Andrew A Peterson

List of Publications by Year
in descending order

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52 papers	13,926 citations	109321 35 h-index	168389 53 g-index
54 all docs	54 docs citations	54 times ranked	14921 citing authors

#	Article	IF	Citations
1	How copper catalyzes the electroreduction of carbon dioxide into hydrocarbon fuels. Energy and Environmental Science, 2010, 3, 1311.	30.8	2,682
2	The atomic simulation environmentâ€"a Python library for working with atoms. Journal of Physics Condensed Matter, 2017, 29, 273002.	1.8	1,933
3	Thermochemical biofuel production in hydrothermal media: A review of sub- and supercritical water technologies. Energy and Environmental Science, 2008, 1, 32.	30.8	1,709
4	Activity Descriptors for CO₂ Electroreduction to Methane on Transition-Metal Catalysts. Journal of Physical Chemistry Letters, 2012, 3, 251-258.	4.6	1,250
5	Active and Selective Conversion of CO₂ to CO on Ultrathin Au Nanowires. Journal of the American Chemical Society, 2014, 136, 16132-16135.	13.7	784
6	Understanding Trends in the Electrocatalytic Activity of Metals and Enzymes for CO₂ Reduction to CO. Journal of Physical Chemistry Letters, 2013, 4, 388-392.	4.6	604
7	Structure effects on the energetics of the electrochemical reduction of CO2 by copper surfaces. Surface Science, 2011, 605, 1354-1359.	1.9	445
8	Competition between CO₂ Reduction and H₂ Evolution on Transition-Metal Electrocatalysts. ACS Catalysis, 2014, 4, 3742-3748.	11.2	378
9	Trends in the Hydrogen Evolution Activity of Metal Carbide Catalysts. ACS Catalysis, 2014, 4, 1274-1278.	11.2	351
10	Insights into Cï£¿C Coupling in CO₂ Electroreduction on Copper Electrodes. ChemCatChem, 2013, 5, 737-742.	3.7	339
11	Hard-Magnet L10-CoPt Nanoparticles Advance Fuel Cell Catalysis. Joule, 2019, 3, 124-135.	24.0	326
12	Amp: A modular approach to machine learning in atomistic simulations. Computer Physics Communications, 2016, 207, 310-324.	7.5	281
13	Catalytic Activities of Sulfur Atoms in Amorphous Molybdenum Sulfide for the Electrochemical Hydrogen Evolution Reaction. ACS Catalysis, 2016, 6, 861-867.	11.2	280
14	How strain can break the scaling relations of catalysis. Nature Catalysis, 2018, 1, 263-268.	34.4	261
15	Operando Raman Spectroscopy of Amorphous Molybdenum Sulfide (MoS_{<i>x</i>}) during the Electrochemical Hydrogen Evolution Reaction: Identification of Sulfur Atoms as Catalytically Active Sites for H⁺ Reduction. ACS Catalysis, 2016, 6, 7790-7798.	11.2	210
16	A Challenge to the <i>G</i> â^¼ 0 Interpretation of Hydrogen Evolution. ACS Catalysis, 2020, 10, 121-128.	11.2	166
17	Kinetic Evidence of the Maillard Reaction in Hydrothermal Biomass Processing: Glucoseâ^'Glycine Interactions in High-Temperature, High-Pressure Water. Industrial & Engineering Chemistry Research, 2010, 49, 2107-2117.	3.7	161
18	The Influence of Elastic Strain on Catalytic Activity in the Hydrogen Evolution Reaction. Angewandte Chemie - International Edition, 2016, 55, 6175-6181.	13.8	133

