

# Anuradha M Annaswamy

## List of Publications by Year in descending order

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148  
papers

4,568  
citations

136740

32  
h-index

123241

61  
g-index

149  
all docs

149  
docs citations

149  
times ranked

3119  
citing authors

#	ARTICLE	IF	CITATIONS
1	Adaptive Control of Quadrotor UAVs: A Design Trade Study With Flight Evaluations. IEEE Transactions on Control Systems Technology, 2013, 21, 1400-1406.	3.2	433
2	A systems and control perspective of CPS security. Annual Reviews in Control, 2019, 47, 394-411.	4.4	293
3	Persistent excitation in adaptive systems. International Journal of Control, 1987, 45, 127-160.	1.2	280
4	Adaptive control of continuous time systems with convex/concave parametrization. Automatica, 1998, 34, 33-49.	3.0	211
5	Systems & Control for the future of humanity, research agenda: Current and future roles, impact and grand challenges. Annual Reviews in Control, 2017, 43, 1-64.	4.4	184
6	Online capacity estimation of lithium-ion batteries with deep long short-term memory networks. Journal of Power Sources, 2021, 482, 228863.	4.0	180
7	An adaptive Smith-controller for time-delay systems with relative degree. Systems and Control Letters, 2003, 49, 347-358.	1.3	145
8	Adaptive Control and the NASA X-15-3 Flight Revisited. IEEE Control Systems, 2010, 30, 32-48.	1.0	126
9	On Adaptive Control With Closed-Loop Reference Models: Transients, Oscillations, and Peaking. IEEE Access, 2013, 1, 703-717.	2.6	116
10	Self-sustained oscillations and vortex shedding in backward-facing step flows: Simulation and linear instability analysis. Physics of Fluids, 2004, 16, 3361-3373.	1.6	106
11	A Hierarchical Transactive Control Architecture for Renewables Integration in Smart Grids: Analytical Modeling and Stability. IEEE Transactions on Smart Grid, 2014, 5, 2054-2065.	6.2	98
12	One-shot battery degradation trajectory prediction with deep learning. Journal of Power Sources, 2021, 506, 230024.	4.0	89
13	Adaptive posicast controller for time-delay systems with relative degree $\hat{n}$ . Automatica, 2010, 46, 279-289.	3.0	84
14	Adaptive control of nonlinearly parameterized systems with a triangular structure. Automatica, 2002, 38, 115-123.	3.0	81
15	Spark ignition engine fuel-to-air ratio control: An adaptive control approach. Control Engineering Practice, 2010, 18, 1369-1378.	3.2	75
16	An Integrated Dynamic Market Mechanism for Real-Time Markets and Frequency Regulation. IEEE Transactions on Sustainable Energy, 2016, 7, 875-885.	5.9	68
17	Adaptive Output Feedback Based on Closed-Loop Reference Models. IEEE Transactions on Automatic Control, 2015, 60, 2728-2733.	3.6	66
18	Adaptive control of hypersonic vehicles in the presence of modeling uncertainties. , 2009, , .		64

