Tomas McKelvey

List of Publications by Year
in descending order

145 papers	2,475 citations	430874 18 h-index	243625 44 g-index
145 all docs	145 docs citations	145 times ranked	1616 citing authors

#	Article	IF	Citations
1	Subspace-based multivariable system identification from frequency response data. IEEE Transactions on Automatic Control, 1996, 41, 960-979.	5.7	461
2	Microwave-Based Stroke Diagnosis Making Global Prehospital Thrombolytic Treatment Possible. IEEE Transactions on Biomedical Engineering, 2014, 61, 2806-2817.	4.2	289
3	A first-order statistical method for channel estimation. IEEE Signal Processing Letters, 2003, 10, 57-60.	3.6	166
4	Subspace identification from closed loop data. Signal Processing, 1996, 52, 209-215.	3.7	145
5	MA estimation in polynomial time. IEEE Transactions on Signal Processing, 2000, 48, 1999-2012.	5.3	83
6	Subspace-based identification of infinite-dimensional multivariable systems from frequency-response data. Automatica, 1996, 32, 885-902.	5.0	62
7	An optimal frequency range for assessing the pressure reactivity index in patients with traumatic brain injury. Journal of Clinical Monitoring and Computing, 2015, 29, 97-105.	1.6	61
8	Frequency domain identification methods. Circuits, Systems, and Signal Processing, 2002, 21, 39-55.	2.0	56
9	Microwave technology for detecting traumatic intracranial bleedings: tests on phantom of subdural hematoma and numerical simulations. Medical and Biological Engineering and Computing, 2017, 55, 1177-1188.	2.8	54
10	Data driven local coordinates for multivariable linear systems and their application to system identification. Automatica, 2004, 40, 1629-1635.	5.0	53
11	Non-parametric frequency response estimation using a local rational model. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 49-54.	0.4	49
12	Vector ARMA estimation: a reliable subspace approach. IEEE Transactions on Signal Processing, 2000, 48, 2092-2104.	5.3	47
13	Simultaneous information and power transfer under a non-linear RF energy harvesting model. , 2017, , .		46
14	Instantaneous Crankshaft Torque Measurements - Modeling and Validation. , 2003, , .		42
15	Subspace-Based System Identification for an Acoustic Enclosure. Journal of Vibration and Acoustics, Transactions of the ASME, 2002, 124, 414-419.	1.6	36
16	Deep-Learning-Based Harmonics and Interharmonics Predetection Designed for Compensating Significantly Time-Varying EAF Currents. IEEE Transactions on Industry Applications, 2020, 56, 3250-3260.	4.9	31
17	Tonic-clonic seizure detection using accelerometry-based wearable sensors: A prospective, video-EEG controlled study. Seizure: the Journal of the British Epilepsy Association, 2019, 65, 48-54.	2.0	27
18	On adaptive smoothing of empirical transfer function estimates. Control Engineering Practice, 2000, 8, 1309-1315.	5.5	25

