

Antonio Bertei

List of Publications by Year in descending order

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Version: 2024-02-01

67
papers

2,095
citations

201575

27
h-index

243529

44
g-index

68
all docs

68
docs citations

68
times ranked

2243
citing authors

#	ARTICLE	IF	CITATIONS
1	TauFactor: An open-source application for calculating tortuosity factors from tomographic data. SoftwareX, 2016, 5, 203-210.	1.2	257
2	3D microstructure design of lithium-ion battery electrodes assisted by X-ray nano-computed tomography and modelling. Nature Communications, 2020, 11, 2079.	5.8	217
3	Simulated impedance of diffusion in porous media. Electrochimica Acta, 2017, 251, 681-689.	2.6	134
4	Microstructural Evolution of Battery Electrodes During Calendering. Joule, 2020, 4, 2746-2768.	11.7	95
5	Microstructural modeling for prediction of transport properties and electrochemical performance in SOFC composite electrodes. Chemical Engineering Science, 2013, 101, 175-190.	1.9	77
6	Guiding the Design of Heterogeneous Electrode Microstructures for Li-ion Batteries: Microscopic Imaging, Predictive Modeling, and Machine Learning. Advanced Energy Materials, 2021, 11, 2003908.	10.2	66
7	Percolation theory in SOFC composite electrodes: Effects of porosity and particle size distribution on effective properties. Journal of Power Sources, 2011, 196, 9429-9436.	4.0	65
8	The application of hierarchical structures in energy devices: new insights into the design of solid oxide fuel cells with enhanced mass transport. Energy and Environmental Science, 2018, 11, 2390-2403.	15.6	59
9	The fractal nature of the three-phase boundary: A heuristic approach to the degradation of nanostructured solid oxide fuel cell anodes. Nano Energy, 2017, 38, 526-536.	8.2	52
10	Validation of a physically-based solid oxide fuel cell anode model combining 3D tomography and impedance spectroscopy. International Journal of Hydrogen Energy, 2016, 41, 22381-22393.	3.8	50
11	Multi-length scale microstructural design of lithium-ion battery electrodes for improved discharge rate performance. Energy and Environmental Science, 2021, 14, 5929-5946.	15.6	48
12	Quantification of the degradation of Ni-YSZ anodes upon redox cycling. Journal of Power Sources, 2018, 374, 61-68.	4.0	47
13	Establishing Ultralow Activation Energies for Lithium Transport in Garnet Electrolytes. ACS Applied Materials & Interfaces, 2020, 12, 32806-32816.	4.0	45
14	Common inconsistencies in modeling gas transport in porous electrodes: The dusty-gas model and the Fick law. Journal of Power Sources, 2015, 279, 133-137.	4.0	43
15	Effective conductivity in random porous media with convex and non-convex porosity. International Journal of Heat and Mass Transfer, 2014, 71, 183-188.	2.5	42
16	Electrochemical Simulation of Planar Solid Oxide Fuel Cells with Detailed Microstructural Modeling. Electrochimica Acta, 2014, 146, 151-163.	2.6	41
17	Influence of electrode thickness on the performance of composite electrodes for SOFC. Journal of Applied Electrochemistry, 2008, 38, 939-945.	1.5	40
18	Understanding the electrochemical behaviour of LSM-based SOFC cathodes. Part I – Experimental and electrochemical. Solid State Ionics, 2017, 301, 106-115.	1.3	40

