Marcos E Orchard

List of Publications by Year
in descending order

107 papers	3,361 citations	201575 27 h-index	161767 54 g-index
112 all docs	112 docs citations	112 times ranked	2786 citing authors

#	Article	IF	Citations
1	A particle-filtering approach for on-line fault diagnosis and failure prognosis. Transactions of the Institute of Measurement and Control, 2009, 31, 221-246.	1.1	390
2	A Probabilistic Fault Detection Approach: Application to Bearing Fault Detection. IEEE Transactions on Industrial Electronics, 2011, 58, 2011-2018.	5.2	214
3	Machine Condition Prediction Based on Adaptive Neuroâ€“Fuzzy and High-Order Particle Filtering. IEEE Transactions on Industrial Electronics, 2011, 58, 4353-4364.	5.2	211
4	Failure Prognosis and Applicationsâ€”A Survey of Recent Literature. IEEE Transactions on Reliability, 2021, 70, 728-748.	3.5	176
5	Particle-Filtering-Based Prognosis Framework for Energy Storage Devices With a Statistical Characterization of State-of-Health Regeneration Phenomena. IEEE Transactions on Instrumentation and Measurement, 2013, 62, 364-376.	2.4	170
6	Risk Measures for Particle-Filtering-Based State-of-Charge Prognosis in Lithium-Ion Batteries. IEEE Transactions on Industrial Electronics, 2013, 60, 5260-5269.	5.2	114
7	Machine remaining useful life prediction: An integrated adaptive neuro-fuzzy and high-order particle filtering approach. Mechanical Systems and Signal Processing, 2012, 28, 597-607.	4.4	100
8	Particle-filtering-based estimation of maximum available power state in Lithium-Ion batteries. Applied Energy, 2016, 161, 349-363.	5.1	96
9	Critical Wind Turbine Components Prognostics: A Comprehensive Review. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 9306-9328.	2.4	96
10	Effect of Battery Degradation on Multi-Service Portfolios of Energy Storage. IEEE Transactions on Sustainable Energy, 2016, 7, 1718-1729.	5.9	90
11	Fuzzy modelling for the state-of-charge estimation of lead-acid batteries. Journal of Power Sources, 2015, 274, 355-366.	4.0	89
12	Particle-Filtering-Based Discharge Time Prognosis for Lithium-Ion Batteries With a Statistical Characterization of Use Profiles. IEEE Transactions on Reliability, 2015, 64, 710-720.	3.5	84
13	Advances in uncertainty representation and management for particle filtering applied to prognostics. , 2008, , .		76
14	Multi-objective optimal design of lithium-ion battery packs based on evolutionary algorithms. Journal of Power Sources, 2014, 267, 288-299.	4.0	71
15	A Particle Filtering Approach for On-Line Failure Prognosis in a Planetary Carrier Plate. International Journal of Fuzzy Logic and Intelligent Systems, 2007, 7, 221-227.	0.6	69
16	A full compensating system for general loads, based on a combination of thyristor binary compensator, and a pwm-igbt active power filter. IEEE Transactions on Industrial Electronics, 2003, 50, 982-989.	5.2	60
17	Advanced strategies to improve nitrification process in sequencing batch reactors - A review. Journal of Environmental Management, 2018, 218, 154-164.	3.8	60
18	A particle filtering-based framework for real-time fault diagnosis and failure prognosis in a turbine engine. , 2007, , .		59