#	ARTICLE	IF	CITATIONS
19	Topology identification in distribution network with limited measurements. , 2012, , .		62
20	Controls for Smart Grids: Architectures and Applications. Proceedings of the IEEE, 2017, 105, 2244-2261.	16.4	61
21	Mitigation of thermoacoustic instability utilizing steady air injection near the flame anchoring zone. Combustion and Flame, 2010, 157, 686-700.	2.8	58
22	A Dynamic Market Mechanism for the Integration of Renewables and Demand Response. IEEE Transactions on Control Systems Technology, 2016, 24, 940-955.	3.2	55
23	Adaptive Output Feedback Based on Closed-Loop Reference Models for Hypersonic Vehicles. Journal of Guidance, Control, and Dynamics, 2015, 38, 2429-2440.	1.6	50
24	Spark-Ignition-Engine Idle Speed Control: An Adaptive Control Approach. IEEE Transactions on Control Systems Technology, 2011, 19, 990-1002.	3.2	49
25	A historical perspective of adaptive control and learning. Annual Reviews in Control, 2021, 52, 18-41.	4.4	44
26	Adaptive systems with closed-loop reference-models, part I: Transient performance. , 2013, , .		43
27	Adaptive control of a class of nonlinear systems with convex/concave parameterization. Systems and Control Letters, 1999, 37, 267-274.	1.3	40
28	A delay-aware cyber-physical architecture for wide-area control of power systems. Control Engineering Practice, 2017, 60, 171-182.	3.2	39
29	Stable Neural Controllers for Nonlinear Dynamic Systems. Automatica, 1998, 34, 641-650.	3.0	38
30	A general approach to the stability analysis of adaptive systems. International Journal of Control, 1985, 41, 193-216.	1.2	35
31	Self-tuning regulators for combustion oscillations. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2003, 459, 1709-1749.	1.0	35
32	A real-time demand response market through a repeated incomplete-information game. Energy, 2018, 143, 424-438.	4.5	35
33	A Dynamic Mechanism for Wholesale Energy Market: Stability and Robustness. IEEE Transactions on Smart Grid, 2014, 5, 2877-2888.	6.2	34
34	Integration of Automatic Generation Control and Demand Response via a Dynamic Regulation Market Mechanism. IEEE Transactions on Control Systems Technology, 2019, 27, 631-646.	3.2	34
35	Active control of supersonic impingement tones using steady and pulsed microjets. Experiments in Fluids, 2006, 41, 841-855.	1.1	33
36	Adaptive Control of Quadrotor UAVs in the Presence of Actuator Uncertainties. , 2010, , .		32

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37	Emerging research topics in control for smart infrastructures. Annual Reviews in Control, 2016, 42, 259-270.	4.4	32
38	Wholesale energy market in a smart grid: Dynamic modeling and stability. , 2011, , .		30
39	Adaptive configuration control of multiple UAVs. Control Engineering Practice, 2013, 21, 1043-1052.	3.2	30
40	Hierarchical Hybrid Architecture for Volt/Var Control of Power Distribution Grids. IEEE Transactions on Power Systems, 2020, 35, 854-863.	4.6	30
41	Transactive Control in Smart Cities. Proceedings of the IEEE, 2018, 106, 518-537.	16.4	28
42	Synchronization of Animal-Inspired Multiple High-Lift Fins in an Underwater Vehicle Using OlivooacCerebellar Dynamics. IEEE Journal of Oceanic Engineering, 2008, 33, 563-578.	2.1	26
43	Fast Adaptive Observers for Battery Management Systems. IEEE Transactions on Control Systems Technology, 2020, 28, 776-789.	3.2	26
44	Composite adaptive posicast control for a class of LTI plants with known delay. Automatica, 2013, 49, 1914-1924.	3.0	25
45	Convergence Properties of Adaptive Systems and the Definition of Exponential Stability. SIAM Journal on Control and Optimization, 2018, 56, 2463-2484.	1.1	25
46	Tunable and reconfigurable mechanical transmission-line metamaterials via direct active feedback control. Mechanical Systems and Signal Processing, 2019, 123, 117-130.	4.4	25
47	Toward a Retail Market for Distribution Grids. IEEE Transactions on Smart Grid, 2020, 11, 4891-4905.	6.2	25
48	Reinventing the utility for distributed energy resources: A proposal for retail electricity markets. Advances in Applied Energy, 2021, 2, 100026.	6.6	23
49	Heat release dynamics modeling of kinetically controlled burning. Combustion and Flame, 2002, 128, 217-231.	2.8	22
50	Distributed Optimization in Distribution Systems: Use Cases, Limitations, and Research Needs. IEEE Transactions on Power Systems, 2022, 37, 3469-3481.	4.6	22
51	Connections Between Adaptive Control and Optimization in Machine Learning. , 2019, , .		20
52	Guaranteed delay margins for adaptive control of scalar plants. , 2012, , .		19
53	A hierarchical transactive control architecture for renewables integration in Smart Grids. , 2012, , .		18
54	Adaptive control of hypersonic vehicles in presence of aerodynamic and center of gravity uncertainties. , 2010, , .		17