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19	A comparative study and an extended theory of percolation for random packings of rigid spheres. Powder Technology, 2011, 213, 100-108.	2.1	36
20	Percolating behavior of sintered random packings of spheres. Powder Technology, 2012, 231, 44-53.	2.1	34
21	Uncovering the mechanisms of electrolyte permeation in porous electrodes for redox flow batteries through real time <i>in situ</i> 3D imaging. Sustainable Energy and Fuels, 2018, 2, 2068-2080.	2.5	34
22	Modified collective rearrangement sphere-assembly algorithm for random packings of nonspherical particles: Towards engineering applications. Powder Technology, 2014, 253, 311-324.	2.1	33
23	PHYSICALLY-BASED DECONVOLUTION OF IMPEDANCE SPECTRA: INTERPRETATION, FITTING AND VALIDATION OF A NUMERICAL MODEL FOR LANTHANUM STRONTIUM COBALT FERRITE-BASED SOLID OXIDE FUEL CELLS. Electrochimica Acta, 2016, 208, 129-141.	2.6	33
24	Heterogeneous electrocatalysis in porous cathodes of solid oxide fuel cells. Electrochimica Acta, 2015, 159, 71-80.	2.6	29
25	Modelling of redox flow battery electrode processes at a range of length scales: a review. Sustainable Energy and Fuels, 2020, 4, 5433-5468.	2.5	29
26	Morphological and electrochemical modeling of SOFC composite cathodes with distributed porosity. Chemical Engineering Journal, 2012, 207-208, 167-174.	6.6	28
27	Multi-length scale tomography for the determination and optimization of the effective microstructural properties in novel hierarchical solid oxide fuel cell anodes. Journal of Power Sources, 2017, 367, 177-186.	4.0	27
28	Understanding the electrochemical behaviour of LSM-based SOFC cathodes. Part II - Mechanistic modelling and physically-based interpretation. Solid State Ionics, 2017, 303, 181-190.	1.3	23
29	Morphology and electrochemical activity of SOFC composite cathodes: II. Mathematical modelling. Journal of Applied Electrochemistry, 2009, 39, 503-511.	1.5	22
30	A Particle-Based Model for Effective Properties in Infiltrated Solid Oxide Fuel Cell Electrodes. Journal of the Electrochemical Society, 2014, 161, F1243-F1253.	1.3	22
31	Guidelines for the Rational Design and Engineering of 3D Manufactured Solid Oxide Fuel Cell Composite Electrodes. Journal of the Electrochemical Society, 2017, 164, F89-F98.	1.3	21
32	3D Characterization of Diffusivities and Its Impact on Mass Flux and Concentration Overpotential in SOFC Anode. Journal of the Electrochemical Society, 2017, 164, F188-F195.	1.3	21
33	Progress in 3D electrode microstructure modelling for fuel cells and batteries: transport and electrochemical performance. Progress in Energy, 2019, 1, 012003.	4.6	21
34	Model-guided design of a high performance and durability Ni nanofiber/ceria matrix solid oxide fuel cell electrode. Journal of Energy Chemistry, 2021, 56, 98-112.	7.1	21
35	Enabling early detection of lithium-ion battery degradation by linking electrochemical properties to equivalent circuit model parameters. Journal of Energy Storage, 2022, 50, 104213.	3.9	21
36	Mathematical modeling of mass and charge transport and reaction in a solid oxide fuel cell with mixed ionic conduction. Chemical Engineering Science, 2012, 68, 606-616.	1.9	18

