David S Mebane

List of Publications by Year
in descending order

37 papers	882 citations	516561 16 h-index	477173 29 g-index
41 all docs	41 docs citations	41 times ranked	1085 citing authors

#	Article	IF	Citations
1	Kinetic model development and Bayesian uncertainty quantification for the complete reduction of Fe-based oxygen carriers with CH4, CO, and H2 for chemical looping combustion. Chemical Engineering Science, 2022, 252, 117512.	1.9	4
2	Exploring DFT+U parameter space with a Bayesian calibration assisted by Markov chain Monte Carlo sampling. Npj Computational Materials, 2021, 7, .	3.5	8
3	Analyzing the grainâ€boundary resistance of oxideâ€ion conducting electrolytes: Poissonâ€Cahn vs Poissonâ€Boltzmann theories. Journal of the American Ceramic Society, 2020, 103, 5-22.	1.9	27
4	Probabilistic Model Building with Uncertainty Quantification and Propagation for a Dynamic Fixed Bed CO₂ Capture Process. Energy & Fuels, 2020, 34, 2516-2532.	2.5	6
5	New Data-Driven Interacting-Defect Model Describing Nanoscopic Grain Boundary Compositions in Ceramics. Journal of Physical Chemistry C, 2020, 124, 23619-23625.	1.5	5
6	Reduced-order model for microstructure evolution prediction in the electrodes of solid oxide fuel cell with dynamic discrepancy reduced modeling. Journal of Power Sources, 2019, 416, 37-49.	4.0	6
7	In situ surface potential evolution along Au/Gd:CeO2 electrode interfaces. APL Materials, 2017, 5, .	2.2	4
8	A Spaceâ€Charge Treatment of the Increased Concentration of Reactive Species at the Surface of a Ceria Solid Solution. Angewandte Chemie, 2017, 129, 14708-14712.	1.6	5
9	Quantitative interpretation of impedance spectroscopy data on porous LSM electrodes using X-ray computed tomography and Bayesian model-based analysis. Physical Chemistry Chemical Physics, 2017, 19, 25334-25345.	1.3	5
10	Multi-scale modeling of an amine sorbent fluidized bed adsorber with dynamic discrepancy reduced modeling. Reaction Chemistry and Engineering, 2017, 2, 550-560.	1.9	11
11	A Spaceâ€Charge Treatment of the Increased Concentration of Reactive Species at the Surface of a Ceria Solid Solution. Angewandte Chemie - International Edition, 2017, 56, 14516-14520.	7.2	27
12	Upscaling Uncertainty with Dynamic Discrepancy for a Multi-Scale Carbon Capture System. Journal of the American Statistical Association, 2017, 112, 1453-1467.	1.8	17
13	Kinetic modeling of near-interface defect segregation during thermal annealing of oxygen-conducting solid electrolytes. Solid State Ionics, 2017, 299, 78-81.	1.3	10
14	The Mechanism of CO₂ Adsorption under Dry and Humid Conditions in Mesoporous Silica-Supported Amine Sorbents. Journal of Physical Chemistry C, 2016, 120, 23683-23691.	1.5	68
15	A Bayesian approach to electrical conductivity relaxation and isotope exchange/secondary ion mass spectrometry. Solid State Ionics, 2015, 270, 47-53.	1.3	15
16	Examination of the mechanism for the reversible aging behavior at open circuit when changing the operating temperature of (La0.8Sr0.2)0.95MnO3 electrodes. Solid State Ionics, 2015, 272, 144-154.	1.3	9
17	A variational approach to surface cation segregation in mixed conducting perovskites. Computational Materials Science, 2015, 103, 231-236.	1.4	37
18	A generalised space-charge theory for extended defects in oxygen-ion conducting electrolytes: from dilute to concentrated solid solutions. Energy and Environmental Science, 2015, 8, 2935-2940.	15.6	84

#	Article	IF	Citations
19	Simulation of Surface-Potential Driven ORR Kinetics on SOFC Cathode with Parallel Reaction Pathways. Journal of the Electrochemical Society, 2014, 161, F344-F353.	1.3	25
20	Carbon Capture Simulation Initiative: A Case Study in Multiscale Modeling and New Challenges. Annual Review of Chemical and Biomolecular Engineering, 2014, 5, 301-323.	3.3	66
21	Bayesian calibration of thermodynamic models for the uptake of CO2 in supported amine sorbents using ab initio priors. Physical Chemistry Chemical Physics, 2013, 15, 4355.	1.3	27
22	Transport, Zwitterions, and the Role of Water for CO₂ Adsorption in Mesoporous Silica-Supported Amine Sorbents. Journal of Physical Chemistry C, 2013, 117, 26617-26627.	1.5	59
23	Reversible aging behavior of La0.8Sr0.2MnO3 electrodes at open circuit. Journal of Power Sources, 2012, 216, 11-14.	4.0	6
24	DC conductivity and dielectric properties in silver chloride, revisited. Physical Chemistry Chemical Physics, 2010, 12, 2478.	1.3	5
25	Refinement of the bulk defect model for LaxSr1â^'xMnO3Â±Î´â˜†. Solid State Ionics, 2008, 178, 1950-1957.	1.3	31
26	Triple-Phase Boundary and Surface Transport in Mixed Conducting Patterned Electrodes. Journal of the Electrochemical Society, 2008, 155, B635.	1.3	23
27	A Two-Dimensional Model and Numerical Treatment for Mixed Conducting Thin Films. Journal of the Electrochemical Society, 2007, 154, A421.	1.3	26
28	Oxygen Reduction on LaMnO3-Based Cathode Materials in Solid Oxide Fuel Cells. Chemistry of Materials, 2007, 19, 1690-1699.	3.2	126
29	Continuum and Quantum-Chemical Modeling of Oxygen Reduction on the Cathode in a Solid Oxide Fuel Cell. Topics in Catalysis, 2007, 46, 386-401.	1.3	30
30	Modeling of patterned mixed-conducting electrodes and the importance of sheet resistance at small feature sizes. Solid State Ionics, 2007, 178, 249-252.	1.3	8
31	Trivariate, Stereological Length-Radius-Orientation Unfolding Derived and Applied to Alumina-Silicon Carbide Whisker Composites. Journal of the American Ceramic Society, 2006, 89, 620-626.	1.9	5
32	Interpreting Impedance Response of Silicon Carbide Whisker/Alumina Composites Through Microstructural Simulation. Journal of the American Ceramic Society, 2006, 89, 538-543.	1.9	12
33	Classical, phenomenological analysis of the kinetics of reactions at the gas-exposed surface of mixed ionic electronic conductors. Journal of Solid State Electrochemistry, 2006, 10, 575-580.	1.2	36
34	Bivariate stereological unfolding procedure for randomly oriented chopped fibers or whiskers. Acta Materialia, 2005, 53, 4943-4953.	3.8	9
35	Characteristic Thickness for a Dense La[sub 0.8]Sr[sub 0.2]MnO[sub 3] Electrode. Electrochemical and Solid-State Letters, 2005, 8, A592.	2.2	38
36	The Effect of Microstructural Interconnectivity on the Resistivity of Anisotropic Al2O3-SiCw Composites. AIP Conference Proceedings, 2004, , .	0.3	0

#	Article	IF	Citations
37	Modeling of MIEC Cathodes: The Effect of Sheet Resistance. Ceramic Engineering and Science Proceedings, 0, , 153-160.	0.1	0