David A Harrington

List of Publications by Year
in descending order

114 papers	4,141 citations	126907 33 h-index	118850 62 g-index
117 all docs	117 docs citations	117 times ranked	3624 citing authors

#	Article	IF	Citations
1	Electrooxidation of Platinum. ECS Meeting Abstracts, 2022, MA2022-01, 2321-2321.	0.0	0
2	New Insights into Pt Dissolution Mechanisms from SFC-ICP-MS Measurements for Well-Defined Surfaces. ECS Meeting Abstracts, 2022, MA2022-01, 1944-1944.	0.0	0
3	An Overview of Glycerol Electrooxidation Mechanisms on Pt, Pd and Au. ChemSusChem, 2021, 14, 1472-1495.	6.8	63
4	Structure-Dependence of the Atomic-Scale Mechanisms of Pt Electrooxidation and Dissolution. ECS Meeting Abstracts, 2021, MA2021-01, 1823-1823.	0.0	0
5	In Situ Studies of the Oxide Structure and Oxide Growth on Single Crystal Platinum Surfaces. ECS Meeting Abstracts, 2021, MA2021-02, 1464-1464.	0.0	0
6	Structure dependency of the atomic-scale mechanisms of platinum electro-oxidation and dissolution. Nature Catalysis, 2020, 3, 754-761.	34.4	72
7	Simplifying mechanistic impedances. Electrochimica Acta, 2020, 338, 135895.	5.2	5
8	Uncovering the nature of electroactive sites in nano architectured dendritic Bi for highly efficient CO2 electroreduction to formate. Applied Catalysis B: Environmental, 2020, 274, 119031.	20.2	46
9	Simplifying Mechanistic Impedances. ECS Meeting Abstracts, 2020, MA2020-01, 2575-2575.	0.0	0
10	Detection of Electrooxidation Products in Microfluidic Devices Using Raman Spectroscopy. ECS Meeting Abstracts, 2020, MA2020-01, 2608-2608.	0.0	0
11	Hydrogen Bubble Templating of Fractal Ni Catalysts for Water Oxidation in Alkaline Media. ACS Applied Energy Materials, 2019, 2, 5734-5743.	5.1	20
12	Understanding reaction mechanisms using dynamic electrochemical impedance spectroscopy: Methanol oxidation on Pt. Electrochimica Acta, 2019, 323, 134764.	5.2	12
13	The Akaike information criterion in weighted regression of immittance data. Electrochimica Acta, 2019, 317, 648-653.	5.2	24
14	EIS at carbon fiber cylindrical microelectrodes. Electrochemistry Communications, 2019, 109, 106566.	4.7	9
15	Vertically Aligned Ni Nanowires as a Platform for Kinetically Limited Water-Splitting Electrocatalysis. Journal of Physical Chemistry C, 2019, 123, 1082-1093.	3.1	5
16	Dynamic electrochemical impedance study of methanol oxidation at Pt at elevated temperatures. Electrochimica Acta, 2019, 295, 139-147.	5.2	31
17	From Salt to Germanene: A Cookbook for Electrochemical Formation of 2D Materials (Inspired by R.) Tj ETQq1 1 0.784314 rgBT /Over	0.5	0
18	Understanding Reaction Mechanisms Using Dynamic Electrochemical Impedance Spectroscopy: Modeling of Cyclic Voltammetry and Impedance Spectra. ECS Transactions, 2018, 85, 167-176.	0.5	7

