported on carbon xerogels for PEM fuel cells. International Journal of Hydrogen Energy, 2012, 37, 7200-7211.	3.8	44
46	Characterization of MEA degradation for an open air cathode PEM fuel cell. International Journal of Hydrogen Energy, 2012, 37, 7299-7308.	3.8	60
47	Electrochemical characterisation of a Zn/(PEO) ₄ ZnCl ₂ /Nb ₂ O ₅ solid-state cell. Journal of Solid State Electrochemistry, 2012, 16, 665-671.	1.2	7
48	Novel data-driven methodologies for parameter estimation and interpretation of fuel cells performance. , 2011, , .		2
49	Performance of a Direct Methanol Fuel Cell Operating Close to Room Temperature. Journal of Fuel Cell Science and Technology, 2011, 8, .	0.8	7
50	One-dimensional and non-isothermal model for a passive DMFC. Journal of Power Sources, 2011, 196, 8973-8982.	4.0	46
51	Electrochemical aspects of black chromium electrodeposition from 1-butyl-3-methylimidazolium tetrafluoroborate ionic liquid. Electrochimica Acta, 2011, 56, 10347-10352.	2.6	42
52	Kinetics of hydrolysis of sodium borohydride for hydrogen production in fuel cell applications: A review. International Journal of Hydrogen Energy, 2011, 36, 9772-9790.	3.8	221
53	Durability and reutilization capabilities of a Ni-Ru catalyst for the hydrolysis of sodium borohydride in batch reactors. Catalysis Today, 2011, 170, 40-49.	2.2	30
54	Electrodeposition of black chromium spectrally selective coatings from a Cr(III) ionic liquid solution. Thin Solid Films, 2011, 519, 1845-1850.	0.8	31

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55	Electrodeposition of gold thin films from 1-butyl-1-methylpyrrolidinium dicyanamide Au ³⁺ solutions. <i>Thin Solid Films</i> , 2011, 519, 6278-6283.	0.8	23
56	Fractional-order transfer functions applied to the modeling of hydrogen PEM fuel cells. <i>Computer Aided Chemical Engineering</i> , 2011, , 1748-1752.	0.3	2
57	Improving Electrocatalytic Activity of LaNiO ₃ Films by Deposition on Foam Nickel Substrates. <i>Portugaliae Electrochimica Acta</i> , 2011, 29, 335-342.	0.4	6
58	Effect of anode and cathode flow field design on the performance of a direct methanol fuel cell. <i>Chemical Engineering Journal</i> , 2010, 157, 174-180.	6.6	67
59	Hydrogen production from sodium borohydride in methanol-water mixtures. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 9862-9868.	3.8	66
60	Hydrogen PEMFC stack performance analysis: A data-driven approach. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 9973-9982.	3.8	3
61	Alkali free hydrolysis of sodium borohydride for hydrogen generation under pressure. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 9869-9878.	3.8	37
62	Effects of the addition of an organic polymer on the hydrolysis of sodium tetrahydroborate in batch reactors. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 11456-11469.	3.8	16
63	Novel hydrogen generator/storage based on metal hydrides. <i>International Journal of Hydrogen Energy</i> , 2009, 34, 4587-4591.	3.8	15
64	Modelling and experimental studies on a direct methanol fuel cell working under low methanol crossover and high methanol concentrations. <i>International Journal of Hydrogen Energy</i> , 2009, 34, 6443-6451.	3.8	45
65	Water management in direct methanol fuel cells. <i>International Journal of Hydrogen Energy</i> , 2009, 34, 8245-8256.	3.8	38
66	Water transport through a PEM fuel cell: A one-dimensional model with heat transfer effects. <i>Chemical Engineering Science</i> , 2009, 64, 2216-2225.	1.9	57
67	Water Transport through a Proton-Exchange Membrane (PEM) Fuel Cell Operating near Ambient Conditions: Experimental and Modeling Studies. <i>Energy & Fuels</i> , 2009, 23, 397-402.	2.5	14
68	Integrating hydrogen generation and storage in a novel compact electrochemical system based on metal hydrides. <i>Journal of Power Sources</i> , 2008, 181, 382-385.	4.0	16
