Miran Gaberscek

List of Publications by Year
in descending order

99 papers	4,848 citations	117625 34 h-index	98798 67 g-index
110 all docs	110 docs citations	110 times ranked	5686 citing authors

#	Article	IF	Citations
1	The thermodynamic origin of hysteresis in insertion batteries. Nature Materials, 2010, 9, 448-453.	27.5	520
2	Application of electrochemical impedance spectroscopy to commercial Li-ion cells: A review. Journal of Power Sources, 2020, 480, 228742.	7.8	334
3	Beyond One-Electron Reaction in Li Cathode Materials: Â Designing Li2MnxFe1-xSiO4. Chemistry of Materials, 2007, 19, 3633-3640.	6.7	245
4	Liâ€S Battery Analyzed by UV/Vis in Operando Mode. ChemSusChem, 2013, 6, 1177-1181.	6.8	243
5	Boosting Rechargeable Batteries R&D by Multiscale Modeling: Myth or Reality?. Chemical Reviews, 2019, 119, 4569-4627.	47.7	204
6	Electrochemical Dissolution of Iridium and Iridium Oxide Particles in Acidic Media: Transmission Electron Microscopy, Electrochemical Flow Cell Coupled to Inductively Coupled Plasma Mass Spectrometry, and X-ray Absorption Spectroscopy Study. Journal of the American Chemical Society, 2017, 139, 12837-12846.	13.7	186
7	On the Interpretation of Measured Impedance Spectra of Insertion Cathodes for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2010, 157, A1218.	2.9	171
8	New Insights into Corrosion of Ruthenium and Ruthenium Oxide Nanoparticles in Acidic Media. Journal of Physical Chemistry C, 2015, 119, 10140-10147.	3.1	161
9	Understanding Li-based battery materials via electrochemical impedance spectroscopy. Nature Communications, 2021, 12, 6513.	12.8	151
10	Anthraquinoneâ€Based Polymer as Cathode in Rechargeable Magnesium Batteries. ChemSusChem, 2015, 8, 4128-4132.	6.8	137
11	New Insight into Platinum Dissolution from Nanoparticulate Platinumâ€Based Electrocatalysts Using Highly Sensitive Inâ€…Situ Concentration Measurements. ChemCatChem, 2014, 6, 449-453.	3.7	119
12	Effect of ordering of PtCu₃nanoparticle structure on the activity and stability for the oxygen reduction reaction. Physical Chemistry Chemical Physics, 2014, 16, 13610-13615.	2.8	115
13	Fluid-enhanced surface diffusion controls intraparticle phase transformations. Nature Materials, 2018, 17, 915-922.	27.5	104
14	Positive Effect of Surface Doping with Au on the Stability of Pt-Based Electrocatalysts. ACS Catalysis, 2016, 6, 1630-1634.	11.2	90
15	Spatially Resolved Transport Properties of Pristine and Doped Single-Walled Carbon Nanotube Networks. Journal of Physical Chemistry C, 2013, 117, 13324-13330.	3.1	86
16	Platinum Dissolution and Redeposition from Pt/C Fuel Cell Electrocatalyst at Potential Cycling. Journal of the Electrochemical Society, 2018, 165, F3161-F3165.	2.9	80
17	Resolving the Dilemma of Feâ€"Nâ€"C Catalysts by the Selective Synthesis of Tetrapyrrolic Active Sites via an Imprinting Strategy. Journal of the American Chemical Society, 2021, 143, 18010-18019.	13.7	68
18	Atomically Resolved Dealloying of Structurally Ordered Pt Nanoalloy as an Oxygen Reduction Reaction Electrocatalyst. ACS Catalysis, 2016, 6, 5530-5534.	11.2	65

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19	Reactivity and Diffusivity of Li Polysulfides: A Fundamental Study Using Impedance Spectroscopy. ACS Applied Materials & Interfaces, 2017, 9, 29760-29770.	8.0	61
20	Severe accelerated degradation of PEMFC platinum catalyst: A thin film IL-SEM study. Electrochemistry Communications, 2013, 30, 75-78.	4.7	60