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19	Detection of Electrooxidation Products in Microfluidic Devices Using Raman Spectroscopy. ECS Meeting Abstracts, 2018, , .	0.0	0
20	Kinetics of Initial Stages of Pt Oxidation from Electrochemistry and Surface X-Ray Diffraction. ECS Meeting Abstracts, 2018, , .	0.0	0
21	Surface Oxidation of Pt(111) Studied By Surface X-Ray Diffraction and Grazing-Incidence Small-Angle X-Ray Scattering. ECS Meeting Abstracts, 2018, , .	0.0	0
22	High Temperature Electrooxidation of Glycerol on Nickel. ECS Meeting Abstracts, 2018, , .	0.0	0
23	A Dynamic Impedance Study of the Initial Stages of Nickel Oxidation. ECS Meeting Abstracts, 2018, , .	0.0	0
24	Downstream Impedance in Microfluidic Channels. ECS Meeting Abstracts, 2018, , .	0.0	0
25	Understanding Reaction Mechanisms Using Dynamic Electrochemical Impedance Spectroscopy: Methanol and Formic Acid Oxidation. ECS Meeting Abstracts, 2018, , .	0.0	0
26	From Salt to Germanene: A Cookbook for Electrochemical Formation of 2D Materials (Inspired by R.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	0.0	0
27	Generator-Sensor Impedance at Double Channel Electrodes. Electrochimica Acta, 2017, 229, 452-457.	5.2	6
28	Structural Reorganization of Pt(111) Electrodes by Electrochemical Oxidation and Reduction. Journal of the American Chemical Society, 2017, 139, 4532-4539.	13.7	70
29	Mass transfer and convection effects in small-scale catalytic hydrogenation. Catalysis Science and Technology, 2017, 7, 2609-2615.	4.1	9
30	Effects of mass transfer on the electrocatalytic CO 2 reduction on Cu. Electrochimica Acta, 2017, 238, 56-63.	5.2	59
31	Initial stages of Pt(111) electrooxidation: dynamic and structural studies by surface X-ray diffraction. Electrochimica Acta, 2017, 224, 220-227.	5.2	71
32	A microfluidic electrochemical cell with integrated PdH reference electrode for high current experiments. Electrochimica Acta, 2017, 225, 69-77.	5.2	8
33	Electrooxidation of Pt(111) in acid solution. Current Opinion in Electrochemistry, 2017, 4, 69-75.	4.8	20
34	Electrochemical Oxidation of Smooth and Nanoscale Rough Pt(111): An In Situ Surface X-ray Scattering Study. Journal of the Electrochemical Society, 2017, 164, H608-H614.	2.9	30
35	Pt oxide and oxygen reduction at Pt(111) studied by surface X-ray diffraction. Electrochemistry Communications, 2017, 84, 50-52.	4.7	18
36	(Keynote) Experimental Considerations for Electrocatalytic CO2Reduction. ECS Transactions, 2017, 80, 1191-1201.	0.5	0

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37	Method for studying high temperature aqueous electrochemical systems: Methanol and glycerol oxidation. Electrochimica Acta, 2016, 222, 1792-1799.	5.2	12
38	Method for Studying High Temperature Aqueous Electrochemical Systems: A Self Pressurized Autoclave. ECS Transactions, 2016, 75, 1055-1061.	0.5	3
39	Altering the selectivity of galvanostatic CO2 reduction on Cu cathodes by periodic cyclic voltammetry and potentiostatic steps. Electrochimica Acta, 2016, 222, 133-140.	5.2	20
40	Mass-transport impedance at channel electrodes: accurate and approximate solutions. Electrochimica Acta, 2016, 202, 84-89.	5.2	13
41	The rate-determining step in electrochemical impedance spectroscopy. Journal of Electroanalytical Chemistry, 2015, 737, 30-36.	3.8	26
42	Rules to transform concentrations and currents for irreversible reactions to those of quasireversible reactions. Electrochimica Acta, 2015, 152, 308-314.	5.2	3
43	A semianalytical method for simulating mass transport at channel electrodes. Journal of Electroanalytical Chemistry, 2015, 745, 72-79.	3.8	7
44	Dynamic electrochemical impedance spectroscopy, for electrocatalytic reactions. Electrochimica Acta, 2014, 131, 13-19.	5.2	42
45	Oxygen and iodine adsorption on cesium-precovered Pt(111). Surface Science, 2014, 630, 9-15.	1.9	2
46	The role of available sites in the activity of lattice gases with geometric constraints. Journal of Chemical Physics, 2013, 139, 104104.	3.0	2
47	(Invited) Dynamic and Coverage Effects in EIS. ECS Transactions, 2013, 45, 3-14.	0.5	7
48	A Study of Methanol Oxidation by Dynamic Electrochemical Impedance Spectroscopy. ECS Transactions, 2012, 41, 35-47.	0.5	5
49	Kinetic study of CO oxidation on clean and oxidized Pt. Electrochimica Acta, 2012, 82, 550-557.	5.2	12
50	Layer-by-Layer Characterization of a Model Biofuel Cell Anode by (in Situ) Vibrational Spectroscopy. Journal of Physical Chemistry C, 2011, 115, 310-316.	3.1	5
51	Formation and Oxidation Kinetics of Adsorbed CO in Electrocatalytic Reactions on Pt. ECS Meeting Abstracts, 2011, , .	0.0	0
52	Mechanism and equivalent circuits in electrochemical impedance spectroscopy. Electrochimica Acta, 2011, 56, 8005-8013.	5.2	180
53	Powerful Insight into Catalytic Mechanisms through Simultaneous Monitoring of Reactants, Products, and Intermediates. Angewandte Chemie - International Edition, 2011, 50, 8304-8306.	13.8	96
54	Coadsorption of cesium and iodine on Pt(111): Structure and ionicity. Surface Science, 2010, 604, 2106-2115.	1.9	2

