Elena R Savinova

List of Publications by Year
in descending order

89 papers	3,815 citations	87888 38 h-index	133252 59 g-index
95 all docs	95 docs citations	95 times ranked	4340 citing authors

#	Article	IF	Citations
1	CO monolayer oxidation on Pt nanoparticles: Further insights into the particle size effects. Journal of Electroanalytical Chemistry, 2007, 599, 221-232.	3.8	218
2	Dual role of carbon in the catalytic layers of perovskite/carbon composites for the electrocatalytic oxygen reduction reaction. Catalysis Today, 2012, 189, 83-92.	4.4	177
3	Platinum group metal-free NiMo hydrogen oxidation catalysts: high performance and durability in alkaline exchange membrane fuel cells. Journal of Materials Chemistry A, 2017, 5, 24433-24443.	10.3	161
4	Infrared Spectroscopic Study of CO Adsorption and Electro-oxidation on Carbon-Supported Pt Nanoparticles:Â Interparticle versus Intraparticle Heterogeneity. Journal of Physical Chemistry B, 2004, 108, 17893-17904.	2.6	141
5	Synthesis and Structural Characterization of Se-Modified Carbon-Supported Ru Nanoparticles for the Oxygen Reduction Reaction. Journal of Physical Chemistry B, 2006, 110, 6881-6890.	2.6	126
6	Recent Advances in the Understanding of Nickel-Based Catalysts for the Oxidation of Hydrogen-Containing Fuels in Alkaline Media. ACS Catalysis, 2020, 10, 7043-7068.	11.2	125
7	Operando Evidence for a Universal Oxygen Evolution Mechanism on Thermal and Electrochemical Iridium Oxides. Journal of Physical Chemistry Letters, 2018, 9, 3154-3160.	4.6	121
8	Highly active anode electrocatalysts derived from electrochemical leaching of Ru from metallic Ir 0.7 Ru 0.3 for proton exchange membrane electrolyzers. Nano Energy, 2017, 34, 385-391.	16.0	106
9	Rationalizing the Influence of the Mn(IV)/Mn(III) Red-Ox Transition on the Electrocatalytic Activity of Manganese Oxides in the Oxygen Reduction Reaction. Electrochimica Acta, 2016, 187, 161-172.	5.2	97
10	On the influence of the metal loading on the structure of carbon-supported PtRu catalysts and their electrocatalytic activities in CO and methanol electrooxidation. Physical Chemistry Chemical Physics, 2007, 9, 5476.	2.8	87
11	Exploring the Influence of the Nickel Oxide Species on the Kinetics of Hydrogen Electrode Reactions in Alkaline Media. Topics in Catalysis, 2016, 59, 1319-1331.	2.8	79
12	Electrocatalytic Oxygen Reduction Reaction on Perovskite Oxides: Series versus Direct Pathway. ChemPhysChem, 2014, 15, 2108-2120.	2.1	77
13	<i>Operando</i> Near Ambient Pressure XPS (NAP-XPS) Study of the Pt Electrochemical Oxidation in H₂O and H₂O/O₂ Ambients. Journal of Physical Chemistry C, 2016, 120, 15930-15940.	3.1	77
14	Borohydride oxidation reaction mechanisms and poisoning effects on Au, Pt and Pd bulk electrodes: From model (low) to direct borohydride fuel cell operating (high) concentrations. Electrochimica Acta, 2018, 273, 483-494.	5.2	76
15	One step synthesis of niobium doped titania nanotube arrays to form (N,Nb) co-doped TiO₂with high visible light photoelectrochemical activity. Journal of Materials Chemistry A, 2013, 1, 2151-2160.	10.3	75
16	Using Ordered Carbon Nanomaterials for Shedding Light on the Mechanism of the Cathodic Oxygen Reduction Reaction. Langmuir, 2011, 27, 9018-9027.	3.5	73
17	Kinetic Modeling of COadMonolayer Oxidation on Carbon-Supported Platinum Nanoparticles. Journal of Physical Chemistry B, 2006, 110, 21028-21040.	2.6	70
18	Electrocatalysis of the hydrogen oxidation reaction on carbon-supported bimetallic NiCu particles prepared by an improved wet chemical synthesis. Journal of Electroanalytical Chemistry, 2016, 783, 146-151.	3.8	70