#	ARTICLE	IF	CITATIONS
55	The effect of a smart meter on congestion and stability in a power market. , 2010, , .		17
56	Robust Adaptive Control in the Presence of Unmodeled Dynamics: A Counter to Rohrs's Counterexample. , 2013, , .		17
57	Demand response in smart grids: Participants, challenges, and a taxonomy. , 2014, , .		17
58	Resilient Flight Control: An Architecture for Human Supervision of Automation. IEEE Transactions on Control Systems Technology, 2021, 29, 29-42.	3.2	17
59	A Framework for Evaluating the Resilience of Dynamic Real-Time Market Mechanisms. IEEE Transactions on Smart Grid, 2016, 7, 2904-2912.	6.2	16
60	Reliability Contracts Between Renewable and Natural Gas Power Producers. IEEE Transactions on Control of Network Systems, 2019, 6, 1075-1085.	2.4	16
61	Parameter Estimation in Adaptive Control of Time-Varying Systems Under a Range of Excitation Conditions. IEEE Transactions on Automatic Control, 2022, 67, 5440-5447.	3.6	16
62	DER Forecast Using Privacy-Preserving Federated Learning. IEEE Internet of Things Journal, 2023, 10, 2046-2055.	5.5	16
63	Parallelized model predictive control. , 2013, , .		15
64	Cumulative Prospect Theory Based Dynamic Pricing for Shared Mobility on Demand Services. , 2019, , .		15
65	An Adaptive Observer Design for Real-Time Parameter Estimation in Lithium-Ion Batteries. IEEE Transactions on Control Systems Technology, 2020, 28, 505-520.	3.2	14
66	Adaptive Control for a Class of Multi-Input Multi-Output Plants With Arbitrary Relative Degree. IEEE Transactions on Automatic Control, 2020, 65, 3023-3038.	3.6	14
67	A Proximal Atomic Coordination Algorithm for Distributed Optimization. IEEE Transactions on Automatic Control, 2022, 67, 646-661.	3.6	14
68	Matrix regressor adaptive observers for battery management systems. , 2015, , .		13
69	Co-Design of Arbitrated Network Control Systems With Overrun Strategies. IEEE Transactions on Control of Network Systems, 2018, 5, 128-141.	2.4	13
70	Distributed control for polygeneration microgrids: A Dynamic Market Mechanism approach. Control Engineering Practice, 2022, 121, 105052.	3.2	13
71	Adaptive control of time-varying systems with gain-scheduling. , 2008, , .		12
72	A robust environment for simulation and testing of adaptive control for mini-UAVs. , 2009, , .		12

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73	A dynamic model of the combined electricity and natural gas markets. , 2015, , .		12
74	A practical integration of automatic generation control and Demand Response. , 2016, , .		12
75	A Reduced-Order Model of a Lithium-Ion Cell Using the Absolute Nodal Coordinate Formulation Approach. IEEE Transactions on Control Systems Technology, 2018, 26, 1001-1014.	3.2	12
76	A Class of High Order Tuners for Adaptive Systems. , 2021, 5, 391-396.		12
77	Computable Delay Margins for Adaptive Systems With State Variables Accessible. IEEE Transactions on Automatic Control, 2017, 62, 5039-5054.	3.6	11
78	Design and Stability of Optimal Frequency Control in Power Networks: A Passivity-based Approach. , 2018, , .		11
79	A distributed approach to the Optimal Power Flow problem for unbalanced and mesh networks. IFAC-PapersOnLine, 2020, 53, 13287-13292.	0.5	11
80	Adaptive control and the NASA X-15 program: A concise history, lessons learned, and a provably correct design. , 2008, , .		10
81	A Dynamic Market Mechanism for Combined Heat and Power Microgrid Energy Management. IFAC-PapersOnLine, 2017, 50, 10033-10039.	0.5	10
82	Bumpless Reengagement Using Shared Control between Human Pilot and Adaptive Autopilot. IFAC-PapersOnLine, 2017, 50, 5343-5348.	0.5	10
83	Model-Based Dynamic Toll Pricing: An Overview. Applied Sciences (Switzerland), 2021, 11, 4778.	1.3	10
84	Shared Control Between Pilots and Autopilots: An Illustration of a Cyberphysical Human System. IEEE Control Systems, 2020, 40, 77-97.	1.0	10
85	Synchronization control for physics-based collaborative virtual environments with shared haptics. Advanced Robotics, 2007, 21, 1001-1029.	1.1	9
86	Adaptive Flight Control in the Presence of Multiple Actuator Anomalies. Proceedings of the American Control Conference, 2007, , .	0.0	9
87	Adaptive switching controllers for systems with hybrid communication protocols. , 2012, , .		9
88	A model-based dynamic toll pricing strategy for controlling highway traffic. , 2016, , .		9
89	Impact of increased renewables on natural gas markets in eastern United States. Journal of Modern Power Systems and Clean Energy, 2017, 5, 424-438.	3.3	9
90	A hybrid architecture for volt-var control in active distribution grids. Applied Energy, 2022, 312, 118735.	5.1	9