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37	A novel approach for the quantification of inhomogeneous 3D current distribution in fuel cell electrodes. <i>Journal of Power Sources</i> , 2018, 396, 246-256.	4.0	15
38	Microstructural Modeling and Effective Properties of Infiltrated SOFC Electrodes. <i>ECS Transactions</i> , 2013, 57, 2527-2536.	0.3	13
39	Characterization of Degradation in Nickel Impregnated Scandia-Stabilize Zirconia Electrodes during Isothermal Annealing. <i>Journal of the Electrochemical Society</i> , 2017, 164, F935-F943.	1.3	13
40	Thermodynamics, Charge Transfer and Practical Considerations of Solid Boosters in Redox Flow Batteries. <i>Molecules</i> , 2021, 26, 2111.	1.7	13
41	Design guidelines for the manufacturing of the electrode-electrolyte interface of solid oxide fuel cells. <i>Journal of Power Sources</i> , 2019, 437, 226888.	4.0	12
42	Unveiling the mechanisms of solid-state dewetting in Solid Oxide Cells with novel 2D electrodes. <i>Journal of Power Sources</i> , 2019, 420, 124-133.	4.0	12
43	On the stabilization and extension of the distribution of relaxation times analysis. <i>Electrochimica Acta</i> , 2021, 391, 138916.	2.6	12
44	Dynamics of phase separation of sheared inertialess binary mixtures. <i>Physics of Fluids</i> , 2020, 32, .	1.6	11
45	Survey and sensitivity analysis of critical parameters in lithium-ion battery thermo-electrochemical modeling. <i>Electrochimica Acta</i> , 2021, 394, 139098.	2.6	11
46	Multi-length scale microstructural design of micro-tubular Solid Oxide Fuel Cells for optimised power density and mechanical robustness. <i>Journal of Power Sources</i> , 2019, 434, 226744.	4.0	10
47	Dynamic transition of dendrite orientation in the diffusive spinodal decomposition of binary mixtures under a thermal gradient. <i>Chemical Engineering Science</i> , 2019, 203, 450-463.	1.9	9
48	Effect of Non-Uniform Electrode Microstructure in Gas Diffusion Impedance. <i>ECS Transactions</i> , 2015, 68, 2897-2905.	0.3	7
49	Thermo-mechanical analysis of 3D manufactured electrodes for solid oxide fuel cells. <i>Journal of the European Ceramic Society</i> , 2021, 41, 497-508.	2.8	7
50	Structureâ€™Propertiesâ€™Performance: Modelling a Solid Oxide Fuel Cell with Infiltrated Electrodes. <i>Journal of the Electrochemical Society</i> , 2020, 167, 084523.	1.3	6
51	Dynamics of phase separation of sheared binary mixtures after a nonisothermal quenching. <i>Physical Review Fluids</i> , 2021, 6, .	1.0	6
52	Microstructural Degradation. , 2017, , 79-99.		5
53	Constitutive Relations of Thermal and Mass Diffusion. <i>Journal of Non-Equilibrium Thermodynamics</i> , 2020, 45, 27-38.	2.4	5
54	Coupled CFD and 1-D dynamic modeling for the analysis of industrial Regenerative Thermal Oxidizers. <i>Chemical Engineering and Processing: Process Intensification</i> , 2020, 157, 108117.	1.8	5

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55	Non-local phase field revisited. Journal of Statistical Mechanics: Theory and Experiment, 2021, 2021, 063212.	0.9	5
56	Comparison of Electrolyte Transport Modelling in Lithium-ion Batteries: Concentrated Solution Theory Vs Generalized Nernst-Planck Model. Journal of the Electrochemical Society, 2022, 169, 020570.	1.3	5
57	Dusty-Gas Model with Uniform Pressure: A Numerical Study on the Impact of a Frequent Inconsistent Assumption in SOFC Electrode Modeling. ECS Transactions, 2015, 68, 2887-2895.	0.3	4
58	Estimation of 3D Effective Properties from 2D Cross Sections in Porous Electrodes. ECS Transactions, 2015, 68, 2991-3001.	0.3	4
59	Mathematical Modeling and Simulation for Optimization of IDEAL-Cell Performance. ECS Transactions, 2011, 35, 883-893.	0.3	3
60	Effective thermal conductivity of composite materials made of a randomly packed densified spherical phase. International Journal of Thermal Sciences, 2021, 170, 107123.	2.6	3
61	Design guidelines for secondary lithium-ion battery electrodes to overcome performance limitations of recycled cathode materials. Journal of Energy Storage, 2022, 50, 104237.	3.9	3
62	Theory-based design of sintered granular composites triples three-phase boundary in fuel cells. Physical Review E, 2017, 96, 052903.	0.8	2
63	Design of Fibre Ni/CGO Anode and Model Interpretation. ECS Transactions, 2019, 91, 1721-1739.	0.3	2
64	The detachment of a wall-bound pendant drop suspended in a sheared fluid and subjected to an external force field. Physics of Fluids, 0, , .	1.6	1
65	Publisher's Note: A Particle-Based Model for Effective Properties in Infiltrated Solid Oxide Fuel Cell Electrodes [J. Electrochem. Soc.,161, F1243 (2014)]. Journal of the Electrochemical Society, 2014, 161, X24-X24.	1.3	0
66	Oxygen Reduction, Transport and Separation in Low Silver Content Scandia-Stabilized Zirconia Composites. Journal of the Electrochemical Society, 2017, 164, F3045-F3054.	1.3	0
67	Advanced Microstructures for Electrochemical Energy Systems: A Modelling Perspective. , 2019, , .		0