David A Howey

List of Publications by Year
in descending order

117 papers	6,719 citations	94433 37 h-index	91884 69 g-index
121 all docs	121 docs citations	121 times ranked	5215 citing authors

#	Article	IF	Citations
1	Automated Feature Extraction and Selection for Data-Driven Models of Rapid Battery Capacity Fade and End of Life. IEEE Transactions on Industrial Informatics, 2022, 18, 2965-2973.	11.3	63
2	Anisotropic Thermal Characterisation of Large‐Format Lithium‐Ion Pouch Cells**. Batteries and Supercaps, 2022, 5, .	4.7	7
3	Review of parameterisation and a novel database (LiionDB) for continuum Li-ion battery models. Progress in Energy, 2022, 4, 032004.	10.9	35
4	Review—"Knees" in Lithium-Ion Battery Aging Trajectories. Journal of the Electrochemical Society, 2022, 169, 060517.	2.9	122
5	Multiscale coupling of surface temperature with solid diffusion in large lithium-ion pouch cells. , 2022, 1, .		11
6	Entropy Hysteresis during Lithiation/Delithiation of NCA/Gr-Si Battery Subjected to Accelerated Calendar Ageing and Cycle Ageing. ECS Meeting Abstracts, 2022, MA2022-01, 528-528.	0.0	0
7	Online capacity estimation of lithium-ion batteries with deep long short-term memory networks. Journal of Power Sources, 2021, 482, 228863.	7.8	180
8	Data-Driven Energy Management System With Gaussian Process Forecasting and MPC for Interconnected Microgrids. IEEE Transactions on Sustainable Energy, 2021, 12, 695-704.	8.8	33
9	Unlocking extra value from grid batteries using advanced models. Journal of Power Sources, 2021, 487, 229355.	7.8	35
10	Thermal Characterization of Large-Format Li-Ion Pouch Cells with Transient Cooling and Lock-in Thermography. ECS Meeting Abstracts, 2021, MA2021-01, 177-177.	0.0	0
11	Detection and Isolation of Small Faults in Lithium-Ion Batteries via the Asymptotic Local Approach. , 2021, , .		1
12	The challenge and opportunity of battery lifetime prediction from field data. Joule, 2021, 5, 1934-1955.	24.0	142
13	Estimation of Li‐Ion Degradation Test Sample Sizes Required to Understand Cell‐to‐Cell Variability**. Batteries and Supercaps, 2021, 4, 1821-1829.	4.7	23
14	One-shot battery degradation trajectory prediction with deep learning. Journal of Power Sources, 2021, 506, 230024.	7.8	89
15	A Minimal Information Set To Enable Verifiable Theoretical Battery Research. ACS Energy Letters, 2021, 6, 3831-3835.	17.4	19
16	Predicting battery end of life from solar off-grid system field data using machine learning. Joule, 2021, 5, 3204-3220.	24.0	51
17	A Feedback Interpretation of the Doyle–Fuller–Newman Lithium-Ion Battery Model. IEEE Transactions on Control Systems Technology, 2020, 28, 1284-1295.	5.2	11
18	Battery warm-up methodologies at subzero temperatures for automotive applications: Recent advances and perspectives. Progress in Energy and Combustion Science, 2020, 77, 100806.	31.2	218