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91	Automotive Powertrain Control Problems Involving Time Delay: An Adaptive Control Approach. , 2008, , .		8
92	An adaptive control technology for safety of a GTM-like aircraft. , 2009, , .		8
93	Adaptive control of a Networked Control System with hierarchical scheduling. , 2011, , .		8
94	Foundations of Infrastructure-CPS. , 2016, , .		8
95	Sequential Loop Closure Based Adaptive Output Feedback. IEEE Access, 2017, 5, 23436-23451.	2.6	8
96	Shared Control Between Adaptive Autopilots and Human Operators for Anomaly Mitigation. IFAC-PapersOnLine, 2019, 51, 353-358.	0.5	8
97	Estimation of Potentials in Lithium-Ion Batteries Using Machine Learning Models. IEEE Transactions on Control Systems Technology, 2022, 30, 680-695.	3.2	8
98	A Stable High-Order Tuner for General Convex Functions. , 2022, 6, 566-571.		8
99	Guaranteed delay margins for adaptive systems with state variables accessible. , 2013, , .		7
100	Delay-aware co-designs for wide-area control of power grids. , 2014, , .		7
101	Smart Cities and Control [Technical Activities]. IEEE Control Systems, 2015, 35, 20-21.	1.0	7
102	A Dynamic Regulation Market Mechanism for improved financial settlements in wholesale electricity markets. , 2017, , .		7
103	Adaptive output-feedback control for a class of multi-input-multi-output plants with applications to very flexible aircraft. , 2016, , .		6
104	Application of Smart Infrastructure Systems approach to precision medicine. Applied & Translational Genomics, 2015, 7, 40-44.	2.1	5
105	Adaptive output-feedback control for relative degree two systems based on closed-loop reference models. , 2015, , .		5
106	A new approach to robust adaptive control. , 2016, , .		5
107	Using natural gas reserves to mitigate intermittence of renewables in the day ahead market. , 2017, , .		5
108	Active wave suppression in the interior of a one-dimensional domain. Automatica, 2019, 100, 403-406.	3.0	5