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19	An analysis of the parametrization by data driven local coordinates for multivariable linear systems. Automatica, 2004, 40, 789-803.	5.0	25
20	Model-based diesel Engine Management System optimization for transient engine operation. Control Engineering Practice, 2014, 29, 103-114.	5.5	21
21	Driver-Gaze Zone Estimation Using Bayesian Filtering and Gaussian Processes. IEEE Transactions on Intelligent Transportation Systems, 2016, 17, 2739-2750.	8.0	21
22	The effects of ventricular drainage on the intracranial pressure signal and the pressure reactivity index. Journal of Clinical Monitoring and Computing, 2017, 31, 469-478.	1.6	21
23	A system inversion approach on a crankshaft of an internal combustion engine. , 2004, , .		18
24	Trends in systems and signals. Annual Reviews in Control, 2006, 30, 5-17.	7.9	18
25	Experiment design for improved frequency domain subspace system identification of continuous-time systems. IFAC-PapersOnLine, 2015, 48, 886-891.	0.9	18
26	An efficient frequency domain state-space identification algorithm. , 0, , .		16
27	Using combustion net torque for estimation of combustion properties from measurements of crankshaft torque. Control Engineering Practice, 2014, 26, 233-244.	5.5	16
28	Improving Linear State-Space Models with Additional Iterations. IFAC-PapersOnLine, 2018, 51, 341-346.	0.9	16
29	Low order sampled data H/sub /spl infin// control using the delta operator and LMIs. , 2004, , .		15
30	Constrained state–space system identification with application to structural dynamics. Automatica, 2006, 42, 1539-1546.	5.0	15
31	A Compact UWB Indoor and Through-Wall Radar with Precise Ranging and Tracking. International Journal of Antennas and Propagation, 2012, 2012, 1-11.	1.2	15
32	Partial Discharge Classification in Power Electronics Applications using Machine Learning. , 2019, , .		15
33	Detection of breathing and heartbeat by using a simple UWB radar system. , 2014, , .		14
34	Microwave Measurement System for Detection of Dielectric Objects in Powders. IEEE Transactions on Microwave Theory and Techniques, 2016, 64, 3851-3863.	4.6	14
35	Predictive Energy Management of Hybrid Electric Vehicles via Multi-Layer Control. IEEE Transactions on Vehicular Technology, 2021, 70, 6485-6499.	6.3	14
36	A Structure and Calibration Method for Data-Driven Modeling of NOX and Soot Emissions from a Diesel Engine. , 2012, , .		13

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37	Data-driven emission model structures for diesel engine management system development. International Journal of Engine Research, 2014, 15, 906-917.	2.3	13
38	Minimum variance bounds for overparameterized models. IEEE Transactions on Automatic Control, 1996, 41, 719-720.	5.7	12
39	Vibration data analysis for a commercial aircraft. Automatica, 1996, 32, 1689-1700.	5.0	12
40	Frequency Domain Maximum Likelihood Identification 1. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 1637-1642.	0.4	12
41	Classification of microwave scattering data based on a subspace distance with application to detection of bleeding stroke. , 2009, , .		12
42	A classification scheme for &#x2018;high-dimensional-small-sample-size&#x2019; data using soda and ridge-SVM with microwave measurement applications. , 2013, , .		12
43	Closed-loop diesel engine combustion phasing control based on crankshaft torque measurements. Control Engineering Practice, 2014, 33, 115-124.	5.5	12
44	Estimation of resonant frequencies and quality factors from time domain computations. Journal of Computational Physics, 2003, 192, 523-545.	3.8	11
45	ESTIMATION OF PHASE CONSTRAINED MIMO TRANSFER FUNCTIONS WITH APPLICATION TO FLEXIBLE STRUCTURES WITH MIXED COLLOCATED AND NON-COLLOCATED ACTUATORS AND SENSORS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 219-224.	0.4	11
46	Frequency Domain System Identification With Instrumental Variable Based Subspace Algorithm. , 1997, , .		11
47	A Diesel Engine Model for Dynamic Drive Cycle Simulations. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 11833-11838.	0.4	10
48	The torque ratio concept for combustion monitoring of internal combustion engines. Control Engineering Practice, 2012, 20, 561-568.	5.5	10
49	Automated Engine Calibration of Hybrid Electric Vehicles. IEEE Transactions on Control Systems Technology, 2015, 23, 1063-1074.	5.2	10
50	Microwave resonator sensor for detection of dielectric objects in metal pipes. , 2015, , .		10
51	Subspace based system identification with periodic excitation signals. Systems and Control Letters, 1995, 26, 349-361.	2.3	9
52	Transmission Strategies for Remote Estimation With an Energy Harvesting Sensor. IEEE Transactions on Wireless Communications, 2017, 16, 4390-4403.	9.2	9
53	Parameterized Diesel Engine Heat Release Modeling for Combustion Phasing Analysis. , 2009, , .		8
54	Cerebrovascular Mechanical Properties and Slow Waves of Intracranial Pressure in TBI Patients. IEEE Transactions on Biomedical Engineering, 2011, 58, 2072-2082.	4.2	8

