

Alireza Karimi

List of Publications by Year in descending order

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136
papers

3,751
citations

126907

33
h-index

149698

56
g-index

139
all docs

139
docs citations

139
times ranked

2271
citing authors

#	ARTICLE	IF	CITATIONS
1	Adaptive Control. Communications and Control Engineering, 2011, , .	1.6	205
2	A Flexible Transmission System as a Benchmark for Robust Digital Control*. European Journal of Control, 1995, 1, 77-96.	2.6	159
3	Iterative correlation-based controller tuning. International Journal of Adaptive Control and Signal Processing, 2004, 18, 645-664.	4.1	152
4	Fixed-order $\frac{H}{\hat{z}}$ controller design for nonparametric models by convex optimization. Automatica, 2010, 46, 1388-1394.	5.0	127
5	An output error recursive algorithm for unbiased identification in closed loop. Automatica, 1997, 33, 933-938.	5.0	125
6	A statistical analysis of certain iterative learning control algorithms. International Journal of Control, 2008, 81, 156-166.	1.9	119
7	Recursive algorithms for identification in closed loop: A unified approach and evaluation. Automatica, 1997, 33, 1499-1523.	5.0	115
8	Data-driven model reference control with asymptotically guaranteed stability. International Journal of Adaptive Control and Signal Processing, 2011, 25, 331-351.	4.1	115
9	Multivariable Control of Single-Inductor Dual-Output Buck Converters. IEEE Transactions on Power Electronics, 2014, 29, 2061-2070.	7.9	115
10	Plug-and-Play Robust Voltage Control of DC Microgrids. IEEE Transactions on Smart Grid, 2018, 9, 6886-6896.	9.0	104
11	Non-iterative data-driven controller tuning using the correlation approach. , 2007, , .		94
12	Plug-and-Play Voltage Stabilization in Inverter-Interfaced Microgrids via a Robust Control Strategy. IEEE Transactions on Control Systems Technology, 2017, 25, 781-791.	5.2	87
13	Decoupled dq -Current Control of Grid-Tied Voltage Source Converters Using Nonparametric Models. IEEE Transactions on Industrial Electronics, 2013, 60, 1356-1366.	7.9	80
14	A comparison of model-based and data-driven controller tuning. International Journal of Adaptive Control and Signal Processing, 2014, 28, 882-897.	4.1	79
15	\hat{z} Controller design for spectral MIMO models by convex optimization. Journal of Process Control, 2010, 20, 1175-1182.	3.3	75
16	A data-driven approach to robust control of multivariable systems by convex optimization. Automatica, 2017, 85, 227-233.	5.0	75
17	Linear Parameter-Varying Iterative Learning Control With Application to a Linear Motor System. IEEE/ASME Transactions on Mechatronics, 2010, 15, 412-420.	5.8	71
18	Robust control of polytopic systems by convex optimization. Automatica, 2007, 43, 1395-1402.	5.0	67