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55	Activating and deactivating mass transport effects in methanol and formic acid oxidation on platinum electrodes. Electrochimica Acta, 2010, 55, 3384-3391.	5.2	18
56	Increasing and Decreasing Mass Transport Effects in the Oxidation of Small Organic Molecules. ECS Transactions, 2010, 28, 203-210.	0.5	5
57	Electrochemical Study of Pt(111)-Cs Surfaces Prepared in Ultra-High Vacuum. ECS Transactions, 2010, 28, 47-55.	0.5	0
58	Dynamic Impedance of Formic Acid Electrooxidation on Polycrystalline Palladium. ECS Transactions, 2009, 19, 123-129.	0.5	5
59	Dynamic Electrochemical Impedance Spectroscopy. ECS Transactions, 2009, 19, 31-42.	0.5	29
60	Anomalous adsorption of Cs on Pt(111). Surface Science, 2009, 603, 2005-2014.	1.9	4
61	Impedance study of membrane dehydration and compression in proton exchange membrane fuel cells. Journal of Power Sources, 2009, 192, 457-466.	7.8	35
62	Impedance study of formic acid oxidation on platinum electrodes. Electrochimica Acta, 2008, 53, 6851-6864.	5.2	55
63	An alkaline microfluidic fuel cell based on formate and hypochlorite bleach. Electrochimica Acta, 2008, 54, 698-705.	5.2	108
64	A Microfluidic Fuel Cell with Flow-Through Porous Electrodes. Journal of the American Chemical Society, 2008, 130, 4000-4006.	13.7	301
65	Hydrogen Peroxide as an Oxidant for Microfluidic Fuel Cells. Journal of the Electrochemical Society, 2007, 154, B1220.	2.9	115
66	High-performance microfluidic vanadium redox fuel cell. Electrochimica Acta, 2007, 52, 4942-4946.	5.2	127
67	Integrated electrochemical velocimetry for microfluidic devices. Microfluidics and Nanofluidics, 2007, 3, 403-416.	2.2	36
68	Detection of Membrane Drying, Fuel Cell Flooding, and Anode Catalyst Poisoning on PEMFC Stacks by Electrochemical Impedance Spectroscopy. Journal of the Electrochemical Society, 2006, 153, A857.	2.9	234
69	Impedance study of methanol oxidation on platinum electrodes. Electrochimica Acta, 2006, 51, 3827-3840.	5.2	114
70	Fast methanol oxidation on polycrystalline Pt. Electrochimica Acta, 2006, 52, 773-779.	5.2	18
71	Strategic enzyme patterning for microfluidic biofuel cells. Journal of Power Sources, 2006, 158, 1-12.	7.8	59
72	X-ray characterization of as-deposited, epitaxial films of Bi(012) on Au(111). Surface Science, 2006, 600, 95-105.	1.9	22

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73	Characterisation of proton exchange membrane fuel cell (PEMFC) failures via electrochemical impedance spectroscopy. Journal of Power Sources, 2006, 161, 264-274.	7.8	141
74	Energetics and bonding of the Pt(111)(3Ã—3)â€“Ag,I surface compound. Journal of Electroanalytical Chemistry, 2005, 583, 77-83.	3.8	2
75	Equivalent circuits for some surface electrochemical mechanisms. Journal of Electroanalytical Chemistry, 2004, 567, 153-166.	3.8	15
76	Initial stages of thallium electrodeposition on iodine-covered Pt(111). Journal of Electroanalytical Chemistry, 2004, 567, 185-192.	3.8	3
77	Electrochemical quartz-crystal microbalance study of silver and copper electrodeposition on bare and iodine-covered platinum electrodes. Journal of Electroanalytical Chemistry, 2004, 569, 61-70.	3.8	7
78	A thermal desorption study of iodine on Pt(). Surface Science, 2003, 525, 149-158.	1.9	21
79	Multiple Electrochemical Impedance Spectra Parameterization (MEISP+). Version 2.0 Kumho Petrochemical Co. Ltd., Kumho Chemical Laboratories, P.O. Box 64, Yuseong, Taejeon, 305-600, Korea. Fax:Â 82 42 862 5651. http://powergraphy.com. Contact Kumho for price.. Journal of the American Chemical Society, 2002, 124, 1554-1555.	13.7	7
80	In situ scanning tunneling microscopy of bismuth electrodeposition on Au() surfaces. Surface Science, 2002, 512, L367-L372.	1.9	53
81	Stability of Surface Mechanisms with Three Species and Mass-Action Kinetics. Journal of Mathematical Chemistry, 2002, 32, 281-301.	1.5	3
82	Tensor LEED analysis for the electrodeposited Pt(111)-(3Ã—3)â€“Ag,I surface structure. Surface Science, 2001, 490, 256-264.	1.9	8
83	Stability and electrochemical impedance of mechanisms with a single adsorbed species. Journal of Electroanalytical Chemistry, 2001, 501, 222-234.	3.8	39
84	Improving the detection limit of a quadrupole mass spectrometer. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 1032-1033.	2.1	7
85	Underpotential electrodeposition of Ag on iodine-covered Pt single-crystal electrodes. Journal of Electroanalytical Chemistry, 2000, 488, 32-41.	3.8	10
86	TENSOR LEED ANALYSES FOR THREE CHEMISORBED STRUCTURES FORMED BY IODINE ON A Pt(111) SURFACE. Surface Review and Letters, 1999, 06, 871-881.	1.1	22
87	Impedance of multistep mechanisms: equivalent circuits at equilibrium. Electrochimica Acta, 1999, 44, 4321-4329.	5.2	17
88	Electrochemical impedance of multistep mechanisms: mechanisms with static species. Journal of Electroanalytical Chemistry, 1998, 449, 29-37.	3.8	15
89	Electrochemical impedance of multistep mechanisms: a general theory. Journal of Electroanalytical Chemistry, 1998, 449, 9-28.	3.8	27
90	Theory of electrochemical impedance of surface reactions: second-harmonic and large-amplitude response. Canadian Journal of Chemistry, 1997, 75, 1508-1517.	1.1	25