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19	A fractal time thermal model for predicting the surface temperature of air-cooled cylindrical Li-ion cells based on experimental measurements. Journal of Power Sources, 2016, 306, 636-645.	4.0	58
20	A Particle Filtering Framework for Failure Prognosis. , 2005, , 883.		52
21	Particle-filtering-based failure prognosis via sigma-points: Application to Lithium-Ion battery State-of-Charge monitoring. Mechanical Systems and Signal Processing, 2017, 85, 827-848.	4.4	52
22	Application of Blind Deconvolution Denoising in Failure Prognosis. IEEE Transactions on Instrumentation and Measurement, 2009, 58, 303-310.	2.4	50
23	An integrated architecture for fault diagnosis and failure prognosis of complex engineering systems. Expert Systems With Applications, 2012, 39, 9031-9040.	4.4	41
24	Improved Remaining Useful Life Estimation of Wind Turbine Drivetrain Bearings Under Varying Operating Conditions. IEEE Transactions on Industrial Informatics, 2021, 17, 1742-1752.	7.2	40
25	Improvements of Energy-Efficient Techniques in WSNs: A MAC-Protocol Approach. IEEE Communications Surveys and Tutorials, 2019, 21, 1188-1208.	24.8	39
26	Rolling element bearing feature extraction and anomaly detection based on vibration monitoring. , 2008, , .		37
27	Risk-Sensitive Particle-Filtering-based Prognosis Framework for Estimation of Remaining Useful Life in Energy Storage Devices<. Studies in Informatics and Control, 2010, 19, .	0.6	35
28	Battery health management for small-size rotary-wing electric unmanned aerial vehicles: An efficient approach for constrained computing platforms. Reliability Engineering and System Safety, 2019, 182, 166-178.	5.1	34
29	A Modular Fault Diagnosis and Prognosis Method for Hydro-Control Valve System Based on Redundancy in Multisensor Data Information. IEEE Transactions on Reliability, 2019, 68, 330-341.	3.5	33
30	Information-Theoretic Measures and Sequential Monte Carlo Methods for Detection of Regeneration Phenomena in the Degradation of Lithium-Ion Battery Cells. IEEE Transactions on Reliability, 2015, 64, 701-709.	3.5	31
31	A novel blind deconvolution de-noising scheme in failure prognosis. Transactions of the Institute of Measurement and Control, 2010, 32, 3-30.	1.1	29
32	Local models for soft-sensors in a rougher flotation bank. Minerals Engineering, 2003, 16, 441-453.	1.8	27
33	Thermal Modeling Approaches for a LiCoO2 Lithium-ion Batteryâ€"A Comparative Study with Experimental Validation. Batteries, 2020, 6, 40.	2.1	27
34	On-line estimation of the aerobic phase length for partial nitrification processes in SBR based on features extraction and SVM classification. Chemical Engineering Journal, 2018, 331, 114-123.	6.6	26
35	An integrated approach to helicopter planetary gear fault diagnosis and failure prognosis. IEEE Autotestcon Proceedings, 2007, , .	0.0	25
36	Orbits for 18 Visual Binaries and Two Double-line Spectroscopic Binaries Observed with HRCAM on the CTIO SOAR 4 m Telescope, Using a New Bayesian Orbit Code Based on Markov Chain Monte Carlo[*]. Astronomical Journal, 2017, 154, 187.	1.9	24

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37	An Intelligent Diagnostic/Prognostic Framework for Automotive Electrical Systems. Intelligent Vehicles Symposium, 2009 IEEE, 2007, , .	0.0	22
38	A Comprehensive Review on Small Satellite Microgrids. IEEE Transactions on Power Electronics, 2022, 37, 12741-12762.	5.4	22
39	Control of a grinding mill circuit using fractional order controllers. Journal of Process Control, 2017, 53, 80-94.	1.7	21
40	Anomaly detection: A robust approach to detection of unanticipated faults. , 2008, , .		20
41	Novel metrics and methodologies for the verification and validation of prognostic algorithms. , 2011, , .		18
42	A Bayesian approach for fatigue damage diagnosis and prognosis of wind turbine blades. Mechanical Systems and Signal Processing, 2022, 174, 109067.	4.4	18
43	New opportunities offered by Cubesats for space research in Latin America: The SUCHAI project case. Advances in Space Research, 2016, 58, 2134-2147.	1.2	15
44	Metrics for Evaluating Feature-Based Mapping Performance. IEEE Transactions on Robotics, 2017, 33, 198-213.	7.3	15
45	Improving battery voltage prediction in an electric bicycle using altitude measurements and kernel adaptive filters. Pattern Recognition Letters, 2018, 105, 200-206.	2.6	15
46	Crime prediction using patterns and context. , 2017, , .		14
47	Modelling the degradation process of lithium-ion batteries when operating at erratic state-of-charge swing ranges. , 2017, , .		13
48	A verification framework with application to a propulsion system. Expert Systems With Applications, 2014, 41, 5669-5679.	4.4	12
49	Characterization of the degradation process of lithium-ion batteries when discharged at different current rates. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2018, 232, 1075-1089.	0.7	12
50	Particle-Filtering-Based Prognostics for the State of Maximum Power Available in Lithium-Ion Batteries at Electromobility Applications. IEEE Transactions on Vehicular Technology, 2020, 69, 7187-7200.	3.9	12
51	Solving in real-time the dynamic and stochastic shortest path problem for electric vehicles by a prognostic decision making strategy. Expert Systems With Applications, 2021, 184, 115489.	4.4	12
52	Anomaly detection in power generation plants using similarity-based modeling and multivariate analysis. , 2011, , .		10
53	An Optimized Impedance Model for the Estimation of the State-of-Charge of a Li-Ion Cell: The Case of a LiFePO4 (ANR26650). Energies, 2019, 12, 681.	1.6	9
54	A method for the reduction of the computational cost associated with the implementation of particle-filter-based failure prognostic algorithms. Mechanical Systems and Signal Processing, 2020, 135, 106421.	4.4	9