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19	Robust adaptive control of a flexible transmission system using multiple models. IEEE Transactions on Control Systems Technology, 2000, 8, 321-331.	5.2	66
20	Robust controller design by linear programming with application to a double-axis positioning system. Control Engineering Practice, 2007, 15, 197-208.	5.5	65
21	PID controller tuning using Bode's integrals. IEEE Transactions on Control Systems Technology, 2003, 11, 812-821.	5.2	64
22	A Multivariable Design Methodology for Voltage Control of a Single-DG-Unit Microgrid. IEEE Transactions on Industrial Informatics, 2013, 9, 589-599.	11.3	62
23	Correlation-based tuning of decoupling multivariable controllers. Automatica, 2007, 43, 1481-1494.	5.0	61
24	A Data-Driven Approach to Mixed-Sensitivity Control With Application to an Active Suspension System. IEEE Transactions on Industrial Informatics, 2013, 9, 2293-2300.	11.3	60
25	Fixed-Order Controller Design for Polytopic Systems Using LMIs. IEEE Transactions on Automatic Control, 2008, 53, 428-434.	5.7	51
26	Nonlinear Transient Stability Analysis of Phased-Locked Loop-Based Grid-Following Voltage-Source Converters Using Lyapunov's Direct Method. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2022, 10, 2699-2709.	5.4	51
27	Optimal input design for direct data-driven tuning of model-reference controllers. Automatica, 2013, 49, 1874-1882.	5.0	50
28	Iterative correlation-based controller tuning with application to a magnetic suspension system. Control Engineering Practice, 2003, 11, 1069-1078.	5.5	49
29	Identification of multi-input systems: variance analysis and input design issues. Automatica, 2006, 42, 559-572.	5.0	46
30	Direct controller order reduction by identification in closed loop. Automatica, 2001, 37, 1689-1702.	5.0	45
31	On the Consistency of Certain Identification Methods for Linear Parameter Varying Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 4018-4023.	0.4	41
32	Robust digital control using pole placement with sensitivity function shaping method. International Journal of Robust and Nonlinear Control, 1998, 8, 191-210.	3.7	39
33	A Robust Active Damping Control Strategy for an LCL-Based Grid-Connected DG Unit. IEEE Transactions on Industrial Electronics, 2017, 64, 8055-8065.	7.9	36
34	Fixed-order decentralized/distributed control of islanded inverter-interfaced microgrids. Control Engineering Practice, 2015, 45, 174-193.	5.5	35
35	Comparison of the closed-loop identification methods in terms of the bias distribution. Systems and Control Letters, 1998, 34, 159-167.	2.3	34
36	Enhancing statistical performance of data-driven controller tuning via ℓ_1 -regularization. Automatica, 2014, 50, 1514-1520.	5.0	31

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37	Robust H_{∞} controller design using frequency-domain data via convex optimization. International Journal of Robust and Nonlinear Control, 2018, 28, 3766-3783.	3.7	31
38	Grid-Supporting Battery Energy Storage Systems in Islanded Microgrids: A Data-Driven Control Approach. IEEE Transactions on Sustainable Energy, 2021, 12, 834-846.	8.8	31
39	On identification methods for direct data-driven controller tuning. International Journal of Adaptive Control and Signal Processing, 2011, 25, 448-465.	4.1	30
40	H_{∞} gain-scheduled controller design for rejection of time-varying narrow-band disturbances applied to a benchmark problem. European Journal of Control, 2013, 19, 279-288.	2.6	28
41	H_{∞} Controller Design Using an Alternative to Youla Parameterization. IEEE Transactions on Automatic Control, 2010, 55, 2119-2123.	5.7	27
42	Decentralized and Distributed Transient Control for Microgrids. IEEE Transactions on Control Systems Technology, 2019, 27, 311-322.	5.2	27
43	Robust Digital Control of Flexible Transmissions Using the Combined Pole Placement/Sensitivity Function Shaping Method. European Journal of Control, 1995, 1, 122-133.	2.6	25
44	Model-Free Precompensator Tuning Based on the Correlation Approach. IEEE Transactions on Control Systems Technology, 2008, 16, 1013-1020.	5.2	25
45	Data-driven controller tuning with integrated stability constraint. , 2008, , .		22
46	Frequency-domain robust control toolbox. , 2013, , .		22
47	Fixed-structure LPV discrete-time controller design with induced H_2 -norm and H_2 performance. International Journal of Control, 2016, 89, 494-505.	1.9	22
48	A recursive algorithm for ARMAX model identification in closed loop. IEEE Transactions on Automatic Control, 1999, 44, 840-843.	5.7	21
49	Control of an Active Suspension System as a Benchmark for Design and Optimisation of Restricted-Complexity Controllers. European Journal of Control, 2003, 9, 3-12.	2.6	20
50	Fixed-order H_{∞} controller design for systems with ellipsoidal parametric uncertainty. International Journal of Control, 2011, 84, 57-65.	1.9	20
51	Large-Range HS-AFM Imaging of DNA Self-Assembly through In Situ Data-Driven Control. Small Methods, 2019, 3, 1900031.	8.6	20
52	Data-Driven Distributed Combined Primary and Secondary Control in Microgrids. IEEE Transactions on Control Systems Technology, 2021, 29, 1340-1347.	5.2	20
53	Data-driven estimation of the infinity norm of a dynamical system. , 2007, , .		18
54	Closed-loop identification of multivariable systems: With or without excitation of all references?. Automatica, 2008, 44, 2048-2056.	5.0	18