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55	A robust subspace classification scheme based on empirical intersection removal and sparse approximation. Integrated Computer-Aided Engineering, 2015, 22, 59-69.	4.6	8
56	Understanding Support Vector Machines with Polynomial Kernels. , 2019, , .		8
57	Design and Comparative Analyses of Optimal Feedback Controllers for Hybrid Electric Vehicles. IEEE Transactions on Vehicular Technology, 2021, 70, 2979-2993.	6.3	8
58	Deep Learning Based Predictive Compensation of Flicker, Voltage Dips, Harmonics and Interharmonics in Electric Arc Furnaces. IEEE Transactions on Industry Applications, 2022, 58, 4214-4224.	4.9	8
59	A least squares interpretation of sub-space methods for system identification. , 0, , .		7
60	Diesel Engine Emission Model Transient Cycle Validation. IFAC-PapersOnLine, 2016, 49, 1-7.	0.9	7
61	CLAss-Specific Subspace Kernel Representations and Adaptive Margin Slack Minimization for Large Scale Classification. IEEE Transactions on Neural Networks and Learning Systems, 2018, 29, 440-456.	11.3	7
62	SYSTEM IDENTIFICATION OF THE CRANKSHAFT DYNAMICS IN A 5 CYLINDER INTERNAL COMBUSTION ENGINE. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 440-445.	0.4	6
63	Harmonics tracking of intracranial and arterial blood pressure waves. , 2008, 2008, 2644-7.		6
64	Modeling, Identification, and Separation of Crankshaft Dynamics in a Light-Duty Diesel Engine. , 2009, , .		6
65	A multidimensional signal processing approach for classification of microwave measurements with application to stroke type diagnosis. , 2011, 2011, 6465-9.		6
66	Global monitoring of fluidized-bed processes by means of microwave cavity resonances. Measurement: Journal of the International Measurement Confederation, 2014, 55, 520-535.	5.0	6
67	Compressed Sensing for the Detection and Positioning of Dielectric Objects Inside Metal Enclosures by Means of Microwave Measurements. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 462-476.	4.6	6
68	MULTI-OBJECTIVE OPTIMIZATION OF WIRELESS POWER TRANSFER SYSTEMS WITH MAGNETICALLY COUPLED RESONATORS AND NONLINEAR LOADS. Progress in Electromagnetics Research B, 2019, 83, 25-42.	1.0	6
69	State-space system identification with physically motivated residual states and throughput rank constraint. Mechanical Systems and Signal Processing, 2020, 142, 106579.	8.0	6
70	Classification of Partial Discharges Originating From Multilevel PWM Using Machine Learning. IEEE Transactions on Dielectrics and Electrical Insulation, 2022, 29, 287-294.	2.9	6
71	Discussion: â€˜On the Use of Minimal Parametrisations in Multivariable ARMAX Identificationâ€™ by R. P. Guidorzi. European Journal of Control, 1998, 4, 93-98.	2.6	5
72	B-splines for Diesel Engine Emission Modeling. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 416-423.	0.4	5