#	Article	IF	Citations
19	Guest Editorial: Special Section on Advanced Informatics for Energy Storage Systems in Electrified Vehicles and Smart Grids. IEEE Transactions on Industrial Informatics, 2020, 16, 3330-3334.	11.3	1
20	Investigation of Path‚ÄîDependent Degradation in Lithium‚ÄîIon Batteries**. Batteries and Supercaps, 2020, 3, 1377-1385.	4.7	77
21	Free Radicals: Making a Case for Battery Modeling. Electrochemical Society Interface, 2020, 29, 30-34.	0.4	16
22	Fostering a Sustainable Community in Batteries. ACS Energy Letters, 2020, 5, 2361-2366.	17.4	9
23	Bayesian Parameter Estimation Applied to the Li-ion Battery Single Particle Model with Electrolyte Dynamics. IFAC-PapersOnLine, 2020, 53, 12497-12504.	0.9	10
24	Identifiability and Parameter Estimation of the Single Particle Lithium-Ion Battery Model. IEEE Transactions on Control Systems Technology, 2019, 27, 1862-1877.	5.2	90
25	Smart and Hybrid Balancing System: Design, Modeling, and Experimental Demonstration. IEEE Transactions on Vehicular Technology, 2019, 68, 11449-11461.	6.3	16
26	Faster Lead-Acid Battery Simulations from Porous-Electrode Theory: Part I. Physical Model. Journal of the Electrochemical Society, 2019, 166, A2363-A2371.	2.9	16
27	Faster Lead-Acid Battery Simulations from Porous-Electrode Theory: Part II. Asymptotic Analysis. Journal of the Electrochemical Society, 2019, 166, A2372-A2382.	2.9	16
28	Review and Performance Comparison of Mechanical-Chemical Degradation Models for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2019, 166, A3189-A3200.	2.9	238
29	Battery health prediction under generalized conditions using a Gaussian process transition model. Journal of Energy Storage, 2019, 23, 320-328.	8.1	133
30	Ageing and Efficiency Aware Battery Dispatch for Arbitrage Markets Using Mixed Integer Linear Programming. Energies, 2019, 12, 999.	3.1	29
31	Tools for Battery Health Diagnostics and Prediction. Electrochemical Society Interface, 2019, 28, 55-56.	0.4	12
32	Adaptive Observer for Charge-State and Crossover Estimation in Disproportionation Redox Flow Batteries undergoing Self-Discharge. , 2019, , .		4
33	Augmented State Observer for Simultaneous Estimation of Charge State and Crossover in Self-Discharging Disproportionation Redox Flow Batteries. , 2019, , .		1
34	Limitations in Energy Management Systems: A Case Study for Resilient Interconnected Microgrids. IEEE Transactions on Smart Grid, 2019, 10, 5675-5685.	9.0	22
35	Gaussian Process Regression for <italic>In Situ</italic> Capacity Estimation of Lithium-Ion Batteries. IEEE Transactions on Industrial Informatics, 2019, 15, 127-138.	11.3	241
36	Optimal Operation of an Energy Management System Using Model Predictive Control and Gaussian Process Time-Series Modeling. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2018, 6, 1783-1795.	5.4	27

#	Article	IF	Citations
37	Improving optimal control of grid-connected lithium-ion batteries through more accurate battery and degradation modelling. Journal of Power Sources, 2018, 379, 91-102.	7.8	83
38	Completely Decentralized Active Balancing Battery Management System. IEEE Transactions on Power Electronics, 2018, 33, 729-738.	7.9	94
39	Bayesian Inference in Non-Markovian State-Space Models With Applications to Battery Fractional-Order Systems. IEEE Transactions on Control Systems Technology, 2018, 26, 497-506.	5.2	17
40	Prediction and Measurement of the Heat Transfer Coefficient in a Direct Oil-Cooled Electrical Machine With Segmented Stator. IEEE Transactions on Industrial Electronics, 2018, 65, 94-102.	7.9	36
41	Derating Strategies for Lithium-Ion Batteries in Electric Vehicles. , 2018, , .		6
42	Parameterisation of the Single Particle Model for Lithium-Ion Cells. , 2018, , .		1
43	Smart Balancing Control of a Hybrid Energy Storage System Based on a Cell-to-Cell Shared Energy Transfer Configuration. , 2018, , .		5
44	Marginal Costs of Battery System Operation in Energy Arbitrage Based on Energy Losses and Cell Degradation. , 2018, , .		8
45	Observability Analysis and State Estimation of Lithium-Ion Batteries in the Presence of Sensor Biases. IEEE Transactions on Control Systems Technology, 2017, 25, 326-333.	5.2	82
46	Identifiability of Generalized Randles Circuit Models. IEEE Transactions on Control Systems Technology, 2017, 25, 2112-2120.	5.2	48
47	Gaussian process regression for forecasting battery state of health. Journal of Power Sources, 2017, 357, 209-219.	7.8	416
48	Thermal Homogenization of Electrical Machine Windings Applying the Multiple-Scales Method. Journal of Heat Transfer, 2017, 139, .	2.1	19
49	Circuit synthesis of electrochemical supercapacitor models. Journal of Energy Storage, 2017, 10, 48-55.	8.1	28
50	Degradation diagnostics for lithium ion cells. Journal of Power Sources, 2017, 341, 373-386.	7.8	930
51	Degradation Diagnostics for Commercial Lithium-Ion Cells Tested at â�’ 10Â°C. Journal of the Electrochemical Society, 2017, 164, A2644-A2653.	2.9	29
52	Low-cost modular PV-battery microgrid emulator for testing of energy management algorithms. , 2017, , .		3
53	3D homogenisation of concentrated windings with rectangular conductors. , 2017, , .		5
54	Battery Capacity Estimation From Partial-Charging Data Using Gaussian Process Regression. , 2017, , .		0

