

Raphaël Chattot

List of Publications by Year in descending order

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Version: 2024-02-01

40
papers

1,634
citations

361045

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329751

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42
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42
docs citations

42
times ranked

2376
citing authors

#	ARTICLE	IF	CITATIONS
1	Decoupling catalyst aggregation, ripening, and coalescence processes inside operating fuel cells. <i>Journal of Power Sources</i> , 2022, 521, 230851.	4.0	18
2	Tracking the Catalyst Layer Depth-Dependent Electrochemical Degradation of a Bimodal Pt/C Fuel Cell Catalyst: A Combined <i>Operando</i> Small- and Wide-Angle X-ray Scattering Study. <i>ACS Catalysis</i> , 2022, 12, 2077-2085.	5.5	15
3	Optimization of Extended-Surface PtNi Nanowire Oxygen Reduction Electrocatalysts Produced via Atomic Layer Deposition. <i>ACS Applied Energy Materials</i> , 2022, 5, 4587-4602.	2.5	7
4	Electrochemical transformation of Fe-N-C catalysts into iron oxides in alkaline medium and its impact on the oxygen reduction reaction activity. <i>Applied Catalysis B: Environmental</i> , 2022, 311, 121366.	10.8	22
5	Impact of Carbon N-Doping and Pyridinic-N Content on the Fuel Cell Performance and Durability of Carbon-Supported Pt Nanoparticle Catalysts. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 18420-18430.	4.0	28
6	Highly Active and Stable Large Mo-Doped PtNi Octahedral Catalysts for ORR: Synthesis, Post-treatments, and Electrochemical Performance and Stability. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 29690-29702.	4.0	6
7	Shedding Synchrotron Light on Catalyst Strain Dynamics in Electrochemical Environment. <i>ECS Meeting Abstracts</i> , 2022, MA2022-01, 2115-2115.	0.0	0
8	(Invited) Benchmarking Oxygen Evolution Reaction Activity and Stability of Unsupported and Supported IrO _x Nanoparticles. <i>ECS Meeting Abstracts</i> , 2022, MA2022-01, 1754-1754.	0.0	0
9	Oxygen Evolution Reaction Activity and Stability Benchmarks for Supported and Unsupported IrO _x Electrocatalysts. <i>ACS Catalysis</i> , 2021, 11, 4107-4116.	5.5	69
10	(Invited) Benchmarking Oxygen Evolution Reaction Activity and Stability of Unsupported and Supported IrO _x Nanoparticles. <i>ECS Meeting Abstracts</i> , 2021, MA2021-01, 1920-1920.	0.0	0
11	Towards comprehensive understanding of proton-exchange membrane fuel cells using high energy x-rays. <i>JPhys Energy</i> , 2021, 3, 031003.	2.3	2
12	Imaging Heterogeneous Electrocatalyst Stability and Decoupling Degradation Mechanisms in Operating Hydrogen Fuel Cells. <i>ACS Energy Letters</i> , 2021, 6, 2742-2749.	8.8	26
13	Electrochemical Strain Dynamics in Noble Metal Nanocatalysts. <i>Journal of the American Chemical Society</i> , 2021, 143, 17068-17078.	6.6	22
14	Disclosing Pt-Bimetallic Alloy Nanoparticle Surface Lattice Distortion with Electrochemical Probes. <i>ACS Energy Letters</i> , 2020, 5, 162-169.	8.8	35
15	Building Practical Descriptors for Defect Engineering of Electrocatalytic Materials. <i>ACS Catalysis</i> , 2020, 10, 9046-9056.	5.5	30
16	Manipulating the Corrosion Resistance of SnO ₂ Aerogels through Doping for Efficient and Durable Oxygen Evolution Reaction Electrocatalysis in Acidic Media. <i>ACS Catalysis</i> , 2020, 10, 7283-7294.	5.5	49
17	Stochastic models of dense or hollow nanoparticles and their scattering properties. <i>Journal of Applied Crystallography</i> , 2020, 53, 811-823.	1.9	3
18	FeNi ₃ and Ni-Based Nanoparticles as Electrocatalysts for Magnetically Enhanced Alkaline Water Electrolysis. <i>Electrocatalysis</i> , 2020, 11, 567-577.	1.5	14

