

# David A Howey

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/2691714/publications.pdf>

Version: 2024-02-01

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	Degradation diagnostics for lithium ion cells. <i>Journal of Power Sources</i> , 2017, 341, 373-386.	7.8	930
2	Comparative analysis of battery electric, hydrogen fuel cell and hybrid vehicles in a future sustainable road transport system. <i>Energy Policy</i> , 2010, 38, 24-29.	8.8	481
3	Gaussian process regression for forecasting battery state of health. <i>Journal of Power Sources</i> , 2017, 357, 209-219.	7.8	416
4	Gaussian Process Regression for <i>In Situ</i> Capacity Estimation of Lithium-Ion Batteries. <i>IEEE Transactions on Industrial Informatics</i> , 2019, 15, 127-138.	11.3	241
5	Review and Performance Comparison of Mechanical-Chemical Degradation Models for Lithium-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2019, 166, A3189-A3200.	2.9	238
6	Air-Gap Convection in Rotating Electrical Machines. <i>IEEE Transactions on Industrial Electronics</i> , 2012, 59, 1367-1375.	7.9	230
7	Battery warm-up methodologies at subzero temperatures for automotive applications: Recent advances and perspectives. <i>Progress in Energy and Combustion Science</i> , 2020, 77, 100806.	31.2	218
8	Lithium-ion battery thermal-electrochemical model-based state estimation using orthogonal collocation and a modified extended Kalman filter. <i>Journal of Power Sources</i> , 2015, 296, 400-412.	7.8	196
9	Battery internal temperature estimation by combined impedance and surface temperature measurement. <i>Journal of Power Sources</i> , 2014, 265, 254-261.	7.8	191
10	Online capacity estimation of lithium-ion batteries with deep long short-term memory networks. <i>Journal of Power Sources</i> , 2021, 482, 228863.	7.8	180
11	Online Measurement of Battery Impedance Using Motor Controller Excitation. <i>IEEE Transactions on Vehicular Technology</i> , 2014, 63, 2557-2566.	6.3	161
12	Module design and fault diagnosis in electric vehicle batteries. <i>Journal of Power Sources</i> , 2012, 206, 383-392.	7.8	157
13	The challenge and opportunity of battery lifetime prediction from field data. <i>Joule</i> , 2021, 5, 1934-1955.	24.0	142
14	Battery health prediction under generalized conditions using a Gaussian process transition model. <i>Journal of Energy Storage</i> , 2019, 23, 320-328.	8.1	133
15	Review of Knees in Lithium-Ion Battery Aging Trajectories. <i>Journal of the Electrochemical Society</i> , 2022, 169, 060517.	2.9	122
16	Design and performance of a centimetre-scale shrouded wind turbine for energy harvesting. <i>Smart Materials and Structures</i> , 2011, 20, 085021.	3.5	120
17	A Parametric Open Circuit Voltage Model for Lithium Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2015, 162, A2271-A2280.	2.9	113
18	Time-domain fitting of battery electrochemical impedance models. <i>Journal of Power Sources</i> , 2015, 288, 345-352.	7.8	107

#	ARTICLE	IF	CITATIONS
19	Sensorless Battery Internal Temperature Estimation Using a Kalman Filter With Impedance Measurement. IEEE Transactions on Sustainable Energy, 2015, 6, 1190-1199.	8.8	105
20	Completely Decentralized Active Balancing Battery Management System. IEEE Transactions on Power Electronics, 2018, 33, 729-738.	7.9	94
21	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
22	One-shot battery degradation trajectory prediction with deep learning. Journal of Power Sources, 2021, 506, 230024.	7.8	89
23	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
24	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
25	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
26	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
27	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
28	Investigation of Path-Dependent Degradation in Lithium-Ion Batteries**. Batteries and Supercaps, 2020, 3, 1377-1385.	4.7	77
29	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
30	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
31	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
32	Predicting battery end of life from solar off-grid system field data using machine learning. Joule, 2021, 5, 3204-3220.	24.0	51
33	Low-order mathematical modelling of electric double layer supercapacitors using spectral methods. Journal of Power Sources, 2015, 277, 317-328.	7.8	50
34	Identifiability of Generalized Randles Circuit Models. IEEE Transactions on Control Systems Technology, 2017, 25, 2112-2120.	5.2	48
35	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
36	Minimally Invasive Insertion of Reference Electrodes into Commercial Lithium-Ion Pouch Cells. ECS Electrochemistry Letters, 2015, 4, A145-A147.	1.9	38

