

Erik Birgersson

List of Publications by Year in descending order

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101
papers

2,627
citations

249298

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102
all docs

102
docs citations

102
times ranked

2639
citing authors

#	ARTICLE	IF	CITATIONS
1	Design of shading- and hotspot-resistant shingled modules. Progress in Photovoltaics: Research and Applications, 2022, 30, 464-480.	4.4	5
2	Optimizing bifacial all-perovskite tandem solar cell: How to balance light absorption and recombination. Solar Energy, 2022, 231, 1092-1106.	2.9	8
3	Monolithic perovskite/organic tandem solar cells with 23.6% efficiency enabled by reduced voltage losses and optimized interconnecting layer. Nature Energy, 2022, 7, 229-237.	19.8	137
4	Elucidating the underlying physics in a two-terminal all-perovskite tandem solar cell: A guideline towards 30% power conversion efficiency. Solar Energy, 2022, 231, 716-731.	2.9	12
5	Using a reduced-order model to investigate the effect of the heart rate on the aortic dissection. International Journal for Numerical Methods in Biomedical Engineering, 2022, 38, e3596.	1.0	5
6	Monte Carlo assisted sensitivity analysis of a Li-ion battery with a phase change material. Journal of Energy Storage, 2021, 35, 102269.	3.9	7
7	Optoelectronic modeling and sensitivity analysis of a four-terminal all-perovskite tandem solar cell – Identifying pathways to improve efficiency. Solar Energy, 2021, 216, 589-600.	2.9	13
8	Tuning Pressure Drop in Isoporous Membranes: Design with Fabrication Variability. Advanced Theory and Simulations, 2021, 4, 2100088.	1.3	0
9	Monte Carlo-based sensitivity analysis of an electrochemical capacitor. International Journal of Energy Research, 2021, 45, 16947-16962.	2.2	1
10	Scale analysis of electrochemical and thermal behaviour of a cylindrical spiral-wound lithium-ion battery. Electrochimica Acta, 2021, 400, 139397.	2.6	3
11	Elucidating the functional form of the recombination losses in a planar perovskite solar cell: A scaling analysis. Journal of Applied Physics, 2020, 128, .	1.1	6
12	Hotspot development and shading response of shingled PV modules. Solar Energy, 2020, 207, 729-735.	2.9	26
13	Quantifying operating uncertainties of a PEMFC – Monte Carlo-machine learning based approach. Renewable Energy, 2020, 158, 343-359.	4.3	24
14	Functional reservoir microcapsules generated via microfluidic fabrication for long-term cardiovascular therapeutics. Lab on A Chip, 2020, 20, 2756-2764.	3.1	26
15	The effect of the entry and re-entry size in the aortic dissection: a two-way fluid-structure interaction simulation. Biomechanics and Modeling in Mechanobiology, 2020, 19, 2643-2656.	1.4	13
16	Correlating Uncertainties of a CO ₂ to CO Microfluidic Electrochemical Reactor: A Monte Carlo Simulation. Industrial & Engineering Chemistry Research, 2019, 58, 19361-19376.	1.8	7
17	Correlating variability of modeling parameters with photovoltaic performance: Monte Carlo simulation of a meso-structured perovskite solar cell. Applied Energy, 2019, 237, 131-144.	5.1	20
18	Nernst voltage losses in planar fuel cells caused by changes in chemical composition: effects of operating parameters. Ionics, 2018, 24, 2047-2054.	1.2	3