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73	Optical flow estimation on image sequences with differently exposed frames. Optical Engineering, 2015, 54, 093103.	1.0	5
74	Array response interpolation and DOA estimation with array response decomposition. Signal Processing, 2016, 125, 97-109.	3.7	5
75	Remote Estimation of Correlated Sources Under Energy Harvesting Constraints. IEEE Transactions on Wireless Communications, 2018, 17, 5300-5313.	9.2	5
76	Parameterized Diesel Engine Combustion Modeling for Torque Based Combustion Property Estimation. , 2012, , .		4
77	A Diesel Engine Management System Strategy for Transient Engine Operation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 1-6.	0.4	4
78	Detection of Combustion Properties in a Diesel Engine using Block Mounted Accelerometers. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 11866-11871.	0.4	4
79	On robust optical flow estimation on image sequences with differently exposed frames using primal–dual optimization. Image and Vision Computing, 2017, 57, 78-88.	4.5	4
80	Matched filter for microwave-based detection of dielectric objects in powders. , 2017, , .		4
81	Cavity resonator sensor and temporal signals analysis for object detection in granular flows. Measurement: Journal of the International Measurement Confederation, 2020, 150, 107027.	5.0	4
82	A Parametric Approach to Space-Time Adaptive Processing in Bistatic Radar Systems. IEEE Transactions on Aerospace and Electronic Systems, 2022, 58, 1149-1160.	4.7	4
83	A subspace approach for approximation of rational matrix functions to sampled data. , 0, , .		3
84	Evaluation of a Closed Loop Spark Advance Controller Based on a Torque Sensor. SAE International Journal of Passenger Cars - Electronic and Electrical Systems, 2008, 1, 365-371.	0.3	3
85	Estimation of Diesel Engine Combustion Phasing from Crankshaft Torque Data. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 1-6.	0.4	3
86	Estimation of Combustion Phasing Using the Combustion Net Torque Method*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 11827-11832.	0.4	3
87	A Study on Engine Health Monitoring in the Frequency Domain. Journal of Engineering for Gas Turbines and Power, 2011, 133, .	1.1	3
88	Ridge-adjusted Slack Variable Optimization for supervised classification. , 2013, , .		3
89	Microwave technology for localization of traumatic intracranial bleedings&#x2014;A numerical simulation study. , 2013, 2013, 1948-51.		3
90	Array calibration using array response interpolation and parametric modeling. , 2015, , .		3

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91	Mitigation of Ground Clutter in Airborne Bistatic Radar Systems. , 2020, , .		3
92	A Control-Oriented Spatially Resolved Thermal Model of the Three-Way-Catalyst. , 0, , .		3
93	Frequency interpretation of tidal peak in intracranial pressure wave. , 2008, 2008, 2689-92.		2
94	Pulse wave velocity in patients with severe head injury a pilot study. , 2010, 2010, 5277-81.		2
95	Plateau waves and baroreflex sensitivity in patients with head injury: A case study. , 2011, 2011, 3792-5.		2
96	Super-Resolution reconstruction of High Dynamic Range images with perceptual weighting of errors. , 2013, , .		2
97	Wireless information and power transfer in MIMO channels under Rician fading. , 2015, , .		2
98	Robust Gain-Scheduled PSD Controller Design from Educational Perspective**This work has been sponsored by Chalmers Area of Advance Transportation, by Vinnova under the FFI project MultiMEC and by Vinnova under FFI project VCloud II.. IFAC-PapersOnLine, 2016, 49, 354-359.	0.9	2
99	Performance bounds for remote estimation with an energy harvesting sensor. , 2016, , .		2
100	Microwave measurement system for dispersive dielectric properties of densely packed pellets. Measurement: Journal of the International Measurement Confederation, 2017, 106, 179-189.	5.0	2
101	Robust discrete-time gain-scheduled guaranteed cost PSD controller design. , 2017, , .		2
102	A Computationally Fast Iterative Dynamic Programming Method for Optimal Control of Loosely Coupled Dynamical Systems with Different Time Scales * *This work has been performed within the Combustion Engine Research Center at Chalmers (CERC) with financial support from the Swedish Energy Agency.. IFAC-PapersOnLine, 2017, 50, 5953-5960.	0.9	2
103	Physically motivated rank constraint on direct throughput of state-space models. IFAC-PapersOnLine, 2018, 51, 329-334.	0.9	2
104	Supervisory Controller for a Light Duty Diesel Engine with an LNT-SCR After-Treatment System. , 0, , .		2
105	An Improved Method for Parametric Spectral Estimation. , 2019, , .		2
106	Auto-calibration of Uniform Linear Array Antennas. , 2019, , .		2
107	Undiscounted control policy generation for continuous-valued optimal control by approximate dynamic programming. International Journal of Control, 0, , 1-11.	1.9	2
108	System Identification and Tuning of Wireless Power Transfer Systems with Multiple Magnetically Coupled Resonators. Transactions on Environment and Electrical Engineering, 2017, 2, 86.	0.5	2