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55	Theoretically Rigorous Approach to Failure Prognosis. Proceedings of the Annual Conference of the Prognostics and Health Management Society Prognostics and Health Management Society Conference, 2018, 10, .	0.2	9
56	New Condition-Based Monitoring and Fusion Approaches With a Bounded Uncertainty for Bearing Lifetime Prediction. IEEE Sensors Journal, 2022, 22, 9078-9086.	2.4	9
57	Chi-squared smoothed adaptive particle-filtering based prognosis. Mechanical Systems and Signal Processing, 2017, 82, 148-165.	4.4	8
58	SoC control for improved battery life and throughput performance under VSTâ€TDMA. Electronics Letters, 2017, 53, 183-185.	0.5	8
59	State-of-charge estimation to improve energy conservation and extend battery life of wireless sensor network nodes. , 2017, , .		8
60	Consumption modeling based on Markov chains and Bayesian networks for a demand side management design of isolated microgrids. International Journal of Energy Research, 2017, 41, 365-376.	2.2	8
61	Bayesian Inference in Single-line Spectroscopic Binaries with a Visual Orbit. Astronomical Journal, 2022, 163, 220.	1.9	8
62	Conditional predictive Bayesian CramÃ©r-Rao Lower Bounds for prognostic algorithms design. Applied Soft Computing Journal, 2018, 72, 647-665.	4.1	7
63	Online joint estimation and prediction for system-level prognostics under component interactions and mission profile effects. ISA Transactions, 2021, 113, 52-63.	3.1	7
64	Degradation Modeling and Uncertainty Quantification for System-Level Prognostics. IEEE Systems Journal, 2021, 15, 1628-1639.	2.9	7
65	Computation of time probability distributions for the occurrence of uncertain future events. Mechanical Systems and Signal Processing, 2021, 150, 107332.	4.4	7
66	Lithium-ion battery State-of-Latent-Energy (SoLE): A fresh new look to the problem of energy autonomy prognostics in storage systems. Journal of Energy Storage, 2021, 40, 102735.	3.9	7
67	Fall Detection and Damage Reduction in Biped Humanoid Robots. International Journal of Humanoid Robotics, 2015, 12, 1550001.	0.6	6
68	Performance Analysis of the Least-Squares Estimator in Astrometry. Publications of the Astronomical Society of the Pacific, 2015, 127, 1166-1182.	1.0	6
69	The Impact of Lithium-Ion Battery Polarising Impedance Modelling on End-of-Discharge Prognosis Accuracy. IFAC-PapersOnLine, 2018, 51, 214-220.	0.5	6
70	Visual Binary Stars with Partially Missing Data: Introducing Multiple Imputation in Astrometric Analysis. Publications of the Astronomical Society of the Pacific, 2019, 131, 084502.	1.0	6
71	Lithium-ion battery pack arrays for lifespan enhancement. , 2017, , .		5
72	Lithium-ion Battery Degradation Assessment in Microgrids. , 2018, , .		5