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19	A spatially smoothed device model for meso-structured perovskite solar cells. Journal of Applied Physics, 2018, 124, .	1.1	2
20	Analysis of Concentration Overpotential in an All-Vanadium Redox Flow Battery. Journal of the Electrochemical Society, 2018, 165, A1746-A1752.	1.3	49
21	Nonmonotonic swelling of agarose-carboxypol hybrid hydrogel: Experimental and theoretical analysis. Journal of Polymer Science, Part B: Polymer Physics, 2017, 55, 444-454.	2.4	5
22	Modelling and loss analysis of meso-structured perovskite solar cells. Journal of Applied Physics, 2017, 122, .	1.1	24
23	Analysis of a Validated Mathematical Model for a Redox-Flow Lithium Ion Battery System. Electrochimica Acta, 2017, 247, 183-192.	2.6	5
24	Validity and scalability of an asymptotically reduced single-channel model for full-size catalytic monolith converters. Applied Mathematics and Computation, 2016, 281, 186-198.	1.4	11
25	Predictive Mechanistic Model for the Electrical Impedance and Intensity-Modulated Photocurrent and Photovoltage Spectroscopic Responses of an Organic Bulk Heterojunction Solar Cell. Physical Review Applied, 2016, 5, .	1.5	12
26	Thermo-electrochemical model for forced convection air cooling of a lithium-ion battery module. Applied Thermal Engineering, 2016, 99, 672-682.	3.0	93
27	Mathematical modeling and experiments of a half-cell redox flow lithium ion battery system. Electrochimica Acta, 2016, 204, 1-8.	2.6	6
28	Hydrodynamic Voltammetry at a Rocking Disc Electrode: Theory versus Experiment. Electrochimica Acta, 2016, 188, 837-844.	2.6	9
29	Compact open cathode feed system for PEMFCs. Applied Energy, 2016, 164, 670-675.	5.1	47
30	Correlating variability of modeling parameters with cell performance: Monte Carlo simulation of a quasi-3D planar solid oxide fuel cell. Renewable Energy, 2016, 85, 1301-1315.	4.3	9
31	Analytical modeling of intensity-modulated photovoltage spectroscopic responses of organic bulk-heterojunction solar cells. Applied Physics Letters, 2015, 107, .	1.5	12
32	Mechanistic Three-Dimensional Analytical Solutions for a Direct Liquid Fuel Cell Stack. Journal of Fuel Cell Science and Technology, 2015, 12, .	0.8	2
33	Towards computationally-efficient modeling of transport phenomena in three-dimensional monolithic channels. Applied Mathematics and Computation, 2015, 254, 392-407.	1.4	8
34	What parameters can be reliably deduced from the current-voltage characteristics of an organic bulk-heterojunction solar cell?. Journal of Applied Physics, 2015, 117, .	1.1	10
35	Verified reduction of dimensionality for an all-vanadium redox flow battery model. Journal of Power Sources, 2015, 279, 345-350.	4.0	33
36	Relating morphological characteristics to the open-circuit voltage of organic bulk-heterojunction solar cells. Applied Physics Express, 2015, 8, 024301.	1.1	7

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37	Computational evaluation of thermal management strategies in an underground mine. <i>Applied Thermal Engineering</i> , 2015, 90, 1144-1150.	3.0	77
38	Numerical investigation of water cooling for a lithium-ion bipolar battery pack. <i>International Journal of Thermal Sciences</i> , 2015, 94, 259-269.	2.6	125
39	Pulsating electrolyte flow in a full vanadium redox battery. <i>Journal of Power Sources</i> , 2015, 294, 305-311.	4.0	27
40	Correlating uncertainties of a lithium-ion battery - A Monte Carlo simulation. <i>International Journal of Energy Research</i> , 2015, 39, 778-788.	2.2	23
41	Modeling and Experimental Validation of Electrochemical Reduction of CO ₂ to CO in a Microfluidic Cell. <i>Journal of the Electrochemical Society</i> , 2015, 162, F23-F32.	1.3	68
42	Closed-form expressions correlating exciton transport and interfacial charge carrier generation with the donor/acceptor morphology in organic bulk heterojunction solar cells. <i>Physica B: Condensed Matter</i> , 2015, 456, 267-274.	1.3	5
43	Reduction of Carbon Dioxide in Filtering Facepiece Respirators with an Active-Venting System: A Computational Study. <i>PLoS ONE</i> , 2015, 10, e0130306.	1.1	15
44	Modeling and Simulating Electrochemical Reduction of CO ₂ in a Microfluidic Cell. <i>Computer Aided Chemical Engineering</i> , 2014, , 639-644.	0.3	3
45	The quasi-steady state of all-vanadium redox flow batteries: A scale analysis. <i>Electrochimica Acta</i> , 2014, 147, 657-662.	2.6	19
46	Perfusion enhanced polydimethylsiloxane based scaffold cell culturing system for multi-well drug screening platform. <i>Biotechnology Progress</i> , 2014, 30, 418-428.	1.3	7
47	Computational fluid model incorporating liver metabolic activities in perfusion bioreactor. <i>Biotechnology and Bioengineering</i> , 2014, 111, 885-895.	1.7	16
48	Correlating variability of modeling parameters with non-isothermal stack performance: Monte Carlo simulation of a portable 3D planar solid oxide fuel cell stack. <i>Applied Energy</i> , 2014, 136, 560-575.	5.1	17
49	Evaluation of mass transport performance in heterogeneous gaseous in-plane spiral reactors with various cross-section geometries at fixed cross-section area. <i>Chemical Engineering and Processing: Process Intensification</i> , 2014, 82, 101-111.	1.8	15
50	Modeling the structure-property relations in pillar-structured organic donor/acceptor solar cells. <i>Organic Electronics</i> , 2014, 15, 2742-2748.	1.4	4
51	Reduced non-isothermal model for the planar solid oxide fuel cell and stack. <i>Energy</i> , 2014, 70, 478-492.	4.5	24
52	Spatially smoothed fuel cell models: Variability of dependent variables underneath flow fields. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 4566-4575.	3.8	8
53	Computationally-efficient hybrid strategy for mechanistic modeling of fuel cell stacks. <i>Journal of Power Sources</i> , 2014, 247, 481-488.	4.0	12
54	Some approaches to improve ventilation system in underground coal mines environment - A computational fluid dynamic study. <i>Tunnelling and Underground Space Technology</i> , 2013, 34, 82-95.	3.0	112