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109	Neural networks applied to optimal flight control. Annual Review in Automatic Programming, 1992, 17, 19-23.	0.2	1
110	A NEW MINIMAL LOCAL PARAMETRIZATION FOR MULTIVARIABLE LINEAR SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 247-252.	0.4	1
111	Estimation of Combustion Information by Crankshaft Torque Sensing in an Internal Combustion Engine. , 2007, , .		1
112	Normalized power transmission between ABP and ICP in TBI. , 2009, 2009, 4699-703.		1
113	A Study on Engine Health Monitoring in the Frequency Domain. , 2010, , .		1
114	A subspace learning algorithm for microwave scattering signal classification with application to wood quality assessment. , 2012, , .		1
115	Microwave based diagnostics and treatment in practice. , 2013, , .		1
116	Kernel SODA: A Feature Reduction Technique Using Kernel Based Analysis. , 2013, , .		1
117	Super-resolution reconstruction of high dynamic range images in a perceptually uniform domain. Optical Engineering, 2013, 52, 102003.	1.0	1
118	Pre-hospital care for stroke and trauma. , 2014, , .		1
119	DVB-T interference cancellation in radar signal processing. , 2014, , .		1
120	A Transient Diesel EMS Strategy for Online Implementation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 11842-11847.	0.4	1
121	Microwave technology in medical diagnostics and treatment. , 2015, , .		1
122	Simultaneous information and power transfer with transmitters with hardware impairments. , 2016, , .		1
123	Transmission strategies for remote estimation under energy harvesting constraints. , 2016, , .		1
124	System identification and tuning of WPT systems. , 2017, , .		1
125	Comparing Dynamic Programming Optimal Control Strategies for a Series Hybrid Drivetrain. , 2017, , .		1
126	Supervisory controller for a LNT-SCR Diesel Exhaust After-Treatment System. , 2018, , .		1

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127	Look ahead based Supervisory control of a light duty Diesel engine. IFAC-PapersOnLine, 2018, 51, 454-459.	0.9	1
128	Introducing Compressed Mixture Models for Predicting Long-Lasting Brake Events. IFAC-PapersOnLine, 2018, 51, 840-845.	0.9	1
129	Kernel Subspace Learning for Pattern Classification. , 2018, , 127-147.		1
130	Accurate and Efficient Crosstalk Analysis by Full-wave Computations and System Identification. , 2020, , .		1
131	Predictive Compensation of EAF Flicker, Voltage Dips Harmonics and Interharmonics Using Deep Learning. , 2021, , .		1
132	A combined state-space identification algorithm applied to data from a modal analysis experiment on a separation system. , 0, , .		0
133	On the use of regularization in system identification. Control Engineering Practice, 1995, 3, 120.	5.5	0
134	CONSTRAINED STATE-SPACE SYSTEM IDENTIFICATION WITH APPLICATION TO STRUCTURAL DYNAMICS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 1294-1299.	0.4	0
135	Several new ultra-wideband antenna systems for radio telescopes and industry sensor imaging process. , 2012, , .		0
136	Feature reduction based on Sum-Of-SNR (SOSNR) optimization. , 2014, , .		0
137	MIMO linear precoder design with non-ideal transmitters. , 2015, , .		0
138	Variational optical flow estimation for images with spectral and photometric sensor diversity. Proceedings of SPIE, 2015, , .	0.8	0
139	Battery Parameter Estimation from Recorded Fleet Data. , 0, , .		0
140	Enhanced distance subset approximation using class-specific subspace kernel representation for kernel approximation. , 2016, , .		0
141	Adaptive margin slack minimization in RKHS for classification. , 2016, , .		0
142	Neural Networks for the Estimation of Low-Order Statistical Moments of a Stochastic Dielectric. , 2021, , .		0
143	System Identification of Electromagnetic Devices Based on Full-Wave Computations. , 2021, , .		0
144	Cold-Start Modeling and On-Line Optimal Control of the Three-Way Catalyst. Emission Control Science and Technology, 2021, 7, 321.	1.5	0

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145	A comparison between the transfer function of ABP to ICP and compensatory reserve index in TBI. Acta Neurochirurgica Supplementum, 2008, 102, 9-13.	1.0	0