21	Identical Location Scanning Electron Microscopy: A Case Study of Electrochemical Degradation of PtNi Nanoparticles Using a New Nondestructive Method. Journal of Physical Chemistry C, 2012, 116, 21326-21333.	3.1	59
22	Activeâ€Site Imprinting: Preparation of Feâ€"Nâ€"C Catalysts from Zinc Ionâ€"Templated Ionothermal Nitrogenâ€Doped Carbons. Advanced Energy Materials, 2019, 9, 1902412.	19.5	59
23	Electrochemical kinetics of porous, carbon-decorated LiFePO4cathodes: separation of wiring effects from solid state diffusion. Physical Chemistry Chemical Physics, 2007, 9, 1815-1820.	2.8	57
24	Which Process Limits the Operation of a Liâ€"S System?. Chemistry of Materials, 2019, 31, 9012-9023.	6.7	56
25	Comparison of Ptâ€"Cu/C with Benchmark Ptâ€"Co/C: Metal Dissolution and Their Surface Interactions. ACS Applied Energy Materials, 2019, 2, 3131-3141.	5.1	54
26	Increasing the Oxygen-Evolution Reaction Performance of Nanotubular Titanium Oxynitride-Supported Ir Nanoparticles by a Strong Metalâ€"Support Interaction. ACS Catalysis, 2020, 10, 13688-13700.	11.2	54
27	Transmission Line Model for Description of the Impedance Response of Li Electrodes with Dendritic Growth. Journal of Physical Chemistry C, 2019, 123, 27997-28007.	3.1	46
28	Importance of non-intrinsic platinum dissolution in Pt/C composite fuel cell catalysts. Physical Chemistry Chemical Physics, 2017, 19, 21446-21452.	2.8	44
29	Transmission line models for evaluation of impedance response of insertion battery electrodes and cells. Journal of Power Sources Advances, 2021, 7, 100047.	5.1	42
30	Insights into thermal annealing of highly-active PtCu3/C Oxygen Reduction Reaction electrocatalyst: An in-situ heating transmission Electron microscopy study. Nano Energy, 2019, 63, 103892.	16.0	41
31	Potentiodynamic dissolution study of PtRu/C electrocatalyst in the presence of methanol. Electrochimica Acta, 2016, 211, 851-859.	5.2	39
32	Impedance response of porous carbon cathodes in polysulfide redox system. Electrochimica Acta, 2019, 302, 169-179.	5.2	39
33	A Powerful Transmission Line Model for Analysis of Impedance of Insertion Battery Cells: A Case Study on the NMC-Li System. Journal of the Electrochemical Society, 2020, 167, 140539.	2.9	38
34	CO-assisted ex-situ chemical activation of Pt-Cu/C oxygen reduction reaction electrocatalyst. Electrochimica Acta, 2019, 306, 377-386.	5.2	37
35	An attempt to use atomic force microscopy for determination of bond type in lithium battery electrodes. Journal of Materials Chemistry, 2011, 21, 4071.	6.7	36
36	Atomically Resolved Anisotropic Electrochemical Shaping of Nano-electrocatalyst. Nano Letters, 2019, 19, 4919-4927.	9.1	33

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37	A Transmission Line Model of Electrochemical Cell's Impedance: Case Study on a Li-S System. Journal of the Electrochemical Society, 2019, 166, A5045-A5053.	2.9	33
38	Toward a Unified Description of Battery Data. Advanced Energy Materials, 2022, 12, .	19.5	33
39	Deconvoluting the benefits of porosity distribution in layered electrodes on the electrochemical performance of Li-ion batteries. Energy Storage Materials, 2022, 47, 462-471.	18.0	32
40	Stimulus-responsive mesoporous silica particles. Journal of Materials Science, 2014, 49, 481-495.	3.7	30
41	Electrochemical in-situ dissolution study of structurally ordered, disordered and gold doped PtCu3 nanoparticles on carbon composites. Journal of Power Sources, 2016, 327, 675-680.	7.8	30