#	ARTICLE	IF	CITATIONS
37	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
38	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
39	Radially resolved measurement of stator heat transfer in a rotor-stator disc system. International Journal of Heat and Mass Transfer, 2010, 53, 491-501.	4.8	35
40	Unlocking extra value from grid batteries using advanced models. Journal of Power Sources, 2021, 487, 229355.	7.8	35
41	Review of parameterisation and a novel database (LionDB) for continuum Li-ion battery models. Progress in Energy, 2022, 4, 032004.	10.9	35
42	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
43	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
44	Model identification and parameter estimation for LiFePO <sub>4</sub> batteries. , 2013, , .		31
45	Measurement of stator heat transfer in air-cooled axial flux permanent magnet machines. , 2009, , .		29
46	Degradation Diagnostics for Commercial Lithium-Ion Cells Tested at ~ 10Â°C. Journal of the Electrochemical Society, 2017, 164, A2644-A2653.	2.9	29
47	Ageing and Efficiency Aware Battery Dispatch for Arbitrage Markets Using Mixed Integer Linear Programming. Energies, 2019, 12, 999.	3.1	29
48	Circuit synthesis of electrochemical supercapacitor models. Journal of Energy Storage, 2017, 10, 48-55.	8.1	28
49	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
50	Predicting the flow distribution in compact parallel flow heat exchangers. Applied Thermal Engineering, 2015, 90, 551-558.	6.0	26
51	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
52	A challenging future for cars. Nature Climate Change, 2012, 2, 28-29.	18.8	24
53	Comparative Experimental Investigation of the Broken Bar Fault Detectability in Induction Motors. IEEE Transactions on Industry Applications, 2015, , 1-1.	4.9	24
54	Experimental investigation of the thermal contact resistance in shrink fit assemblies with relevance to electrical machines. , 2014, , .		23

#	ARTICLE	IF	CITATIONS
55	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
56	Limitations in Energy Management Systems: A Case Study for Resilient Interconnected Microgrids. IEEE Transactions on Smart Grid, 2019, 10, 5675-5685.	9.0	22
57	CM-scale air turbine and generator for energy harvesting from low-speed flows. , 2009, , .		20
58	Modular converter system for low-cost off-grid energy storage using second life li-ion batteries. , 2014, , .		20
59	Thermal Homogenization of Electrical Machine Windings Applying the Multiple-Scales Method. Journal of Heat Transfer, 2017, 139, .	2.1	19
60	A Minimal Information Set To Enable Verifiable Theoretical Battery Research. ACS Energy Letters, 2021, 6, 3831-3835.	17.4	19
61	Dielectric Characteristics of Electric Vehicle Traction Motor Winding Insulation under Thermal Ageing. IEEE Transactions on Industry Applications, 2015, , 1-1.	4.9	17
62	Air-gap convection in a switched reluctance machine. , 2015, , .		17
63	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
64	Advanced battery management systems using fast electrochemical modelling. , 2013, , .		16
65	Smart and Hybrid Balancing System: Design, Modeling, and Experimental Demonstration. IEEE Transactions on Vehicular Technology, 2019, 68, 11449-11461.	6.3	16
66	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
67	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
68	Free Radicals: Making a Case for Battery Modeling. Electrochemical Society Interface, 2020, 29, 30-34.	0.4	16
69	Thermal limitations in air-cooled axial flux in-wheel motors for urban mobility vehicles: A preliminary analysis. , 2012, , .		15
70	Impedance measurement for advanced battery management systems. , 2013, , .		14
71	Off-Road Diesel Engine Transient Response Improvement by Electrically Assisted Turbocharging. , 2011, , .		13
72	Tools for Battery Health Diagnostics and Prediction. Electrochemical Society Interface, 2019, 28, 55-56.	0.4	12