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19	On the effect of temperature and surface oxidation on the kinetics of hydrogen electrode reactions on nickel in alkaline media. Electrochimica Acta, 2018, 269, 111-118.	5.2	70
20	Nanostructured nickel nanoparticles supported on vulcan carbon as a highly active catalyst for the hydrogen oxidation reaction in alkaline media. Journal of Power Sources, 2018, 402, 447-452.	7.8	70
21	Insight into the Mechanisms of High Activity and Stability of Iridium Supported on Antimony-Doped Tin Oxide Aerogel for Anodes of Proton Exchange Membrane Water Electrolyzers. ACS Catalysis, 2020, 10, 2508-2516.	11.2	67
22	Electrocatalysis of hydrogen peroxide reactions on perovskite oxides: experiment<i>versus</i>kinetic modeling. Physical Chemistry Chemical Physics, 2014, 16, 13595-13600.	2.8	61
23	Influence of the concentration of borohydride towards hydrogen production and escape for borohydride oxidation reaction on Pt and Au electrodes â€" experimental and modelling insights. Journal of Power Sources, 2018, 375, 300-309.	7.8	59
24	Uncovering the Stabilization Mechanism in Bimetallic Rutheniumâ€"Iridium Anodes for Proton Exchange Membrane Electrolyzers. Journal of Physical Chemistry Letters, 2016, 7, 3240-3245.	4.6	58
25	A Comparative Study of Hydroxide Adsorption on the (111), (110), and (100) Faces of Silver with Cyclic Voltammetry, Ex Situ Electron Diffraction, and In Situ Second Harmonic Generation. Langmuir, 2004, 20, 10970-10981.	3.5	55
26	Carbon materials as additives to the OER catalysts: RRDE study of carbon corrosion at high anodic potentials. Electrochimica Acta, 2019, 321, 134657.	5.2	53
27	Microstructure effects on the electrochemical corrosion of carbon materials and carbon-supported Pt catalysts. Electrochimica Acta, 2010, 55, 8453-8460.	5.2	50
28	Structural and electronic effects in bimetallic PdPt nanoparticles on TiO2 for improved photocatalytic oxidation of CO in the presence of humidity. Applied Catalysis B: Environmental, 2015, 166-167, 381-392.	20.2	50
29	On the Effect of Cu on the Activity of Carbon Supported Ni Nanoparticles for Hydrogen Electrode Reactions in Alkaline Medium. Topics in Catalysis, 2015, 58, 1181-1192.	2.8	48
30	Hydrogen oxidation kinetics on model Pd/C electrodes: Electrochemical impedance spectroscopy and rotating disk electrode study. Electrochimica Acta, 2010, 55, 3312-3323.	5.2	47
31	Nickel Metal Nanoparticles as Anode Electrocatalysts for Highly Efficient Direct Borohydride Fuel Cells. ACS Catalysis, 2019, 9, 8520-8528.	11.2	46
32	Synthesis of efficient Vulcanâ€"LaMnO3 perovskite nanocomposite for the oxygen reduction reaction. Electrochemistry Communications, 2015, 50, 28-31.	4.7	45
33	Challenges in the understanding oxygen reduction electrocatalysis on transition metal oxides. Current Opinion in Electrochemistry, 2019, 14, 23-31.	4.8	44
34	Effect of the chemical order on the electrocatalytic activity of model PtCo electrodes in the oxygen reduction reaction. Electrochimica Acta, 2013, 108, 605-616.	5.2	43
35	Structure and dynamics of the interface between a Ag single crystal electrode and an aqueous electrolyte. Faraday Discussions, 2002, 121, 181-198.	3.2	41
36	An Approach to Fabrication of Metal Nanoring Arrays. Langmuir, 2010, 26, 3549-3554.	3.5	40