42	Towards Stable and Conductive Titanium Oxynitride Highâ€Surfaceâ€Area Support for Iridium Nanoparticles as Oxygen Evolution Reaction Electrocatalyst. ChemCatChem, 2019, 11, 5038-5044.	3.7	29
43	A Doubleâ€Passivation Waterâ€Based Galvanic Displacement Method for Reproducible Gramâ€Scale Production of Highâ€Performance Platinumâ€Alloy Electrocatalysts. Angewandte Chemie - International Edition, 2019, 58, 13266-13270.	13.8	29
44	SEM method for direct visual tracking of nanoscale morphological changes of platinum based electrocatalysts on fixed locations upon electrochemical or thermal treatments. Ultramicroscopy, 2014, 140, 44-50.	1.9	28
45	Nanoparticles and Single Atoms in Commercial Carbon-Supported Platinum-Group Metal Catalysts. Catalysts, 2019, 9, 134.	3.5	28
46	Enhanced Oxygen Reduction and Methanol Oxidation Reaction Activities of Partially Ordered PtCu Nanoparticles. Energy Procedia, 2012, 29, 208-215.	1.8	25
47	In situ electrochemical AFM, ex situ IR reflectionâ€"absorption and confocal Raman studies of corrosion processes of AA 2024-T3. Corrosion Science, 2016, 104, 290-309.	6.6	25
48	Modified Floating Electrode Apparatus for Advanced Characterization of Oxygen Reduction Reaction Electrocatalysts. Journal of the Electrochemical Society, 2020, 167, 166501.	2.9	25
49	Methodology for Investigating Electrochemical Gas Evolution Reactions: Floating Electrode as a Means for Effective Gas Bubble Removal. Analytical Chemistry, 2019, 91, 10353-10356.	6.5	22
50	The Importance of Temperature and Potential Window in Stability Evaluation of Supported Pt-Based Oxygen Reduction Reaction Electrocatalysts in Thin Film Rotating Disc Electrode Setup. Journal of the Electrochemical Society, 2020, 167, 114506.	2.9	22
51	Synthesis and Advanced Electrochemical Characterization of Multifunctional Electrocatalytic Composite for Unitized Regenerative Fuel Cell. ACS Catalysis, 2019, 9, 11468-11483.	11.2	21
52	Toward the Continuous Production of Multigram Quantities of Highly Uniform Supported Metallic Nanoparticles and Their Application for Synthesis of Superior Intermetallic Pt-Alloy ORR Electrocatalysts. ACS Applied Energy Materials, 2021, 4, 13819-13829.	5.1	21
53	TiO2 photocatalyst with single and dual noble metal co-catalysts for efficient water splitting and organic compound removal. International Journal of Hydrogen Energy, 2021, 46, 32871-32881.	7.1	20
54	Guestâ€"host van der Waals interactions decisively affect the molecular transport in mesoporous media. Journal of Materials Chemistry, 2012, 22, 1112-1120.	6.7	19

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55	Effect of silsesquioxane addition on the protective performance of fluoropolymer coatings for bronze surfaces. Materials and Design, 2019, 178, 107860.	7.0	19
56	Electrochemical Stability and Degradation Mechanisms of Commercial Carbon-Supported Gold Nanoparticles in Acidic Media. Journal of Physical Chemistry C, 2021, 125, 635-647.	3.1	18
57	Time Evolution of the Impedance Response of a Passive Film: A Simple Application to the Liâ€‰/â€‰SOCl2 system. Journal of the Electrochemical Society, 1999, 146, 933-940.	2.9	17
58	A Doubleâ€Passivation Waterâ€Based Galvanic Displacement Method for Reproducible Gramâ€Scale Production of Highâ€Performance Platinumâ€Alloy Electrocatalysts. Angewandte Chemie, 2019, 131, 13400-13404.	2.0	17