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55	Three-dimensional approximate analytical solutions for direct liquid fuel cells. <i>Electrochimica Acta</i> , 2013, 109, 305-315.	2.6	5
56	A methodology for extracting the electrical properties of human skin. <i>Physiological Measurement</i> , 2013, 34, 723-736.	1.2	23
57	On the Origin of the Quadrant I Semicircle in Intensity-Modulated Photocurrent Spectra of P3HT:PCBM Bulk Heterojunction Solar Cells: Evidence of Degradation-Related Trap-Assisted Recombination. <i>Journal of Physical Chemistry C</i> , 2013, 117, 7993-8000.	1.5	19
58	On the interchangeability of potentiostatic and galvanostatic boundary conditions for fuel cells. <i>Electrochimica Acta</i> , 2013, 109, 617-622.	2.6	11
59	Reduced model for the planar solid oxide fuel cell. <i>Computers and Chemical Engineering</i> , 2013, 52, 155-167.	2.0	27
60	A spatially smoothed device model for organic bulk heterojunction solar cells. <i>Journal of Applied Physics</i> , 2013, 113, .	1.1	11
61	A finite-element method for the weakly compressible parabolized steady 3D Navier-Stokes equations in a channel with a permeable wall. <i>Computers and Fluids</i> , 2013, 81, 152-161.	1.3	4
62	An Aggregate Measure for the Local Current Density Coupling in Fuel Cell Stacks. <i>Journal of the Electrochemical Society</i> , 2013, 160, F1237-F1240.	1.3	6
63	A thin-walled polydimethylsiloxane bioreactor for high-density hepatocyte sandwich culture. <i>Biotechnology and Bioengineering</i> , 2013, 110, 1663-1673.	1.7	27
64	Numerical Investigation of Water and Temperature Distributions for Open-Cathode Polymer Electrolyte Fuel Cell Stack With Edge Cooling. , 2013, , .		1
65	Numerical Investigation of Water and Temperature Distributions for Open-Cathode Polymer Electrolyte Fuel Cell Stack With Edge Cooling. <i>Journal of Fuel Cell Science and Technology</i> , 2013, 10, .	0.8	5
66	A PHENOMENOLOGICAL MODEL FOR HYDROGELS WITH RIGID SKIN FORMATION. <i>International Journal of Applied Mechanics</i> , 2012, 04, 1250007.	1.3	5
67	Computational Study of Edge Cooling for Open-Cathode Polymer Electrolyte Fuel Cell Stacks. <i>Journal of Fuel Cell Science and Technology</i> , 2012, 9, .	0.8	10
68	Computational Study of Edge Cooling for Open-Cathode Polymer Electrolyte Fuel Cell Stacks. , 2012, , .		0
69	Analysis of a device model for organic pseudo-bilayer solar cells. <i>Journal of Applied Physics</i> , 2012, 112, 084511.	1.1	16
70	Model for a bipolar Li-ion battery module: Automated model generation, validation and verification. <i>Applied Mathematics and Computation</i> , 2012, 219, 2231-2245.	1.4	6
71	Fuel cell model reduction through the spatial smoothing of flow channels. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 7779-7795.	3.8	18
72	A novel flow reversal concept for improved thermal management in polymer electrolyte fuel cell stacks. <i>International Journal of Thermal Sciences</i> , 2012, 54, 242-252.	2.6	34