#	ARTICLE	IF	CITATIONS
73	Global Sensitivity Analysis of Battery Equivalent Circuit Model Parameters. , 2016, , .		11
74	Review of multidisciplinary homogenization techniques applied to electric machines. , 2016, , .		11
75	A Feedback Interpretation of the Doyleâ€‘Fullerâ€‘Newman Lithium-Ion Battery Model. IEEE Transactions on Control Systems Technology, 2020, 28, 1284-1295.	5.2	11
76	Multiscale coupling of surface temperature with solid diffusion in large lithium-ion pouch cells. , 2022, 1, .		11
77	Bayesian Parameter Estimation Applied to the Li-ion Battery Single Particle Model with Electrolyte Dynamics. IFAC-PapersOnLine, 2020, 53, 12497-12504.	0.9	10
78	Prediction and measurement of heat transfer in air-cooled disc-type electrical machines. , 2010, , .		9
79	Dielectric characteristics of electric vehicle traction motor winding insulation under thermal ageing. , 2015, , .		9
80	Fostering a Sustainable Community in Batteries. ACS Energy Letters, 2020, 5, 2361-2366.	17.4	9
81	An applied laboratory characterisation approach for electric machine insulation. , 2013, , .		8
82	Estimation of temperature dependent equivalent circuit parameters for traction-based electric machines. , 2013, , .		8
83	Marginal Costs of Battery System Operation in Energy Arbitrage Based on Energy Losses and Cell Degradation. , 2018, , .		8
84	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
85	Breakdown resistance analysis of traction motor winding insulation under thermal ageing. , 2017, , .		7
86	Anisotropic Thermal Characterisation of Largeâ€‘Format Lithiumâ€‘ion Pouch Cells**. Batteries and Supercaps, 2022, 5, .	4.7	7
87	A Reconfigurable PV Array Scheme Integrated Into an Electric Vehicle. , 2013, , .		6
88	The impact of thermal degradation on electrical machine winding insulation. , 2015, , .		6
89	Electromagnetic and thermal homogenisation of an electrical machine slot. , 2016, , .		6
90	Energy management of a microgrid: Compensating for the difference between the real and predicted output power of photovoltaics. , 2016, , .		6

#	ARTICLE	IF	CITATIONS
91	Derating Strategies for Lithium-Ion Batteries in Electric Vehicles. , 2018, , .		6
92	Improved thermal equivalent circuit element applied to an external rotor SPM machine. , 2016, , .		5
93	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
94	3D homogenisation of concentrated windings with rectangular conductors. , 2017, , .		5
95	Smart Balancing Control of a Hybrid Energy Storage System Based on a Cell-to-Cell Shared Energy Transfer Configuration. , 2018, , .		5
96	Comparative experimental investigation of broken bar fault detectability in induction motors. , 2015, , .		4
97	Adaptive Observer for Charge-State and Crossover Estimation in Disproportionation Redox Flow Batteries undergoing Self-Discharge. , 2019, , .		4
98	Fault analysis in battery module design for electric and hybrid vehicles. , 2012, , .		3
99	Parameter estimation of an electrochemical supercapacitor model. , 2016, , .		3
100	Low-cost modular PV-battery microgrid emulator for testing of energy management algorithms. , 2017, , .		3
101	A hybrid vanadium redox/lithium-ion energy storage system for off-grid renewable power. , 2017, , .		3
102	Bidirectional current source converter: Design, control and performance evaluation. , 2016, , .		2
103	Investigation of traction motor windings' insulation capacitance at switching frequencies under accelerated thermal stress. , 2017, , .		2
104	Results of Screening over 200 Pristine Lithium-Ion Cells. , 2017, , .		2
105	MTTE-Based traction control for directional stability on mixed- $\hat{\mu}$ roads. , 2013, , .		1
106	The value of a clutch mechanism in electric vehicles. , 2013, , .		1
107	Novel MMC control for active balancing and minimum ripple current in series-connected battery strings. , 2015, , .		1
108	Performance Evaluation of an Extended Kalman Filter for State Estimation of a Pseudo-2D Thermal-Electrochemical Lithium-Ion Battery Model. , 2015, , .		1

#	ARTICLE	IF	CITATIONS
109	Results of Screening over 200 Pristine Lithium-Ion Cells. , 2017, , .		1
110	Parameterisation of the Single Particle Model for Lithium-Ion Cells. , 2018, , .		1
111	Augmented State Observer for Simultaneous Estimation of Charge State and Crossover in Self-Discharging Disproportionation Redox Flow Batteries. , 2019, , .		1
112	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
113	Detection and Isolation of Small Faults in Lithium-Ion Batteries via the Asymptotic Local Approach. , 2021, , .		1
114	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
115	Battery Capacity Estimation From Partial-Charging Data Using Gaussian Process Regression. , 2017, , .		0
116	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
117	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