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55	Correlation-Based Tuning of a Restricted-Complexity Controller for an Active Suspension System. European Journal of Control, 2003, 9, 77-83.	2.6	17
56	Data-Driven Controller Tuning Using Frequency Domain Specifications. Industrial & Engineering Chemistry Research, 2006, 45, 4032-4042.	3.7	17
57	Robust proportional integral derivative controller tuning with specifications on the infinity-norm of sensitivity functions. IET Control Theory and Applications, 2007, 1, 263-272.	2.1	17
58	Robust fixed-order H_∞ controller design for spectral models by convex optimization. , 2008, , .		16
59	A Toolbox for Robust PID Controller Tuning Using Convex Optimization. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 158-163.	0.4	16
60	Improved methodology and set-point design for diagnosis of model-plant mismatch in control loops using plant-model ratio. Journal of Process Control, 2014, 24, 1720-1732.	3.3	16
61	Convex Optimization-Based Control Design for Parallel Grid-Connected Inverters. IEEE Transactions on Power Electronics, 2019, 34, 6048-6061.	7.9	15
62	Introduction to Adaptive Control. Communications and Control Engineering, 2011, , 1-33.	1.6	14
63	Robust and Gain-Scheduled PID Controller Design for Condensing Boilers by Linear Programming. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 335-340.	0.4	14
64	Robust Smith Predictor Design for Time-Delay Systems with H_∞ Performance. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 102-107.	0.4	14
65	An LMI formulation of fixed-order H_∞ and H_2 controller design for discrete-time systems with polytopic uncertainty. , 2013, , .		13
66	A data-driven approach to model-reference control with applications to particle accelerator power converters. Control Engineering Practice, 2019, 83, 11-20.	5.5	13
67	Data-Driven Distributed Online Learning Control for Islanded Microgrids. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2022, 12, 194-204.	3.6	13
68	Fixed-order LPV controller design for rejection of a sinusoidal disturbance with time-varying frequency. , 2012, , .		12
69	Linear Parameter-Varying Control of a Power-Synchronized Grid-Following Inverter. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2022, 10, 2547-2558.	5.4	12
70	Effects of the design parameters of multimodel adaptive control on the performance of a flexible transmission system. International Journal of Adaptive Control and Signal Processing, 2001, 15, 335-352.	4.1	10
71	Data-Driven Controller Design for Atomic-Force Microscopy. IFAC-PapersOnLine, 2017, 50, 10437-10442.	0.9	10
72	A Robust Data-Driven Controller Design Methodology With Applications to Particle Accelerator Power Converters. IEEE Transactions on Control Systems Technology, 2019, 27, 814-821.	5.2	10