69	Conversion coating growth on 2024-T3 Al alloy. The effect of pre-treatments. <i>Surface and Coatings Technology</i> , 2008, 202, 3396-3402.	2.2	39
70	Modeling of catalytic hydrogen generation from sodium borohydride. <i>Computer Aided Chemical Engineering</i> , 2008, , 757-762.	0.3	5
71	Sol-gel coatings for pitting corrosion resistance of AA 2024-T3 aluminium alloy. , 2007, , 52-62.		0
72	Fuel Cells and On-Demand Hydrogen Production: Didactic Demonstration Prototype. , 2007, , .		3

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73	RenH ₂ - Stand-Alone Energy System Supported by Totally Renewable Hydrogen Production. , 2007, , .		4
74	A comparative study of approaches to direct methanol fuel cells modelling. International Journal of Hydrogen Energy, 2007, 32, 415-424.	3.8	72
75	High performance PEMFC stack with open-cathode at ambient pressure and temperature conditions. International Journal of Hydrogen Energy, 2007, 32, 4350-4357.	3.8	115
76	Anodic oxidation and dielectric behaviour of aluminium–niobium alloys. Corrosion Science, 2006, 48, 2203-2211.	3.0	11
77	Li-based conversion coatings on aluminium: An electrochemical study of coating formation and growth. Surface and Coatings Technology, 2006, 200, 5823-5828.	2.2	23
78	Influence of surface treatments in the initial stages of anodizing Al–Ag alloys in neutral electrolytes. Journal of Solid State Electrochemistry, 2006, 10, 83-90.	1.2	3
79	Modified Titania in the Photo-Assisted Oxidation of Chloroform. Materials Science Forum, 2006, 514-516, 1385-1390.	0.3	0
80	Semiconductive Properties of Anodic Niobium Oxides. Portugaliae Electrochimica Acta, 2006, 24, 305-311.	0.4	16
81	Carbon supports for methanol oxidation catalyst. Journal of Power Sources, 2005, 151, 79-84.	4.0	52
82	Semiconductor electrochemistry approach to passivity and stress corrosion cracking susceptibility of stainless steels. Electrochimica Acta, 2005, 50, 5076-5082.	2.6	50
83	The influence of aniline and its derivatives on the corrosion behaviour of copper in acid solution: a theoretical approach. Computational and Theoretical Chemistry, 2005, 757, 1-7.	1.5	36
84	Carbon xerogel supported Pt and Pt–Ni catalysts for electro-oxidation of methanol in basic medium. Catalysis Today, 2005, 102-103, 173-176.	2.2	49
85	The influence of aniline and its derivatives on the corrosion behaviour of copper in acid solution. Journal of Solid State Electrochemistry, 2005, 9, 504-511.	1.2	25
86	Properties of the passive films on cold worked stainless steels in conditions of susceptibility to stress corrosion cracking. European Journal of Control, 2004, 29, 61-72.	1.6	2
87	Lanthanide-Based Conversion Coatings for Aluminium. Key Engineering Materials, 2002, 230-232, 68-71.	0.4	5
88	Growth of Anodic Oxides on Sputtered Al-Nb Alloys. Key Engineering Materials, 2002, 230-232, 44-47.	0.4	2
89	Influence de la Deformation Plastique sur les Proprietes des Films de Passivation Formes sur les Aciers Inoxydables. Relations avec la Corrosion sous Contrainte. Portugaliae Electrochimica Acta, 2002, 20, 119-132.	0.4	1
90	Electrochemical behaviour of steel rebars in concrete: influence of environmental factors and cement chemistry. Electrochimica Acta, 2001, 46, 3905-3912.	2.6	197

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91	Influence of Pre-treatments on the Surface Condition of 2024-T3 Aluminium Alloy. Transactions of the Institute of Metal Finishing, 2000, 78, 179-185.	0.6	37
92	Modified nickel oxides as cathode materials for MCFC. Journal of Power Sources, 2000, 86, 329-333.	4.0	63
93	Pseudo-equilibrium phase diagrams for PEO-Zn salts-based electrolytes. Solid State Ionics, 1999, 116, 293-300.	1.3	29
