Antonios Armaou

List of Publications by Year
in descending order

113 papers	2,220 citations	257101 24 h-index	243296 44 g-index
116 all docs	116 docs citations	116 times ranked	1065 citing authors

#	Article	IF	Citations
1	Dynamic optimization of dissipative PDE systems using nonlinear order reduction. Chemical Engineering Science, 2002, 57, 5083-5114.	1.9	177
2	Analysis and control of parabolic PDE systems with input constraints. Automatica, 2003, 39, 715-725.	3.0	160
3	Global stabilization of the Kuramotoâ€"Sivashinsky equation via distributed output feedback control. Systems and Control Letters, 2000, 39, 283-294.	1.3	137
4	Feedback control of the Kuramotoâ€"Sivashinsky equation. Physica D: Nonlinear Phenomena, 2000, 137, 49-61.	1.3	118
5	Wave suppression by nonlinear finite-dimensional control. Chemical Engineering Science, 2000, 55, 2627-2640.	1.9	113
6	Robust detection and accommodation of incipient component and actuator faults in nonlinear distributed processes. AICHE Journal, 2008, 54, 2651-2662.	1.8	87
7	Robust control of parabolic PDE systems with time-dependent spatial domains. Automatica, 2001, 37, 61-69.	3.0	76
8	Optimal actuator/sensor placement for linear parabolic PDEs using spatialH2norm. Chemical Engineering Science, 2006, 61, 7351-7367.	1.9	72
9	Plasma enhanced chemical vapor deposition: Modeling and control. Chemical Engineering Science, 1999, 54, 3305-3314.	1.9	67
10	Nonlinear Control of Incompressible Fluid Flow: Application to Burgers' Equation and 2D Channel Flow. Journal of Mathematical Analysis and Applications, 2000, 252, 230-255.	0.5	66
11	Multiscale optimization using hybrid PDE/kMC process systems with application to thin film growth. Chemical Engineering Science, 2005, 60, 6780-6794.	1.9	59
12	Time-steppers andâ€˜coarseâ€™ control of distributed microscopic processes. International Journal of Robust and Nonlinear Control, 2004, 14, 89-111.	2.1	57
13	Control and optimization of multiscale process systems. Computers and Chemical Engineering, 2006, 30, 1670-1686.	2.0	55
14	Feedback control of dissipative PDE systems using adaptive model reduction. AICHE Journal, 2009, 55, 906-918.	1.8	54
15	Modification to adaptive model reduction for regulation of distributed parameter systems with fast transients. AICHE Journal, 2013, 59, 4595-4611.	1.8	44
16	Colocalization and Sequential Enzyme Activity in Aqueous Biphasic Systems: Experiments and Modeling. Biophysical Journal, 2015, 109, 2182-2194.	0.2	44
17	Nonlinear Feedback Control of Parabolic Partial Differential Equation Systems with Time-dependent Spatial Domains. Journal of Mathematical Analysis and Applications, 1999, 239, 124-157.	0.5	39
18	Crystal temperature control in the Czochralski crystal growth process. AICHE Journal, 2001, 47, 79-106.	1.8	35

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19	Output Feedback Control of Distributed Parameter Systems Using Adaptive Proper Orthogonal Decomposition. Industrial & Engineering Chemistry Research, 2010, 49, 10496-10509.	1.8	34
20	Coupled Enzyme Reactions Performed in Heterogeneous Reaction Media: Experiments and Modeling for Glucose Oxidase and Horseradish Peroxidase in a PEG/Citrate Aqueous Two-Phase System. Journal of Physical Chemistry B, 2014, 118, 2506-2517.	1.2	31
21	Constant number Monte Carlo simulation of population balances with multiple growth mechanisms. AICHE Journal, 2010, 56, 3137-3145.	1.8	28
22	Design of APOD-based switching dynamic observers and output feedback control for a class of nonlinear distributed parameter systems. Chemical Engineering Science, 2015, 136, 62-75.	1.9	27
23	Dynamic online nonlinear robust detection and accommodation of incipient component faults for nonlinear dissipative distributed processes. International Journal of Robust and Nonlinear Control, 2012, 22, 3-23.	2.1	25
24	Equation-free gaptooth-based controller design for distributed complex/multiscale processes. Computers and Chemical Engineering, 2005, 29, 731-740.	2.0	24
25	Piece-wise constant predictive feedback control of nonlinear systems. Journal of Process Control, 2014, 24, 326-335.	1.7	24
26	APODâ€based control of linear distributed parameter systems under sensor/controller communication bandwidth limitations. AICHE Journal, 2015, 61, 434-447.	1.8	24
27	Computation of empirical eigenfunctions and order reduction for nonlinear parabolic PDE systems with time-dependent spatial domains. Nonlinear Analysis: Theory, Methods & Applications, 2001, 47, 2869-2874.	0.6	23
28	Reduced order modeling and dynamic optimization of multiscale PDE/kMC process systems. Computers and Chemical Engineering, 2008, 32, 2136-2143.	2.0	23
29	Optimal operation of GaN thin film epitaxy employing control vector parametrization. AICHE Journal, 2006, 52, 1378-1391.	1.8	22
30	Output feedback control of dissipative PDE systems with partial sensor information based on adaptive model reduction. AICHE Journal, 2013, 59, 747-760.	1.8	22
31	Identification of Macroscopic Variables for Low-Order Modeling of Thin-Film Growth. Industrial & Engineering Chemistry Research, 2006, 45, 8290-8298.	1.8	21
32	Equation-free, coarse-grained computational optimization using timesteppers. Chemical Engineering Science, 2006, 61, 779-793.	1.9	20
33	Simulation, modelâ€reduction, and state estimation of a twoâ€component coagulation process. AICHE Journal, 2016, 62, 1557-1567.	1.8	20
34	Fast Moving Horizon Estimation of nonlinear processes via Carleman linearization. , 2015, , .		19
35	Geometric output tracking of nonlinear distributed parameter systems via adaptive model reduction. Chemical Engineering Science, 2014, 116, 418-427.	1.9	18
36	Equation-free optimal switching policies for bistable reacting systems. International Journal of Robust and Nonlinear Control, 2005, 15, 713-726.	2.1	16