#	ARTICLE	IF	CITATIONS
55	A hybrid vanadium redox/lithium-ion energy storage system for off-grid renewable power. , 2017, , .		3
56	Investigation of traction motor windings' insulation capacitance at switching frequencies under accelerated thermal stress. , 2017, , .		2
57	Results of Screening over 200 Pristine Lithium-Ion Cells. , 2017, , .		1
58	Breakdown resistance analysis of traction motor winding insulation under thermal ageing. , 2017, , .		7
59	Results of Screening over 200 Pristine Lithium-Ion Cells. , 2017, , .		2
60	Global Sensitivity Analysis of Battery Equivalent Circuit Model Parameters. , 2016, , .		11
61	Bidirectional current source converter: Design, control and performance evaluation. , 2016, , .		2
62	Guest Editorial Special Section on Integration of Electrochemical Energy Storage in Sustainable Energy Systems. IEEE Transactions on Sustainable Energy, 2016, 7, 1694-1694.	8.8	0
63	Improved thermal equivalent circuit element applied to an external rotor SPM machine. , 2016, , .		5
64	Electromagnetic and thermal homogenisation of an electrical machine slot. , 2016, , .		6
65	Parameter estimation of an electrochemical supercapacitor model. , 2016, , .		3
66	The Impact of Thermal Degradation on Properties of Electrical Machine Winding Insulation Material. IEEE Transactions on Industry Applications, 2016, 52, 2951-2960.	4.9	47
67	On-board monitoring of 2-D spatially-resolved temperatures in cylindrical lithium-ion batteries: Part II. State estimation via impedance-based temperature sensing. Journal of Power Sources, 2016, 327, 726-735.	7.8	37
68	Energy management of a microgrid: Compensating for the difference between the real and predicted output power of photovoltaics. , 2016, , .		6
69	On-board monitoring of 2-D spatially-resolved temperatures in cylindrical lithium-ion batteries: Part I. Low-order thermal modelling. Journal of Power Sources, 2016, 326, 377-388.	7.8	26
70	Review of multidisciplinary homogenization techniques applied to electric machines. , 2016, , .		11
71	Resolving a Discrepancy in Diffusion Potentials, with a Case Study for Li-Ion Batteries. Journal of the Electrochemical Society, 2016, 163, E223-E229.	2.9	33
72	Predicting the Temperature and Flow Distribution in a Direct Oil-Cooled Electrical Machine With Segmented Stator. IEEE Transactions on Industrial Electronics, 2016, 63, 82-91.	7.9	80

#	ARTICLE	IF	CITATIONS
73	High-Speed Peltier Calorimeter for the Calibration of High-Bandwidth Power Measurement Equipment. IEEE Transactions on Instrumentation and Measurement, 2016, 65, 155-163.	4.7	5
74	The impact of thermal degradation on electrical machine winding insulation. , 2015, , .		6
75	Novel MMC control for active balancing and minimum ripple current in series-connected battery strings. , 2015, , .		1
76	Performance Evaluation of an Extended Kalman Filter for State Estimation of a Pseudo-2D Thermal-Electrochemical Lithium-Ion Battery Model. , 2015, , .		1
77	Comparative Experimental Investigation of the Broken Bar Fault Detectability in Induction Motors. IEEE Transactions on Industry Applications, 2015, , 1-1.	4.9	24
78	Sensorless Battery Internal Temperature Estimation Using a Kalman Filter With Impedance Measurement. IEEE Transactions on Sustainable Energy, 2015, 6, 1190-1199.	8.8	105
79	Dielectric Characteristics of Electric Vehicle Traction Motor Winding Insulation under Thermal Ageing. IEEE Transactions on Industry Applications, 2015, , 1-1.	4.9	17
80	Minimally Invasive Insertion of Reference Electrodes into Commercial Lithium-Ion Pouch Cells. ECS Electrochemistry Letters, 2015, 4, A145-A147.	1.9	38
81	Comparative experimental investigation of broken bar fault detectability in induction motors. , 2015, , .		4
82	Low-order mathematical modelling of electric double layer supercapacitors using spectral methods. Journal of Power Sources, 2015, 277, 317-328.	7.8	50
83	Lithium-ion battery thermal-electrochemical model-based state estimation using orthogonal collocation and a modified extended Kalman filter. Journal of Power Sources, 2015, 296, 400-412.	7.8	196
84	Predicting the flow distribution in compact parallel flow heat exchangers. Applied Thermal Engineering, 2015, 90, 551-558.	6.0	26
85	Time-domain fitting of battery electrochemical impedance models. Journal of Power Sources, 2015, 288, 345-352.	7.8	107
86	Air-gap convection in a switched reluctance machine. , 2015, , .		17
87	Dielectric characteristics of electric vehicle traction motor winding insulation under thermal ageing. , 2015, , .		9
88	A Parametric Open Circuit Voltage Model for Lithium Ion Batteries. Journal of the Electrochemical Society, 2015, 162, A2271-A2280.	2.9	113
89	Experimental investigation of the thermal contact resistance in shrink fit assemblies with relevance to electrical machines. , 2014, , .		23
90	Modular converter system for low-cost off-grid energy storage using second life li-ion batteries. , 2014, , .		20