94	Compound parabolic concentrator technology development to commercial solar detoxification applications. Solar Energy, 1999, 67, 317-330.	2.9	122
95	Cation mobility in poly(ethylene oxide) solid electrolytes. Journal of Electroanalytical Chemistry, 1998, 442, 91-97.	1.9	8
96	The behaviour of ion-implanted tungsten species during anodic oxidation of aluminium. Journal Physics D: Applied Physics, 1998, 31, 2083-2090.	1.3	2
97	Microstructural modifications of aluminium surfaces ion implanted with W and its effect on corrosion and passivation. Surface and Coatings Technology, 1997, 89, 101-107.	2.2	16
98	Some studies in the poly(ethylene oxide)-Zinc chloride system. Journal of Applied Electrochemistry, 1997, 27, 1290-1296.	1.5	10
99	Chromium ion implantation for inhibition of corrosion of aluminium. Surface and Coatings Technology, 1996, 83, 194-200.	2.2	9
100	Corrosion behaviour of mild steel beneath porous plasma sprayed coatings. Corrosion Engineering Science and Technology, 1996, 31, 227-232.	0.3	2
101	The effect of ion implantation on the fatigue life and corrosion resistance of M50 steel bearings. Surface and Coatings Technology, 1995, 74-75, 754-759.	2.2	29
102	Improvement of rolling contact fatigue life of ion implanted M50 steel. Nuclear Instruments & Methods in Physics Research B, 1993, 80-81, 246-249.	0.6	6
103	Electrochemical impedance spectroscopy of plastically deformed mild steel. Corrosion Engineering Science and Technology, 1992, 27, 237-240.	0.3	4
104	Zinc and polyphosphates as corrosion inhibitors for zinc in near neutral waters. Corrosion Engineering Science and Technology, 1992, 27, 207-212.	0.3	7
105	ac conductivity of polymer complexes formed by poly (ethylene oxide) and nickel chloride. Solid State Ionics, 1992, 58, 3-7.	1.3	6
106	The passivation of aluminium in lithium carbonate/bicarbonate solutions. Corrosion Science, 1992, 33, 327-343.	3.0	31
107	Zinc dissolution in lisbon tap water. Corrosion Science, 1992, 33, 1479-1493.	3.0	12
108	The effect of the angle of incidence on the aqueous corrosion of ion implanted M50 steel substrates. Surface and Coatings Technology, 1992, 51, 483-488.	2.2	3

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109	Improvement of corrosion resistance of M50 bearing steel by implantation with metal ions. Nuclear Instruments & Methods in Physics Research B, 1991, 59-60, 772-777.	0.6	13
110	Electrochemical impedance studies on pure aluminium in carbonate solution. Journal of Applied Electrochemistry, 1990, 20, 874-876.	1.5	11
111	Voltammetric studies of the transpassive dissolution of mild steel in carbonate/bicarbonate solutions. Electrochimica Acta, 1989, 34, 255-263.	2.6	32
112	Chloride induced pitting initiation on 304L stainless steel in acidic sodium sulphate solutions. Corrosion Engineering Science and Technology, 1988, 23, 186-189.	0.3	7
113	Some aspects of the electrochemical behaviour of mild steel in carbonate/bicarbonate solutions. Electrochimica Acta, 1986, 31, 1659-1662.	2.6	28
114	Stress corrosion cracking of β -brass in waters with and without additions. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1985, 16, 1671-1681.	1.4	16
115	Selective Catalytic Reduction of NO _x over Zeolite-Coated Cordierite-Based Ceramic Foams: Water Deactivation. Materials Science Forum, 0, 587-588, 810-814.	0.3	1
116	Effects of NaBH ₄ Additions on Hydrogen Absorption by Nanostructured FeTi Powders. Materials Science Forum, 0, 587-588, 921-925.	0.3	4
117	Effect of Milling Energy Modulation on the High Temperature Synthesis of FeTi. Materials Science Forum, 0, 636-637, 934-940.	0.3	0
118	Imidazolium and picolinium-based electrolytes for electrochemical reduction of CO ₂ at high pressure. Energy Advances, 0, , .	1.4	0