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37	Robust extended Kalman filter based state estimation for nonlinear dynamic processes with measurements corrupted by gross errors. Journal of the Taiwan Institute of Chemical Engineers, 2020, 106, 20-33.	2.7	16
38	A computational procedure for optimal engineering interventions using kinetic models of metabolism. Biotechnology Progress, 2006, 22, 1507-17.	1.3	16
39	Feedback control of plasma etching reactors for improved etching uniformity. Chemical Engineering Science, 2001, 56, 1467-1475.	1.9	15
40	Sensitivity analysis of HIV infection response to treatment via stochastic modeling. Chemical Engineering Science, 2008, 63, 1330-1341.	1.9	13
41	Output feedback control of dissipative distributed processes via microscopic simulations. Computers and Chemical Engineering, 2005, 29, 771-782.	2.0	12
42	Low-order ODE approximations and receding horizon control of surface roughness during thin-film growth. Chemical Engineering Science, 2008, 63, 1246-1260.	1.9	12
43	An extracellular stochastic model of early HIV infection and the formulation of optimal treatment policy. Chemical Engineering Science, 2008, 63, 4361-4372.	1.9	11
44	Control of dissipative partial differential equation systems using APOD based dynamic observer designs. , 2013, , .		11
45	Robust detection and accommodation of incipient component faults in nonlinear distributed processes. Proceedings of the American Control Conference, 2007, , .	0.0	10
46	Carleman approximation based quasi–analytic model predictive control for nonlinear systems. AICHE Journal, 2016, 62, 3915-3929.	1.8	10
47	Elman Neural Networks Combined with Extended Kalman Filters for Data-Driven Dynamic Data Reconciliation in Nonlinear Dynamic Process Systems. Industrial & Engineering Chemistry Research, 2021, 60, 15219-15235.	1.8	10
48	Dynamic data reconciliation to improve the result of controller performance assessment based on GMVC. ISA Transactions, 2021, 117, 288-302.	3.1	9
49	Recurrent Neural-Network-Based Model Predictive Control of a Plasma Etch Process. Industrial & Engineering Chemistry Research, 2022, 61, 638-652.	1.8	9
50	Feedback control of linear distributed parameter systems via adaptive model reduction in the presence of device network communication constraints. , 2014, , .		8
51	Dynamic shaping of transport–reaction processes with a combined sliding mode controller and Luenberger-type dynamic observer design. Chemical Engineering Science, 2015, 138, 673-684.	1.9	8
52	Adaptive Control of Chemical Distributed Parameter Systemsâˆ—âˆ—Financial support from the National Science Foundation, CMMI Award #13-00322 is gratefully acknowledged.. IFAC-PapersOnLine, 2015, 48, 681-686.	0.5	7
53	Development of a stochastic model for the efficacy of NRTIs using known mechanisms of action. Journal of Theoretical Biology, 2010, 265, 704-717.	0.8	6
54	Output tracking of spatiotemporal thermal dynamics in transport-reaction processes via adaptive model reduction. , 2014, , .		6