#	ARTICLE	IF	CITATIONS
19	Tailoring the Oxygen Reduction Activity of Pt Nanoparticles through Surface Defects: A Simple Top-Down Approach. ACS Catalysis, 2020, 10, 3131-3142.	5.5	50
20	Closing the loop: life cycle assessment and optimization of a PEMFC platinum-based catalyst recycling process. Green Chemistry, 2020, 22, 1919-1933.	4.6	32
21	X-ray transparent proton-exchange membrane fuel cell design for in situ wide and small angle scattering tomography. Journal of Power Sources, 2019, 437, 226906.	4.0	35
22	Probing the Dynamics of Platinum Surface Oxides in Fuel Cell Catalyst Layers Using in Situ X-ray Diffraction. ACS Applied Energy Materials, 2019, 2, 7772-7780.	2.5	20
23	Disentangling the Degradation Pathways of Highly Defective PtNi/C Nanostructures – An Operando Wide and Small Angle X-ray Scattering Study. ACS Catalysis, 2019, 9, 160-167.	5.5	22
24	(Invited) Promoting Surface Distortion for Improved Fuel Cell Electrocatalysis. ECS Meeting Abstracts, 2019, , .	0.0	0
25	A Review on Recent Developments and Prospects for the Oxygen Reduction Reaction on Hollow PtAlloy Nanoparticles. ChemPhysChem, 2018, 19, 1552-1567.	1.0	64
26	Porous Hollow PtNi/C Electrocatalysts: Carbon Support Considerations To Meet Performance and Stability Requirements. ACS Catalysis, 2018, 8, 893-903.	5.5	67
27	Surface distortion as a unifying concept and descriptor in oxygen reduction reaction electrocatalysis. Nature Materials, 2018, 17, 827-833.	13.3	344
28	Activity and Durability of Platinum-Based Electrocatalysts Supported on Bare or Fluorinated Nanostructured Carbon Substrates. Journal of the Electrochemical Society, 2018, 165, F3346-F3358.	1.3	27
29	Effect of Atomic Vacancies on the Structure and the Electrocatalytic Activity of Pt-rich/C Nanoparticles: A Combined Experimental and Density Functional Theory Study. ChemCatChem, 2017, 9, 2324-2338.	1.8	23
30	Atomic-Scale Snapshots of the Formation and Growth of Hollow PtNi/C Nanocatalysts. Nano Letters, 2017, 17, 2447-2453.	4.5	40
31	Implementing Structural Disorder as a Promising Direction for Improving the Stability of PtNi/C Nanoparticles. ACS Catalysis, 2017, 7, 3072-3081.	5.5	61
32	(Invited) Porous Hollow PtNi/C Nanoparticles and Their Many Facets. ECS Transactions, 2017, 80, 731-741.	0.3	2
33	Elucidating the Mechanisms Driving the Aging of Porous Hollow PtNi/C Nanoparticles by Means of CO _{ads} Stripping. ACS Applied Materials & Interfaces, 2017, 9, 25298-25307.	4.0	19
34	Benefits and limitations of Pt nanoparticles supported on highly porous antimony-doped tin dioxide aerogel as alternative cathode material for proton-exchange membrane fuel cells. Applied Catalysis B: Environmental, 2017, 201, 381-390.	10.8	70
35	Beyond Strain and Ligand Effects: Microstrain-Induced Enhancement of the Oxygen Reduction Reaction Kinetics on Various PtNi/C Nanostructures. ACS Catalysis, 2017, 7, 398-408.	5.5	140
36	Structure-Activity Relationships for the Oxygen Reduction Reaction in Porous Hollow PtNi/C Nanoparticles. ChemElectroChem, 2016, 3, 1591-1600.	1.7	16

#	ARTICLE	IF	CITATIONS
37	Defects do Catalysis: CO Monolayer Oxidation and Oxygen Reduction Reaction on Hollow PtNi/C Nanoparticles. ACS Catalysis, 2016, 6, 4673-4684.	5.5	107
38	Tuning the Performance and the Stability of Porous Hollow PtNi/C Nanostructures for the Oxygen Reduction Reaction. ACS Catalysis, 2015, 5, 5333-5341.	5.5	125
39	Ageing studies of a PEM Fuel Cell stack developed for reformat fuel operation in 1/4CHP units: Development of an accelerated degradation procedure. International Journal of Hydrogen Energy, 2015, 40, 5367-5374.	3.8	7
40	Mass spectrometry to quantify and compare the gas barrier properties of radiation grafted membranes and Nafion®. Journal of Membrane Science, 2014, 472, 55-66.	4.1	15