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109	Active boundary and interior absorbers for one-dimensional wave propagation: Application to transmission-line metamaterials. Automatica, 2020, 117, 108855.	3.0	5
110	Fast Parameter Convergence in Adaptive Flight Control. , 2020, , .		5
111	A Hierarchical Local Electricity Market for a DER-Rich Grid Edge. IEEE Transactions on Smart Grid, 2023, 14, 1353-1366.	6.2	5
112	Health monitoring with matrix regressor based adaptive observers. , 2017, , .		4
113	Adaptive Control of Hypersonic Vehicles in the Presence of Rate Limits. , 2018, , .		4
114	A Dynamic Routing Framework for Shared Mobility Services. ACM Transactions on Cyber-Physical Systems, 2020, 4, 1-28.	1.9	4
115	Error Models for Stable Hybrid Adaptive Systems. , 1983, , .		3
116	A Polynomial Adaptive Controller for Nonlinearly Parameterized Systems. , 2006, , .		3
117	Robust Adaptive Posicast Controller— Sponsor and financial support acknowledgment goes here. Paper titles should be written in uppercase and lowercase letters, not all uppercase.. IFAC-PapersOnLine, 2015, 48, 398-403.	0.5	3
118	Analysis of slow convergence regions in adaptive systems. , 2016, , .		3
119	Cyber-Physical-Human Systems. , 2021, , 497-508.		3
120	An adaptive reset control system for flight safety in the presence of actuator anomalies. , 2010, , .		2
121	Experimental validation of adaptive observers for battery management systems. , 2017, , .		2
122	Spatially Continuous Modeling and Control of Swing Dynamics in Electric Power Grids * **This work was supported in part by the MIT-Technion Program and in part by the National Science Foundation grants ECCS- 1135815 and EFRI-1441301.. IFAC-PapersOnLine, 2017, 50, 4400-4405.	0.5	2
123	Sparse and Distributed Control of Wide-Area Power Systems with Large Communication Delays. , 2018, , .		2
124	Transactive Control Approach to Trip Optimization in Electric Railways. , 2019, , .		2
125	Modeling and Control of Wave Propagation in a Ring With Applications to Power Grids. IEEE Transactions on Automatic Control, 2019, 64, 3676-3689.	3.6	2
126	Adaptation in network control systems with hierarchical scheduling. IET Control Theory and Applications, 2019, 13, 2775-2782.	1.2	2



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127	Cyber-Physical-Human Systems. , 2020, , 1-12.		2
128	Improved Observability in Distribution Grids Using Correlational Measurements. IEEE Access, 2022, 10, 27320-27329.	2.6	2
129	Value of Time and Elasticity of Portuguese Freeway Users: Insights from Analysis of Survey Data. Infrastructures, 2022, 7, 71.	1.4	2
130	Adaptive Flight Control in the Presence of Limits on Magnitude and Rate. IEEE Access, 2022, 10, 65685-65702.	2.6	2
131	Noise Control Due to the Stator Wake Blade Interaction via Tail Articulation. IEEE Journal of Oceanic Engineering, 2007, 32, 551-564.	2.1	1
132	Local adaptive controllers for networked cooperative systems. , 2010, , .		1
133	Adaptive switching controllers for tracking with hybrid communication protocols. , 2012, , .		1
134	Coupled ISO-NE real-time energy and regulation markets for reliability with natural gas. , 2015, , .		1
135	Control-oriented modeling and adaptive parameter estimation of a Lithium ion intercalation cell. , 2015, , .		1
136	Optimal control of wind farms for fatigue load minimization. , 2017, , .		1
137	A Dynamic Framework for Electricity Markets. The IMA Volumes in Mathematics and Its Applications, 2018, , 129-153.	0.5	1
138	Optimal Delay Assignment in Delay-Aware Control of Cyber-Physical Systems: A Machine Learning Approach. , 2019, , .		1
139	Dr. Radhakishan Sohanlal Baheti, 1945â€“2021. IEEE Control Systems, 2021, 41, 99-102.	1.0	1
140	Model-based dynamic toll pricing scheme for a congested suburban freeway with multiple access locations. Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, 2023, 27, 693-720.	2.6	1
141	Adaptive Control for Regulation of a Quadratic Function of the State. IEEE Transactions on Automatic Control, 2014, 59, 2831-2836.	3.6	0
142	Analysis of sticking regions in adaptive systems. International Journal of Adaptive Control and Signal Processing, 2017, 31, 1754-1778.	2.3	0
143	Robust Adaptive Control. , 2021, , 1931-1941.		0
144	Distributed Backward/Forward Sweep Algorithm for Economic Dispatch in Modern Distribution Grids. , 2021, , .		0

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145	Intelligent Control Using Active-Adaptive Information Sources. , 1993, , .		0
146	Robust Adaptive Control. , 2020, , 1-11.		0
147	Towards Dynamic Pricing for Shared Mobility on Demand using Markov Decision Processes and Dynamic Programming. , 2020, , .		0
148	Toward a Service-Oriented Broker Architecture for the Distribution Grid. , 2020, , .		0