Steven C Decaluwe

List of Publications by Year
in descending order

40	1,113	516710 16	434195 31
papers	citations	h-index	g-index

40	40	40	1877
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Pathways Toward High-energy Li-sulfur Batteries, Identified via Multi-reaction Chemical Modeling. Journal of the Electrochemical Society, 2022, 169, 010520.	2.9	1
2	Using Neutron Reflectometry to Quantify the Carbon-Nafion Interface for Proton Exchange Membrane Fuel Cell Applications. ECS Meeting Abstracts, 2022, MA2022-01, 1409-1409.	0.0	0
3	Predicted Impacts of Graded Catalyst Layer Ionomer and Pt Distributions on PEMFC Performance. ECS Meeting Abstracts, 2022, MA2022-01, 1699-1699.	0.0	0
4	An FTIR Study of Electrolyte Dynamics in Lithium-Air Batteries. ECS Meeting Abstracts, 2022, MA2022-01, 113-113.	0.0	0
5	(Invited, Digital Presentation) Detailed Chemical Modeling of Solid Electrolyte Interphase Growth and Evolution. ECS Meeting Abstracts, 2022, MA2022-01, 1660-1660.	0.0	0
6	Evolution of solid electrolyte interphase and active material in the silicon wafer model system. Journal of Power Sources, 2021, 482, 228946.	7.8	19
7	Three-Dimensional Mapping of Cycling Changes in Silicon-Graphite Composite Anodes Via Scanning Probe Microscopy. ECS Meeting Abstracts, 2021, MA2021-01, 113-113.	0.0	0
8	A Minimal Information Set To Enable Verifiable Theoretical Battery Research. ACS Energy Letters, 2021, 6, 3831-3835.	17.4	19
9	Development of a Detailed Nucleation and Growth Model for CANTERA Implemented in Li-Air Batteries. ECS Meeting Abstracts, 2021, MA2021-02, 173-173.	0.0	0
10	Multiscale Modeling of Solid Electrolyte Interphase Growth in Silicon Anodes. ECS Meeting Abstracts, 2021, MA2021-02, 382-382.	0.0	0
11	Predicted Impacts of Catalyst Layer Ionomer Microstructure and Distribution on PEMFC Performance. ECS Meeting Abstracts, 2021, MA2021-02, 1084-1084.	0.0	0
12	Operando Characterization of the Solid Electrolyte Interphase: A Means to Validate Detailed Chemical Kinetic Modeling. ECS Meeting Abstracts, 2021, MA2021-02, 1492-1492.	0.0	0
13	Kinetics of lithium electrodeposition and stripping. Journal of Chemical Physics, 2020, 153, 194701.	3.0	15
14	Improving Interface Stability of Si Anodes by Mg Coating in Li-Ion Batteries. ACS Applied Energy Materials, 2020, 3, 11534-11539.	5.1	10
15	Three-Dimensional Mapping of Resistivity and Microstructure of Composite Electrodes for Lithium-Ion Batteries. Nano Letters, 2020, 20, 8081-8088.	9.1	7
16	Microscopic Observation of Solid Electrolyte Interphase Bilayer Inversion on Silicon Oxide. ACS Energy Letters, 2020, 5, 3657-3662.	17.4	26
17	Free Radicals: Making a Case for Battery Modeling. Electrochemical Society Interface, 2020, 29, 30-34.	0.4	16
18	Fostering a Sustainable Community in Batteries. ACS Energy Letters, 2020, 5, 2361-2366.	17.4	9