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73	PID controller design using Bode's integrals. , 2002, , .		9
74	Gain-scheduled controller design by linear programming. , 2007, , .		9
75	Data-driven controller validation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 1050-1055.	0.4	9
76	Fixed-order loop shaping robust controller design for parametric models to damp inter-area oscillations. International Journal of Electrical Power and Energy Systems, 2017, 88, 164-174.	5.5	9
77	A Unified Approach to Model Estimation and Controller Reduction (Duality and Coherence). European Journal of Control, 2002, 8, 561-572.	2.6	8
78	Correlation-Based Tuning of Linear Multivariable Decoupling Controllers. , 0, , .		8
79	Frequency domain controller design by linear programming guaranteeing quadratic stability. , 2008, , .		8
80	Non-iterative data-driven controller tuning with guaranteed stability: Application to direct-drive pick-and-place robot. , 2010, , .		8
81	Fixed-structure \hat{A}, \hat{K} controller design for polytopic systems via LMIs. Optimal Control Applications and Methods, 2015, 36, 794-809.	2.1	8
82	Small-Signal Synchronization Stability Enhancement of Grid-Following Inverters via a Feedback Linearization Controller. IEEE Transactions on Power Delivery, 2022, 37, 4335-4344.	4.3	8
83	Controller Order Reduction by Direct Closed Loop Identification (Output Matching). IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2000, 33, 291-296.	0.4	7
84	Robust loop shaping controller design for spectral models by quadratic programming. , 2007, , .		6
85	Fixed-order Controller Design for State Space Polytopic Systems by Convex Optimization ¹ ¹ This research work is financially supported by the Swiss National Science Foundation under Grant No. 200020-130528.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 683-688.	0.4	6
86	Robust Fixed-order Discrete-time LPV Controller Design. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 6914-6919.	0.4	6
87	Fixed-order control of LTI systems subject to polytopic uncertainty via the concept of Strictly Positive Realness. , 2015, , .		6
88	Robust control of systems with sector nonlinearities via convex optimization: A data-driven approach. International Journal of Robust and Nonlinear Control, 2019, 29, 1361-1376.	3.7	6
89	Robust controller design by convex optimization based on finite frequency samples of spectral models. , 2010, , .		5
90	Adaptive Regulation "Rejection of Unknown Disturbances. Communications and Control Engineering, 2011, , 477-497.	1.6	5

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91	RST Controller Design by Convex Optimization Using Frequency-Domain Data. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 11429-11434.	0.4	5
92	Fixed-order SISO controller design for H _∞ ; loop shaping method using frequency responses. , 2015, , .		5
93	A Data-Driven Fixed-Structure Control Design Method with Application to a 2-DOF Gyroscope. , 2018, , .		5
94	Data-driven tuning of linear parameter-varying precompensators. International Journal of Adaptive Control and Signal Processing, 2010, 24, 592-609.	4.1	4
95	H _∞ ; gain-scheduled controller design for rejection of time-varying disturbances with application to an active suspension system. , 2013, , .		4
96	Fixed-order H _∞ and H ₂ controller design for continuous-time polytopic systems: An LMI-based approach. , 2013, , .		4
97	Robust distributed averaging frequency control of inverter-based microgrids. , 2016, , .		4
98	Data-Driven LPV Controller Design for Islanded Microgrids. IFAC-PapersOnLine, 2021, 54, 433-438.	0.9	4
99	Closed-loop data-driven modeling and distributed control for islanded microgrids with input constraints. Control Engineering Practice, 2022, 126, 105251.	5.5	4
100	Direct data-driven H ₂ loop-shaping. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 11423-11428.	0.4	3
101	Sensor Placement in LTI Systems with Polytopic Uncertainty via Convex Optimization—This research work is financially supported by the Swiss National Science Foundation under Grant No. 200020-130528.. IFAC-PapersOnLine, 2015, 48, 13-18.	0.9	3
102	Design of a fixed-order robust controller using loop shaping method for damping inter-area oscillations in power systems. , 2016, , .		3
103	Linear Parameter-Varying Kalman Filter for angular velocity estimation of a reaction sphere actuator for satellite attitude control. , 2017, , .		3
104	Fixed-order LPV Controller Design for LPV Systems by Convex Optimization. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 677-682.	0.4	3
105	Stabilization and Performance Improvement of Power-Hardware-in-the-Loop Test Using a Robust Data-Driven Method. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-11.	4.7	3
106	A Comparison of Iterative Learning Control Algorithms with Application to a Linear Motor System. Industrial Electronics Society (IECON), Annual Conference of IEEE, 2006, , .	0.0	2
107	Fixed-Order Controller Design for Polytopic Systems Using Rank Deficiency in a Sylvester Matrix. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 4982-4987.	0.4	2
108	Robust Parameter Estimation. Communications and Control Engineering, 2011, , 329-357.	1.6	2