59	Impedance spectroscopy of battery cells: Theory versus experiment. Current Opinion in Electrochemistry, 2022, 32, 100917.	4.8	17
60	Allâ€Solidâ€State Measurements of Electrical Properties of Passive Films on Lithium. Journal of the Electrochemical Society, 1996, 143, 1690-1695.	2.9	16
61	Suspensions of modified TiO2 nanoparticles with supreme UV filtering ability,. Journal of Materials Chemistry, 2009, 19, 8176.	6.7	16
62	Quantitative HAADF Study of Twin Boundaries in Cu3Pt Nanoparticles. Microscopy and Microanalysis, 2016, 22, 1338-1339.	0.4	15
63	Effect of high concentration of polysulfides on Li stripping and deposition. Electrochimica Acta, 2020, 354, 136696.	5.2	15
64	Importance of Chemical Activation and the Effect of Low Operation Voltage on the Performance of Pt-Alloy Fuel Cell Electrocatalysts. ACS Applied Energy Materials, 2022, 5, 8862-8877.	5.1	15
65	Enhanced Photocatalytic Hydrogen Evolution from Water Splitting on Ta₂O₅/SrZrO₃ Heterostructures Decorated with Cu_{<i>x</i>}O/RuO₂ Cocatalysts. ACS Applied Materials & Interfaces, 2022, 14, 31767-31781.	8.0	15
66	Surface protection of an organic pigment based on a modification using a mixed-micelle system. Dyes and Pigments, 2016, 127, 100-109.	3.7	14
67	Insight on Single Cell Proton Exchange Membrane Fuel Cell Performance of Pt-Cu/C Cathode. Catalysts, 2019, 9, 544.	3.5	14
68	Fast Impedance Measurement of Li-Ion Battery Using Discrete Random Binary Excitation and Wavelet Transform. IEEE Access, 2021, 9, 46152-46165.	4.2	14
69	Insights into electrochemical dealloying of Cu out of Au-doped Pt-alloy nanoparticles at the sub-nano-scale. Journal of Electrochemical Science and Engineering, 2018, 8, 87-100.	3.5	13
70	The Pitfalls and Opportunities of Impedance Spectroscopy of Lithium Sulfur Batteries. Advanced Materials Interfaces, 2022, 9, 2101116.	3.7	13
71	Gold Doping in PtCu₃/HSAC Nanoparticles and Their Morphological, Structural, and Compositional Changes during Oxygen Reduction Reaction Electrochemical Cycling. ChemCatChem, 2017, 9, 3904-3911.	3.7	12
72	Comment on the Article â€œA New Understanding ofÂtheÂRelationship between Solubility and Particle Sizeâ€•byÂW.ÂWu andÂG.H.ÂNancollas. Journal of Solution Chemistry, 2009, 38, 135-146.	1.2	11

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73	Protective coatings for AA 2024 based on cyclotetrasiloxane and various alkoxysilanes. Corrosion Science, 2017, 126, 55-68.	6.6	11
74	Advances in understanding Li battery mechanisms using impedance spectroscopy - Review. Journal of Electrochemical Science and Engineering, 2020, 10, 79-93.	3.5	11
75	Ir/TiON_x/C high-performance oxygen evolution reaction nanocomposite electrocatalysts in acidic media: synthesis, characterization and electrochemical benchmarking protocol. JPhys Energy, 2020, 2, 02LT01.	5.3	11
76	Derivation of Transmission Line Model from the Concentrated Solution Theory (CST) for Porous Electrodes. Journal of the Electrochemical Society, 2021, 168, 070543.	2.9	11
77	Pulse combustion reactor as a fast and scalable synthetic method for preparation of Li-ion cathode materials. Journal of Power Sources, 2017, 363, 218-226.	7.8	10
78	An Inverted Sandwich Electrochromic Device Architecture Does Not Require Optically Transparent Electrodes. Advanced Materials Technologies, 2019, 4, 1900389.	5.8	9