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91	An ac voltammetry study of Pt oxide growth. Journal of Electroanalytical Chemistry, 1997, 420, 89-100.	3.8	47
92	Simulation of anodic Pt oxide growth. Journal of Electroanalytical Chemistry, 1997, 420, 101-109.	3.8	69
93	Interaction of water with stepped Ni(760): associative versus dissociative adsorption and autocatalytic decomposition. Surface Science, 1996, 356, 195-208.	1.9	28
94	Solidâ€state ambientâ€temperature ultrahigh vacuum iodine source. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1996, 14, 256-257.	2.1	11
95	Electrochemical impedance of multistep mechanisms: mechanisms with diffusing species. Journal of Electroanalytical Chemistry, 1996, 403, 11-24.	3.8	29
96	Ultrahigh-Vacuum Surface Analytical Methods in Electrochemical Studies of Single-Crystal Surfaces. Modern Aspects of Electrochemistry, 1996, , 1-60.	0.2	9
97	Ac voltammetry for measurement of surface kinetics. Journal of Electroanalytical Chemistry, 1993, 355, 21-35.	3.8	27
98	Autocatalytic decomposition of water on nickel (110). The Journal of Physical Chemistry, 1992, 96, 10905-10913.	2.9	21
99	Platinum oxide growth kinetics for cyclic voltammetry. Journal of Electroanalytical Chemistry, 1992, 335, 19-31.	3.8	49
100	The kinetics of silver electrodeposition on iodine-covered Pt(111). Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1991, 318, 271-282.	0.1	12
101	The adsorption of water on Ni(110): Monolayer, bilayer and related phenomena. Surface Science, 1990, 230, 159-174.	1.9	61
102	Anodic phase formation on lead amalgam electrodes in sodium sulfide solution. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1989, 274, 61-80.	0.1	7
103	Two-dimensional nucleation and growth on spherical electrodes. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1989, 274, 81-94.	0.1	2
104	The interaction of hydrogen with a Pd(100) surface. Surface Science, 1988, 198, 413-430.	1.9	56
105	Activated adsorption of deuterium on Ni(110): evidence for a high temperature desorption state. Surface Science, 1988, 195, L135-L144.	1.9	15
106	Summary Abstract: Subsurface deuterium on Ni(110). Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1988, 6, 778-779.	2.1	1
107	Surface phases of Ni(110) induced by adsorption of deuterium. Surface Science, 1987, 179, 297-321.	1.9	70
108	ac Impedance of Faradaic reactions involving electrosorbed intermediatesâ€"I. Kinetic theory. Electrochimica Acta, 1987, 32, 1703-1712.	5.2	458

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109	Behavior of overpotentialâ€"deposited species in Faradaic reactionsâ€"II. ac Impedance measurements on H2 evolution kinetics at activated and unactivated Pt cathodes. Electrochimica Acta, 1987, 32, 1713-1731.	5.2	217
110	A potentiostatic double-step method for measuring hydrogen atom diffusion and trapping in metal electrodesâ€"I. Theory. Acta Metallurgica, 1987, 35, 253-262.	2.1	33
111	Kinetic theory of the open-circuit potential decay method for evaluation of behaviour of adsorbed intermediates. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1987, 221, 1-21.	0.1	98
112	Ion backscattering studies of the liquid-solid interface. Nuclear Instruments & Methods in Physics Research B, 1987, 28, 385-390.	1.4	12
113	Films formed on well-defined stainless steel single-crystal surfaces in borate, sulfate, perchlorate, and chloride solutions: studies of the (111) plane by LEED, Auger spectroscopy, and electrochemistry. Langmuir, 1985, 1, 232-239.	3.5	17
114	Films formed on well-defined stainless steel single-crystal surfaces in oxygen and water: studies of the (111) plane by LEED, Auger and XPS. Corrosion Science, 1985, 25, 849-869.	6.6	23