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19	Addressing uncertainty in atomistic machine learning. Physical Chemistry Chemical Physics, 2017, 19, 10978-10985.	2.8	128
20	Acceleration of saddle-point searches with machine learning. Journal of Chemical Physics, 2016, 145, 074106.	3.0	125
21	Controlled-Potential Simulation of Elementary Electrochemical Reactions: Proton Discharge on Metal Surfaces. Journal of Physical Chemistry C, 2018, 122, 12771-12781.	3.1	120
22	Departures from the Adsorption Energy Scaling Relations for Metal Carbide Catalysts. Journal of Physical Chemistry C, 2014, 118, 13026-13034.	3.1	108
23	Understanding Strain and Ligand Effects in Hydrogen Evolution over Pd(111) Surfaces. Journal of Physical Chemistry C, 2014, 118, 4275-4281.	3.1	99
24	Nanocomposites of transition-metal carbides on reduced graphite oxide as catalysts for the hydrogen evolution reaction. Applied Catalysis B: Environmental, 2018, 235, 36-44.	20.2	88
25	Understanding the Low-Overpotential Production of CH₄ from CO₂ on Mo₂C Catalysts. ACS Catalysis, 2016, 6, 2003-2013.	11.2	80
26	Anisotropic Strain Tuning of L1₀ Ternary Nanoparticles for Oxygen Reduction. Journal of the American Chemical Society, 2020, 142, 19209-19216.	13.7	76
27	Finite-Size Effects in O and CO Adsorption for the Late Transition Metals. Topics in Catalysis, 2012, 55, 1276-1282.	2.8	68
28	Global Optimization of Adsorbateâ€“Surface Structures While Preserving Molecular Identity. Topics in Catalysis, 2014, 57, 40-53.	2.8	67
29	Catalysis in supercritical water: Pathway of the methanation reaction and sulfur poisoning over a Ru/C catalyst during the reforming of biomolecules. Journal of Catalysis, 2013, 301, 38-45.	6.2	55
30	Design Principles for Metal Oxide Redox Materials for Solarâ€Driven Isothermal Fuel Production. Advanced Energy Materials, 2015, 5, 1401082.	19.5	52
31	High Elastic Strain Directly Tunes the Hydrogen Evolution Reaction on Tungsten Carbide. Journal of Physical Chemistry C, 2017, 121, 6177-6183.	3.1	50
32	Oxygen-induced changes to selectivity-determining steps in electrocatalytic CO₂ reduction. Physical Chemistry Chemical Physics, 2015, 17, 4505-4515.	2.8	43
33	Cu nanowire-catalyzed electrochemical reduction of CO or CO₂. Nanoscale, 2019, 11, 12075-12079.	5.6	43
34	Role of Elastic Strain on Electrocatalysis of Oxygen Reduction Reaction on Pt. Journal of Physical Chemistry C, 2015, 119, 19042-19052.	3.1	40
35	The potential for machine learning in hybrid QM/MM calculations. Journal of Chemical Physics, 2018, 148, 241740.	3.0	39
36	Oxidation suppression during hydrothermal phase reversion allows synthesis of monolayer semiconducting MoS₂ in stable aqueous suspension. Nanoscale, 2017, 9, 5398-5403.	5.6	36

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37	The role of oxygen vacancies in biomass deoxygenation by reducible zinc/zinc oxide catalysts. Catalysis Science and Technology, 2018, 8, 1819-1827.	4.1	33
38	Face-centered tetragonal (FCT) Fe and Co alloys of Pt as catalysts for the oxygen reduction reaction (ORR): A DFT study. Journal of Chemical Physics, 2019, 150, 041704.	3.0	29
39	On the Coupling of Electron Transfer to Proton Transfer at Electrified Interfaces. Journal of the American Chemical Society, 2020, 142, 11829-11834.	13.7	29
40	Elastic strain effects on catalysis of a PdCuSi metallic glass thin film. Physical Chemistry Chemical Physics, 2015, 17, 1746-1754.	2.8	26
41	Looped-oxide catalysis: a solar thermal approach to bio-oil deoxygenation. Energy and Environmental Science, 2014, 7, 3122-3134.	30.8	25
42	The Influence of Elastic Strain on Catalytic Activity in the Hydrogen Evolution Reaction. Angewandte Chemie, 2016, 128, 6283-6289.	2.0	22
43	Evidence of Scrambling over Rutheniumâ€based Catalysts in Supercriticalâ€water Gasification. ChemCatChem, 2012, 4, 1185-1189.	3.7	21
44	Electroreduction of Methanediol on Copper. Catalysis Letters, 2013, 143, 631-635.	2.6	21
45	Scaled and Dynamic Optimizations of Nudged Elastic Bands. Journal of Chemical Theory and Computation, 2019, 15, 5787-5793.	5.3	20
46	The Electrochemical Mechanisms of Solidâ€“Electrolyte Interphase Formation in Lithium-Based Batteries. Journal of Physical Chemistry C, 2019, 123, 20084-20092.	3.1	19
47	Production of C₃ Hydrocarbons from Biomass via Hydrothermal Carboxylate Reforming. Industrial & Engineering Chemistry Research, 2011, 50, 4420-4424.	3.7	18
48	Heterogeneity in susceptibility dictates the order of epidemic models. Journal of Theoretical Biology, 2021, 528, 110839.	1.7	14
49	Sulfur promotes hydrogen evolution on molybdenum carbide catalysts. Materials Advances, 2021, 2, 4867-4875.	5.4	7
50	Training sets based on uncertainty estimates in the cluster-expansion method. JPhys Energy, 2021, 3, 034012.	5.3	7
51	A nearsighted force-training approach to systematically generate training data for the machine learning of large atomic structures. Journal of Chemical Physics, 2022, 156, 064104.	3.0	5
52	Strain-induced changes to the methanation reaction on thin-film nickel catalysts. Catalysis Science and Technology, 2019, 9, 3279-3286.	4.1	4