79	The Influence Catalyst Layer Thickness on Resistance Contributions of PEMFC Determined by Electrochemical Impedance Spectroscopy. Energies, 2021, 14, 7299.	3.1	9
80	Stability of commercial Pt/C low temperature fuel cell catalyst: electrochemical IL-SEM study. Acta Chimica Slovenica, 2014, 61, 280-3.	0.6	9
81	Zinc-phosphate nanoparticles with reversibly attached TNF-Î± analogs: an interesting concept for potential use in active immunotherapy. Journal of Nanoparticle Research, 2011, 13, 3019-3032.	1.9	8
82	Protection of organic pigments against photocatalysis by encapsulation. Journal of Sol-Gel Science and Technology, 2012, 62, 65-74.	2.4	8
83	Electrochemical Kinetics Study of Interaction Between Li Metal and Polysulfides. Journal of the Electrochemical Society, 2020, 167, 080526.	2.9	8
84	Timeâ€resolved in situ electrochemical atomic force microscopy imaging of the corrosion dynamics of AA2024â€T3 using a new design of cell. Journal of Materials Research, 2021, 36, 79-93.	2.6	8
85	Magnesium Polysulfides: Synthesis, Disproportionation, and Impedance Response in Symmetrical Carbon Electrode Cells. ChemElectroChem, 2021, 8, 1062-1069.	3.4	7
86	Control of a pulse combustion reactor with thermoacoustic phenomena. Instrumentation Science and Technology, 2018, 46, 43-57.	1.8	6
87	Electrochemical Impedance Spectroscopy Study of Waterborne Epoxy Coating Film Formation. Coatings, 2019, 9, 254.	2.6	6
88	Suppressing Platinum Electrocatalyst Degradation via a High-Surface-Area Organic Matrix Support. ACS Omega, 2022, 7, 3540-3548.	3.5	6
89	Preparation, characterisation and optimisation of lithium battery anodes consisting of silicon synthesised using Laser assisted Chemical Vapour Pyrolysis. Journal of Power Sources, 2015, 273, 380-388.	7.8	5
90	Diketopyrrolopyrrole pigment core@multi-layer SiO2 shell with improved photochemical stability. Dyes and Pigments, 2018, 156, 108-115.	3.7	5

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91	Corrosion Protection of Platinum-Based Electrocatalyst by Ruthenium Surface Decoration. ACS Applied Energy Materials, 2018, 1, 3190-3197.	5.1	5
92	Transmission Line Model Impedance Analysis of Lithium Sulfur Batteries: Influence of Lithium Sulfide Deposit Formed During Discharge and Self-Discharge. Journal of the Electrochemical Society, 2022, 169, 010529.	2.9	4
93	Revealing the Thermodynamic Background of the Memory Effect in Phase Separating Cathode Materials. Strojniski Vestnik/Journal of Mechanical Engineering, 2019, 65, 690-700.	1.1	2
94	Nanomaterial aspects of Li-ion battery cathodes. Frontiers of Nanoscience, 2021, 19, 29-54.	0.6	2
95	In-situ TEM and Atomic-Resolution STEM Study of Highly Active Partially Ordered Cu3Pt Nanoparticles used as PEM-Fuel Cells Catalyst. Microscopy and Microanalysis, 2014, 20, 476-477.	0.4	0
96	TEM Study of Heavily Twinned Cu3Pt Nanoparticles. Microscopy and Microanalysis, 2015, 21, 1545-1546.	0.4	0
97	Towards Stable and Conductive Titanium Oxynitride Highâ€Surfaceâ€Area Support for Iridium Nanoparticles as Oxygen Evolution Reaction Electrocatalyst. ChemCatChem, 2019, 11, 4982-4982.	3.7	0
98	Time-resolved <i>in situ</i> electrochemical atomic force microscopy imaging of the corrosion dynamics of AA2024-T3 using a new design of cell. Journal of Materials Research, 2021, 36, 1-15.	2.6	0
99	From Zn-N-C to Fe-N-C: Active-Site Imprinting As a New Method for the Synthesis of Highly Active PGM-Free Catalysts for PEMFC. ECS Meeting Abstracts, 2020, MA2020-02, 2271-2271.	0.0	0