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73	Optimality of the maximum likelihood estimator in astrometry. Astronomy and Astrophysics, 2018, 616, A95.	2.1	5
74	Extending the integrateâ€andâ€fire model to account for metabolic dependencies. European Journal of Neuroscience, 2021, 54, 5249-5260.	1.2	5
75	Data-Driven Representations for Testing Independence: Modeling, Analysis and Connection With Mutual Information Estimation. IEEE Transactions on Signal Processing, 2022, 70, 158-173.	3.2	5
76	A .NET framework for an integrated fault diagnosis and failure prognosis architecture. , 2010, , .		4
77	Residual-based scheme for detection and characterization of faults in lithium-ion batteries. IFAC-PapersOnLine, 2018, 51, 200-207.	0.5	4
78	Fractional order controllers for throughput and product quality control in a grinding mill circuit. European Journal of Control, 2020, 51, 122-134.	1.6	4
79	Estimation of financial indices volatility using a model with time-varying parameters. , 2014, , .		3
80	Sentiment analysis and prediction of events in TWITTER. , 2015, , .		3
81	Harvest Stage Recognition and Potential Fruit Damage Indicator for Berries Based on Hidden Markov Models and the Viterbi Algorithm. Sensors, 2019, 19, 4421.	2.1	3
82	Uncertainty Quantification in System-level Prognostics: Application to Tennessee Eastman Process. , 2019, , .		3
83	Multi-Objective Finite-Time Control for the Interlinking Converter on Hybrid AC/DC Microgrids. IEEE Access, 2021, 9, 116183-116193.	2.6	3
84	Bayes-based Orbital Elements Estimation in Triple Hierarchical Stellar Systems* â€. Publications of the Astronomical Society of the Pacific, 2021, 133, 074501.	1.0	3
85	Advances in Uncertainty Representation and Management for Particle Filtering Applied to Prognostics. , 2009, , 23-35.		3
86	Simulation-based Design and Validation of Automated Contingency Management for Propulsion Systems. , 2007, , .		2
87	Fault progression modeling: An application to bearing diagnosis and prognosis. , 2010, , .		2
88	Analysis of the Bayesian CramÃ©r-Rao lower bound in astrometry. Astronomy and Astrophysics, 2016, 594, A111.	2.1	2
89	Prognostic Algorithms Design Based on Predictive Bayesian CramÃ©r-Rao Lower Bounds * *This work has been partially supported by FONDECYT Chile Grant Nr. 1170044, CONICYT PIA Project ACT1405, and the Advanced Center for Electrical and Electronic Engineering, Basal Project FB0008.. IFAC-PapersOnLine, 2017, 50, 4719-4726.	0.5	2
90	Sleep Time Adjustment through Performance Indicators of a Lithium-Ion Battery. , 2019, , .		2

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91	Simultaneous inference of Lithium-Ion battery polarising impedance surface and capacity degradation using a Hybrid Neural Adaptive State Space Model. Journal of Energy Storage, 2021, 36, 102370.	3.9	2
92	Adaptive passivity-based control extended for unknown control direction. ISA Transactions, 2022, 122, 398-408.	3.1	2
93	Study of Financial Systems Volatility Using Suboptimal Estimation Algorithms. Studies in Informatics and Control, 2012, 21, .	0.6	2
94	Comparison of different models of future operating condition in Particle-Filter-based Prognostic Algorithms. IFAC-PapersOnLine, 2020, 53, 10336-10341.	0.5	2
95	Time-of-Failure Probability Mass Function Computation Using the First-Passage-Time Method Applied to Particle Filter-based Prognostics. Proceedings of the Annual Conference of the Prognostics and Health Management Society Prognostics and Health Management Society Conference, 2020, 12, 11.	0.2	2
96	Unifying Criteria for Calculating the Levelized Cost of Driving in Electro-Mobility Applications. World Electric Vehicle Journal, 2022, 13, 119.	1.6	2
97	Enhancing throughput performance under an energy efficient multiplexing access scheme using time-of-failure prognosis. , 2013, , .		1
98	Early online detection of high volatility clusters using Particle Filters. Expert Systems With Applications, 2016, 54, 228-240.	4.4	1
99	On Prognostic Algorithm Design and Fundamental Precision Limits in Long-Term Prediction. , 2019, , 355-379.		1
100	Fresh new look for system-level prognostics. International Journal of Prognostics and Health Management, 2021, 12, .	0.6	1
101	Inequality Indices Based on the Notion of Shannon-Entropy for the Assessments of Industrial Fleets. Lecture Notes in Mechanical Engineering, 2016, , 189-196.	0.3	1
102	Cost-Benefit Analysis of Maintenance Plans: Case Study of the Power System of a Large Industrial Facility. IEEE Transactions on Power Systems, 2023, 38, 2046-2057.	4.6	1
103	Damage Location by Maximum Entropy Method on a Civil Structure. Conference Proceedings of the Society for Experimental Mechanics, 2016, , 105-115.	0.3	0
104	Performance assessment of sequential Bayesian processors based on probably approximately correct computation and information theory. Electronics Letters, 2018, 54, 357-359.	0.5	0
105	Theoretical Advances in Lebesgue-Sampling-Based Prognostic Algorithms. , 2019, , .		0
106	Volatility Estimation of Financial Returns Using Risk-Sensitive Particle Filters. Studies in Informatics and Control, 2013, 22, .	0.6	0
107	Remaining Useful Life of Lithium-ion Batteries as a Function of the Joule Effect. , 2020, , .		0