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73	Thermal-electrochemical model for passive thermal management of a spiral-wound lithium-ion battery. <i>Journal of Power Sources</i> , 2012, 203, 84-96.	4.0	149
74	Analysis of a model for pH-sensitive hydrogels. <i>Polymer</i> , 2012, 53, 613-622.	1.8	51
75	Finite deformation of fast-response thermo-sensitive hydrogels - A computational study. <i>Polymer</i> , 2012, 53, 2500-2508.	1.8	18
76	Non-invasive bioimpedance of intact skin: mathematical modeling and experiments. <i>Physiological Measurement</i> , 2011, 32, 1-18.	1.2	78
77	Analysis of a Model for an Electrochemical Capacitor. <i>Journal of the Electrochemical Society</i> , 2011, 158, A1220.	1.3	19
78	Computational Study of pH-sensitive Hydrogel-based Microfluidic Flow Controllers. <i>Journal of Functional Biomaterials</i> , 2011, 2, 195-212.	1.8	13
79	Numerical evaluation of various thermal management strategies for polymer electrolyte fuel cell stacks. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 12991-13007.	3.8	52
80	Computationally efficient multi-phase models for a proton exchange membrane fuel cell: Asymptotic reduction and thermal decoupling. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 14573-14589.	3.8	8
81	PHENOMENOLOGICAL MODEL FOR COUPLED ALCOHOL AND TEMPERATURE SENSITIVE HYDROGELS. <i>International Journal of Applied Mechanics</i> , 2011, 03, 279-298.	1.3	6
82	Numerical Investigation of Liquid Water Cooling for a Proton Exchange Membrane Fuel Cell Stack. <i>Heat Transfer Engineering</i> , 2011, 32, 151-167.	1.2	55
83	Two-Dimensional Approximate Analytical Solutions for the Direct Liquid Fuel Cell. <i>Journal of the Electrochemical Society</i> , 2011, 158, B1224.	1.3	10
84	Computational Study of Flow Reversal for Improved Thermal Management in a PEMFC Stack With Forced Air Convection Cooling. , 2010, , .		0
85	Computational study of forced air-convection in open-cathode polymer electrolyte fuel cell stacks. <i>Journal of Power Sources</i> , 2010, 195, 5550-5563.	4.0	61
86	Asymptotically Reduced Model for a Proton Exchange Membrane Fuel Cell Stack: Automated Model Generation and Verification. <i>Journal of the Electrochemical Society</i> , 2010, 157, B982.	1.3	23
87	Two-Dimensional Approximate Analytical Solutions for the Anode of a Direct Methanol Fuel Cell. <i>Journal of the Electrochemical Society</i> , 2009, 156, B1329.	1.3	9
88	Validated Reduction and Accelerated Numerical Computation of a Model for the Proton Exchange Membrane Fuel Cell. <i>Journal of the Electrochemical Society</i> , 2009, 156, B1156.	1.3	20
89	A chemo-electro-mechanical model for simulation of responsive deformation of glucose-sensitive hydrogels with the effect of enzyme catalysis. <i>Journal of the Mechanics and Physics of Solids</i> , 2009, 57, 369-382.	2.3	41
90	Enhanced Performance With an Impinging Jet Flow Configuration for PEMFC. , 2009, , .		0

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91	Modeling of electricâ€stimulusâ€responsive hydrogels immersed in different bathing solutions. Journal of Biomedical Materials Research - Part A, 2008, 85A, 248-257.	2.1	21
92	Transient analysis of temperature-sensitive neutral hydrogels. Journal of the Mechanics and Physics of Solids, 2008, 56, 444-466.	2.3	87
93	Modeling of multiphase smart hydrogels responding to pH and electric voltage coupled stimuli. Journal of Applied Physics, 2007, 101, 114905.	1.1	62
94	A quantitative study of the effect of flow-distributor geometry in the cathode of a PEM fuel cell. Journal of Power Sources, 2006, 153, 76-88.	4.0	53
95	Analysis of a Two-Phase Non-Isothermal Model for a PEFC. Journal of the Electrochemical Society, 2005, 152, A1021.	1.3	129
96	The Design and Usage of a Visual Direct Methanol Fuel Cell. Journal of Applied Electrochemistry, 2004, 34, 763-770.	1.5	20
97	A Two-Phase Non-Isothermal PEFC Model: Theory and Validation. Fuel Cells, 2004, 4, 365-377.	1.5	52
98	Reduced Two-Phase Model for Analysis of the Anode of a DMFC. Journal of the Electrochemical Society, 2004, 151, A2157.	1.3	55
99	Reduced Two-Dimensional One-Phase Model for Analysis of the Anode of a DMFC. Journal of the Electrochemical Society, 2003, 150, A1368.	1.3	64
100	Mathematical Modeling of Hydrogels for Microfluidic Flow Control. Advanced Materials Research, 0, 74, 33-36.	0.3	5
101	Computational Study of Thermal, Water and Gas Management in PEM Fuel Cell Stacks. , 0, , .		0