#	ARTICLE	IF	CITATIONS
91	Battery internal temperature estimation by combined impedance and surface temperature measurement. Journal of Power Sources, 2014, 265, 254-261.	7.8	191
92	Online Measurement of Battery Impedance Using Motor Controller Excitation. IEEE Transactions on Vehicular Technology, 2014, 63, 2557-2566.	6.3	161
93	Comparative analysis of the energy consumption and CO2 emissions of 40 electric, plug-in hybrid electric, hybrid electric and internal combustion engine vehicles. Transportation Research, Part D: Transport and Environment, 2013, 23, 12-19.	6.8	53
94	MTTE-Based traction control for directional stability on mixed-µ roads. , 2013, , .		1
95	An applied laboratory characterisation approach for electric machine insulation. , 2013, , .		8
96	Estimation of temperature dependent equivalent circuit parameters for traction-based electric machines. , 2013, , .		8
97	Advanced battery management systems using fast electrochemical modelling. , 2013, , .		16
98	A Reconfigurable PV Array Scheme Integrated Into an Electric Vehicle. , 2013, , .		6
99	Impedance measurement for advanced battery management systems. , 2013, , .		14
100	The value of a clutch mechanism in electric vehicles. , 2013, , .		1
101	Model identification and parameter estimation for LiFePO4 batteries. , 2013, , .		31
102	Fault analysis in battery module design for electric and hybrid vehicles. , 2012, , .		3
103	Thermal limitations in air-cooled axial flux in-wheel motors for urban mobility vehicles: A preliminary analysis. , 2012, , .		15
104	A challenging future for cars. Nature Climate Change, 2012, 2, 28-29.	18.8	24
105	Air-Gap Convection in Rotating Electrical Machines. IEEE Transactions on Industrial Electronics, 2012, 59, 1367-1375.	7.9	230
106	Module design and fault diagnosis in electric vehicle batteries. Journal of Power Sources, 2012, 206, 383-392.	7.8	157
107	Measurement and CFD Prediction of Heat Transfer in Air-Cooled Disc-Type Electrical Machines. IEEE Transactions on Industry Applications, 2011, 47, 1716-1723.	4.9	81
108	Off-Road Diesel Engine Transient Response Improvement by Electrically Assisted Turbocharging. , 2011, , .		13

#	Article	IF	Citations
109	Comparative measurements of the energy consumption of 51 electric, hybrid and internal combustion engine vehicles. Transportation Research, Part D: Transport and Environment, 2011, 16, 459-464.	6.8	60
110	Techno-economic and behavioural analysis of battery electric, hydrogen fuel cell and hybrid vehicles in a future sustainable road transport system in the UK. Energy Policy, 2011, 39, 1939-1950.	8.8	86
111	Design and performance of a centimetre-scale shrouded wind turbine for energy harvesting. Smart Materials and Structures, 2011, 20, 085021.	3.5	120
112	Radially resolved measurement of stator heat transfer in a rotorâ€"stator disc system. International Journal of Heat and Mass Transfer, 2010, 53, 491-501.	4.8	35
113	Comparative analysis of battery electric, hydrogen fuel cell and hybrid vehicles in a future sustainable road transport system. Energy Policy, 2010, 38, 24-29.	8.8	481
114	Prediction and measurement of heat transfer in air-cooled disc-type electrical machines. , 2010, , .		9
115	Measurement of stator heat transfer in air-cooled axial flux permanent magnet machines. , 2009, , .		29
116	Hydraulic air pumps for low-head hydropower. Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, 2009, 223, 115-125.	1.4	7
117	CM-scale air turbine and generator for energy harvesting from low-speed flows. , 2009, , .		20