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37	Insights into the potential dependence of the borohydride electrooxidation reaction mechanism on platinum nanoparticles supported on ordered carbon nanomaterials. Electrochimica Acta, 2015, 179, 637-646.	5.2	40
38	Further insights into the role of carbon in manganese oxide/carbon composites in the oxygen reduction reaction in alkaline media. Electrochimica Acta, 2017, 246, 643-653.	5.2	40
39	Study of Hydrogen Peroxide Reactions on Manganese Oxides as a Tool To Decode the Oxygen Reduction Reaction Mechanism. ChemElectroChem, 2016, 3, 1667-1677.	3.4	39
40	On the Influence of the Extent of Oxidation on the Kinetics of the Hydrogen Electrode Reactions on Polycrystalline Nickel. Electrocatalysis, 2020, 11, 133-142.	3.0	39
41	<i>In situ</i> investigation of dissociation and migration phenomena at the Pt/electrolyte interface of an electrochemical cell. Chemical Science, 2015, 6, 5635-5642.	7.4	34
42	A high performance direct borohydride fuel cell using bipolar interfaces and noble metal-free Ni-based anodes. Journal of Materials Chemistry A, 2020, 8, 20543-20552.	10.3	34
43	On the enhanced electrocatalytic activity of Pd overlayers on carbon-supported gold particles in hydrogen electrooxidation. Physical Chemistry Chemical Physics, 2008, 10, 6665.	2.8	33
44	Influence of carbon support on the performance of platinum based oxygen reduction catalysts in a polymer electrolyte fuel cell. Journal of Applied Electrochemistry, 2007, 37, 1429-1437.	2.9	32
45	Nickel 3D Structures Enhanced by Electrodeposition of Nickel Nanoparticles as High Performance Anodes for Direct Borohydride Fuel Cells. ChemElectroChem, 2020, 7, 1789-1799.	3.4	30
46	Perovskite-carbon composites synthesized through in situ autocombustion for the oxygen reduction reaction: the carbon effect. Electrochimica Acta, 2017, 245, 156-164.	5.2	25
47	Rotating ring-disk electrode as a quantitative tool for the investigation of the oxygen evolution reaction. Electrochimica Acta, 2018, 286, 304-312.	5.2	25
48	The assessment of nanocrystalline surface defects on real versus model catalysts probed via vibrational spectroscopy of adsorbed CO. Surface Science, 2009, 603, 1892-1899.	1.9	24
49	Scanning Photoelectron Microscopy Study of the Pt/Phosphoricâ€Acidâ€Imbibed Membrane Interface under Polarization. ChemElectroChem, 2014, 1, 180-186.	3.4	23
50	Potentiostatic electrodeposition of Pt on GC and on HOPG at low loadings: Analysis of the deposition transients and the structure of Pt deposits. Electrochimica Acta, 2014, 150, 279-289.	5.2	23
51	Advanced catalytic layer architectures for polymer electrolyte membrane fuel cells. Wiley Interdisciplinary Reviews: Energy and Environment, 2014, 3, 505-521.	4.1	22
52	Influence of the reaction temperature on the oxygen reduction reaction on nitrogen-doped carbon nanotube catalysts. Catalysis Today, 2015, 249, 236-243.	4.4	22
53	Deciphering the Exceptional Performance of NiFe Hydroxide for the Oxygen Evolution Reaction in an Anion Exchange Membrane Electrolyzer. ACS Applied Energy Materials, 2022, 5, 2221-2230.	5.1	22
54	Mn2O3 oxide with bixbyite structure for the electrochemical oxygen reduction reaction in alkaline media: Highly active if properly manipulated. Electrochimica Acta, 2021, 367, 137378.	5.2	21

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55	Size Effects in Electrocatalysis of Fuel Cell Reactions on Supported Metal Nanoparticles. , 0, , 507-566.		19
56	Synthesis of transparent vertically aligned TiO₂nanotubes on a few-layer graphene (FLG) film. Chemical Communications, 2012, 48, 1224-1226.	4.1	18
57	ORR on Simple Manganese Oxides: Molecular-Level Factors Determining Reaction Mechanisms and Electrocatalytic Activity. Journal of the Electrochemical Society, 2018, 165, J3199-J3208.	2.9	18
58	Mass transport effects in CO bulk electrooxidation on Pt nanoparticles supported on vertically aligned carbon nanofilaments. Physical Chemistry Chemical Physics, 2010, 12, 15207.	2.8	17
59	Highly active carbon-supported Ni catalyst prepared by nitrate decomposition with a sacrificial agent for the hydrogen oxidation reaction in alkaline medium. Journal of Electroanalytical Chemistry, 2019, 852, 113551.	3.8	17
60	3D-ordered layers of vertically aligned carbon nanofilaments as a model approach to study electrocatalysis on nanomaterials. Electrochimica Acta, 2012, 84, 174-186.	5.2	16
61	Cooperative Behaviour of Pt Microelectrodes during CO Bulk Electrooxidation. ChemPhysChem, 2013, 14, 1117-1121.	2.1	15
62	Insights into electrocatalysis from ambient pressure photoelectron spectroscopy. Current Opinion in Electrochemistry, 2019, 17, 79-89.	4.8	15
63	Partial oxidation of light paraffins with hydrogen peroxide in the presence of peroxocomplexes of copper(II) hydroxide. Mendeleev Communications, 1998, 8, 210-211.	1.6	14
64	Combined in situ EXAFS and electrochemical investigation of the oxygen reduction reaction on unmodified and Se-modified Ru/C. Catalysis Today, 2009, 147, 260-269.	4.4	14
65	Influence of NafionÂ® ionomer on carbon corrosion. Journal of Applied Electrochemistry, 2010, 40, 1933-1939.	2.9	14
66	Further Insight into the Oxygen Reduction Reaction on Pt Nanoparticles Supported on Spatially Structured Catalytic Layers. Electrocatalysis, 2011, 2, 123-133.	3.0	14
67	Catalytic synthesis of a high aspect ratio carbon nanotubes bridging carbon felt composite with improved electrical conductivity and effective surface area. Applied Catalysis A: General, 2011, 392, 238-247.	4.3	14
68	Insights into the borohydride electrooxidation reaction on metallic nickel from operando FTIRS, on-line DEMS and DFT. Electrochimica Acta, 2021, 389, 138721.	5.2	14
69	Sequential Activation and Oscillations of Globally Coupled Microelectrodes during a Bistable Reaction. ChemElectroChem, 2014, 1, 1046-1056.	3.4	13
70	Direct borohydride fuel cells: A selected review of their reaction mechanisms, electrocatalysts, and influence of operating parameters on their performance. Current Opinion in Electrochemistry, 2022, 32, 100883.	4.8	12
71	Carbon Monoxide Oxidation as a Probe for PtRu Particle Surface Structure. Journal of Physical Chemistry C, 2008, 112, 18521-18530.	3.1	11
72	Influence of the NaOH Concentration on the Hydrogen Electrode Reaction Kinetics of Ni and NiCu Electrodes. ChemElectroChem, 2020, 7, 1438-1447.	3.4	11