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109	Robust gain-scheduled blending control of raw-mix quality in cement industries. , 2011, , .		2
110	A solution to the flexible transmission benchmark by convex optimization. JVC/Journal of Vibration and Control, 2012, 18, 964-972.	2.6	2
111	Multivariable control of Single-Inductor Dual-Output buck converters. , 2013, , .		2
112	Model-based and data-driven model-reference control: A comparative analysis. , 2013, , .		2
113	Fixed-structure Sparse Control of Interconnected Systems with Polytopic Uncertainty. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 2588-2593.	0.4	2
114	High performance control of a Corner Cube Reflector by a frequency-domain data-driven robust control method. , 2016, , .		2
115	A data-driven approach to power converter control via convex optimization. , 2017, , .		2
116	Advanced Droop Control in Islanded Microgrids Using Dynamic Phasor Models. IFAC-PapersOnLine, 2017, 50, 6642-6647.	0.9	2
117	A Data-Driven Method for Computing Fixed-Structure Low-Order Controllers With H _∞ Performance. , 2018, , .		2
118	Data-driven distributed frequency/voltage and power sharing control for islanded microgrids. , 2020, , .		2
119	Discussion on: "Analysis of Closed-Loop Identification with a Tailor-Made Parameterization" by E.T. van Donkelaar and P.M.J. Van den Hof. European Journal of Control, 2000, 6, 63-67.	2.6	1
120	Data-driven precompensator tuning for linear parameter varying systems. , 2008, , .		1
121	Indirect Adaptive Control. Communications and Control Engineering, 2011, , 409-456.	1.6	1
122	On input design for direct data-driven controller tuning*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 1466-1471.	0.4	1
123	Direct data-driven design of sparse controllers. , 2013, , .		1
124	Robust H _∞ Controller Design Using Frequency-Domain Data. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 4921-4926.	0.4	1
125	Fixed-order Linear Parameter Varying Controller Design for a 2DOF Gyroscope**This research work is financially supported by the Swiss National Science Foundation under Grant No. 200021-121749.. IFAC-PapersOnLine, 2015, 48, 230-235.	0.9	1
126	A data-driven approach in designing RST controllers with H _∞ performance via convex optimization. , 2015, , .		1

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127	Data-Driven Distributed Reactive Power Sharing in Microgrids. , 2019, , .		1
128	Data-Driven Passivity-Based Current Controller Design for Power-Electronic Converters of Traction Systems. , 2020, , .		1
129	An alternative to the Youla parameterization for H^∞ controller design. , 2009, , .		0
130	Linear Parameter Varying Iterative Learning Control. , 2009, , .		0
131	Adaptive Feedforward Compensation of Disturbances. Communications and Control Engineering, 2011, , 499-521.	1.6	0
132	On L^2 -regularization for Virtual Reference Feedback Tuning. , 2013, , .		0
133	H^∞ smith predictor design for time-delayed MIMO systems via convex optimization. , 2014, , .		0
134	Design of a switching controller for adaptive disturbance attenuation with guaranteed stability. , 2015, , .		0
135	Iterative Learning Control Using Stochastic Approximation Theory with Application to a Mechatronic System. Lecture Notes in Control and Information Sciences, 2010, , 49-64.	1.0	0
136	Robust Smith Predictor Design for Time-Delay Systems with H_∞ Performance. Advances in Delays and Dynamics, 2016, , 287-307.	0.4	0