#	Article	IF	Citations
19	Physically Based Modeling of PEMFC Cathode Catalyst Layers: Effective Microstructure and Ionomer Structureâ€“Property Relationship Impacts. Journal of Electrochemical Energy Conversion and Storage, 2020, 17, .	2.1	7
20	Thermodynamic Insights for Electrochemical Hydrogen Compression with Proton-Conducting Membranes. Membranes, 2019, 9, 77.	3.0	18
21	Temperature-Dependent Solubility of Solid Electrolyte Interphase on Silicon Electrodes. ACS Energy Letters, 2019, 4, 2770-2775.	17.4	45
22	Modeling and simulation of the thermodynamics of lithium-ion battery intercalation materials in the open-source software Cantera. Electrochimica Acta, 2019, 323, 134797.	5.2	14
23	Computational fluid dynamics simulations of polarization phenomena in direct contact membrane distillation. Journal of Membrane Science, 2019, 591, 117150.	8.2	47
24	Open Software for Chemical and Electrochemical Modeling: Opportunities and Challenges. Electrochemical Society Interface, 2019, 28, 47-50.	0.4	4
25	Direct, operando observation of the bilayer solid electrolyte interphase structure: Electrolyte reduction on a non-intercalating electrode. Journal of Power Sources, 2019, 412, 725-735.	7.8	29
26	Direct, operando observation of the bilayer solid electrolyte interphase structure: Electrolyte reduction on a non-intercalating electrode. Journal of Power Sources, 2019, 412, .	7.8	2
27	Structure-property relationships at Nafion thin-film interfaces: Thickness effects on hydration and anisotropic ion transport. Nano Energy, 2018, 46, 91-100.	16.0	77
28	Impact of non-ideal behavior on ignition delay and chemical kinetics in high-pressure shock tube reactors. Combustion and Flame, 2018, 189, 1-11.	5.2	37
29	On the Fundamental and Practical Aspects of Modeling Complex Electrochemical Kinetics and Transport. Journal of the Electrochemical Society, 2018, 165, E637-E658.	2.9	20
30	The Influence of Hydrogen-Permeable Membranes and Pressure on Methane Dehydroaromatization in Packed-Bed Catalytic Reactors. Industrial & Engineering Chemistry Research, 2017, 56, 3551-3559.	3.7	15
31	Finite Thickness Effects on Nafion Water Uptake and Ionic Conductivity at Hydrophilic Substrate Interfaces, and Implications for PEMFC Performance. ECS Transactions, 2017, 80, 619-632.	0.5	5
32	Phase segregation of sulfonate groups in Nafion interface lamellae, quantified via neutron reflectometry fitting techniques for multi-layered structures. Soft Matter, 2014, 10, 5763-5776.	2.7	68
33	Multielement Activity Mapping and Potential Mapping in Solid Oxide Electrochemical Cells through the use of operando XPS. ACS Catalysis, 2012, 2, 2297-2304.	11.2	63
34	Solid Electrolyte Interphase in Li-Ion Batteries: Evolving Structures Measured In situ by Neutron Reflectometry. Chemistry of Materials, 2012, 24, 2133-2140.	6.7	149
35	Experimentally Validated Simulations of Undoped Ceria Electrodes for H2 Oxidation and H2O Electrolysis in Solid Oxide Electrochemical Cells. ECS Transactions, 2011, 35, 2883-2895.	0.5	2
36	Measuring fundamental properties in operating solid oxide electrochemical cells by using in situ X-ray photoelectron spectroscopy. Nature Materials, 2010, 9, 944-949.	27.5	257

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37	Evaluating H2O Electrolysis on Ceria with Thin-Film Electrodes. ECS Transactions, 2010, 28, 347-356.	0.5	2
38	In Situ Characterization of Ceria Oxidation States in High-Temperature Electrochemical Cells with Ambient Pressure XPS. Journal of Physical Chemistry C, 2010, 114, 19853-19861.	3.1	81
39	In Situ XPS for Evaluating Ceria Oxidation States in SOFC Anodes. ECS Transactions, 2009, 16, 253-263.	0.5	6
40	Importance of Anode Microstructure in Modeling Solid Oxide Fuel Cells. Journal of the Electrochemical Society, 2008, 155, B538.	2.9	43