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73	Copper and iron hydroxides as new catalysts for redox reactions in aqueous solutions. Mendeleev Communications, 2001, 11, 15-16.	1.6	10
74	How key characteristics of carbon materials influence the ORR activity of LaMnO3- and Mn3O4-carbon composites prepared by in situ autocombustion method. Electrochimica Acta, 2020, 353, 136557.	5.2	10
75	Potentialâ€Induced Segregation Phenomena in Bimetallic PtAu Nanoparticles: An Inâ€...Situ Nearâ€Ambientâ€Pressure Photoelectron Spectroscopy Study. ChemElectroChem, 2015, 2, 1519-1526.	3.4	9
76	Conductive additives for oxide-based OER catalysts: A comparative RRDE study of carbon and silver in alkaline medium. Electrochimica Acta, 2019, 319, 227-236.	5.2	9
77	Hydroxide Adsorption on Ag(110) Electrodes:â€‰ An in Situ Second Harmonic Generation and ex Situ Electron Diffraction Study. Journal of Physical Chemistry B, 2004, 108, 18640-18649.	2.6	8
78	Site Blocking with Gold Adatoms as an Approach to Study Structural Effects in Electrocatalysis. Electrocatalysis, 2012, 3, 211-220.	3.0	8
79	Metalâ€"metal (hydr)oxide heterostructures for electrocatalysis of hydrogen electrode reactions. Current Opinion in Electrochemistry, 2021, 26, 100667.	4.8	8
80	Surface electrochemistry of CO as a probe molecule on carbon-supported Se-surface modified Ru nanoparticles via infrared reflection absorption spectroscopy. Physical Chemistry Chemical Physics, 2007, 9, 5693.	2.8	7
81	The initial stage of OH adsorption on Ni(111). Journal of Electroanalytical Chemistry, 2019, 832, 137-141.	3.8	7
82	Temperature effects in carbon monoxide and methanol electrooxidation on platinumâ€"ruthenium: influence of grain boundaries. Journal of Solid State Electrochemistry, 2013, 17, 1903-1912.	2.5	6
83	The influence of methanol on the chemical state of PtRu anodes in a high-temperature direct methanol fuel cell studiedin situby synchrotron-based near-ambient pressure x-ray photoelectron spectroscopy. Journal Physics D: Applied Physics, 2017, 50, 014001.	2.8	6
84	Cathode Materials for Polymer Electrolyte Fuel Cells Based on Vertically Aligned Carbon Filaments. ECS Transactions, 2011, 41, 1089-1097.	0.5	4
85	Interfacial recharging behavior of mixed Co, Mn-based perovskite oxides. Electrochimica Acta, 2021, 398, 139257.	5.2	3
86	Investigation of the stability of the boron-doped diamond support for Co3O4-based oxygen evolution reaction catalysts synthesized through in situ autocombustion method. Journal of Electroanalytical Chemistry, 2022, 916, 116367.	3.8	1
87	Application of the site blocking method to the investigation of the kinetics of carbon monoxide electrooxidation on nanostructured Pt. Journal of Solid State Electrochemistry, 2014, 18, 1195-1203.	2.5	0
88	(Invited) Electrodeposited Ni-Based Electrodes for High-Performance Borohydride Oxidation Reaction. ECS Meeting Abstracts, 2021, MA2021-01, 1916-1916.	0.0	0
89	Anodic Reactions in Electrocatalysis - Oxidation of Carbon Monoxide. , 2014, , 93-100.		0