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55	Control of spatially distributed processes with unknown transportâ€reaction parameters via two layer system adaptations. AICHE Journal, 2015, 61, 2497-2507.	1.8	6
56	Nonlinear Model Predictive Control using a bilinear Carleman linearization-based formulation for chemical processes. , 2015, , .		6
57	Study on ADRC Parameter Optimization Using CPSO for Clamping Force Control System. Mathematical Problems in Engineering, 2018, 2018, 1-8.	0.6	6
58	Output feedback receding horizon regulation via moving horizon estimation and model predictive control. Journal of Process Control, 2018, 69, 114-127.	1.7	6
59	Feedback control design using model predictive control formulation and Carleman approximation method. AICHE Journal, 2019, 65, e16666.	1.8	6
60	Continuous Injection Isothermal Titration Calorimetry for In Situ Evaluation of Thermodynamic Binding Properties of Ligandâ€"Receptor Binding Models. Journal of Physical Chemistry B, 2021, 125, 8075-8087.	1.2	6
61	Online system-identification using subspace algorithms for the control of microscopic processes. , 2008, , .		5
62	Adaptable Parallel Acceleration Strategy for Dynamic Monte Carlo Simulations of Polymerization with Microscopic Resolution. Industrial & Engineering Chemistry Research, 2021, 60, 6173-6187.	1.8	5
63	OPTIMAL SELECTION OF ENZYME LEVELS USING LARGE-SCALE KINETIC MODELS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 25-30.	0.4	4
64	Feedback control of dissipative PDE systems in the presence of uncertainty and noise using extended Kalman filter. , 2009, , .		4
65	Model Simulations Reveal VCAM-1 Augment PAK Activation Rates to Amplify p38 MAPK and VE-Cadherin Phosphorylation. Cellular and Molecular Bioengineering, 2011, 4, 656-669.	1.0	4
66	Spatiotemporal Modeling and Parametric Estimation of Isothermal CO_2 Adsorption Columns. Industrial & Engineering Chemistry Research, 2016, 55, 6443-6453.	1.8	4
67	Designing social distancing policies for the COVID-19 pandemic: A probabilistic model predictive control approach. Mathematical Biosciences and Engineering, 2022, 19, 8804-8832.	1.0	4
68	Feedback control of surface roughness during thin-film growth using approximate low-order ODE model. , 2006, , .		3
69	A predictive control method for nonlinear parabolic PDE systems. , 2009, , .		3
70	Towards optimal actuator placement for dissipative PDE systems in the presence of uncertainty. , 2010, , .		3
71	A Moving Horizon Estimation Algorithm Based on Carleman Approximation: Design and Stability Analysis. Industrial & Engineering Chemistry Research, 2017, 56, 10087-10098.	1.8	3
72	Stochastic MPC design for a two-component granulation process. , 2017, , .		3

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73	Revisiting APOD accuracy for nonlinear control of transport reaction processes: A spatially discrete approach. Chemical Engineering Science, 2018, 181, 146-158.	1.9	3
74	Sensitivity analysis of HIV infection response to treatment. , 2006, , .		2
75	Integrated actuator placement and fault tolerant controller design for a class of distributed parameter systems. , 2008, , .		2
76	Output feedback control of the FitzHugh-Nagumo equation using adaptive model reduction. , 2010, , .		2
77	Optimal Design and Operation of a Spatially Distributed Multiscale Process, with Regard to Layered Heterostructure Growth. Industrial & Engineering Chemistry Research, 2010, 49, 7891-7900.	1.8	2
78	Frequency domain methods for optimal sensor placement and scheduling of spatially distributed systems arising in environmental and meteorological applications. , 2014, , .		2
79	Feedback control of semi-linear distributed parameter systems using advanced POD method. , 2015, , .		2
80	A Formulation of advanced-step bilinear Carleman approximation-based nonlinear model predictive control. , 2016, , .		2
81	Synthesis of Equation-Free Control Structures for Dissipative Distributed Parameter Systems Using Proper Orthogonal Decomposition and Discrete Empirical Interpolation Methods. Industrial & Engineering Chemistry Research, 2017, 56, 10110-10122.	1.8	2
82	Scheduling of optimal medication strategies for early HIV infection. Proceedings of the American Control Conference, 2007, , .	0.0	1
83	Implication of dynamics in signal transduction and targeted disruption analyses of signaling networks. Computers and Chemical Engineering, 2008, 32, 2065-2071.	2.0	1
84	Nonlinear control of dissipative PDE systems employing adaptive model reduction. , 2008, , .		1
85	Robust control of dissipative PDE systems in the presence of uncertainty using adaptive model reduction. , 2009, , .		1
86	A nonlinear predictive control of processes with multiscale objectives using a fuzzy-system identification approach. , 2011, , .		1
87	Predictive control of PDEs via using adaptive reduced order modeling. , 2011, , .		1
88	Fault-tolerant process control. International Journal of Robust and Nonlinear Control, 2012, 22, 1-2.	2.1	1
89	A hybrid stochastic/deterministic model of intracellular HIV infection dynamics and estimation of viral production parameters. , 2013, , .		1
90	Development of a reduced order model for bi-component granulation processes via laguerre polynomials. , 2016, , .		1

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91	On the design of equation-free controllers for dissipative PDEs via DEIM. , 2017, , .		1
92	Efficient reduced order controller design for dissipative PDE systems with strong convective phenomena. Chemical Engineering Research and Design, 2018, 139, 272-282.	2.7	1
93	Investigation of CO_2 Sorption Mechanisms in Isothermal Columns via Transient Material and Energy Balance PDE Models. Industrial & Engineering Chemistry Research, 2018, 57, 10303-10314.	1.8	1
94	Dissipative distributed parameter systems on-line reduction and control using DEIM/APOD combination. , 2018, , .		1
95	Pairing Moving Horizon Estimation and Model Predictive Control via Carleman Approximation for Output Feedback Control. , 2019, , .		1
96	110th Anniversary: Generalized Singular Value Decomposition Reduced-Order Observers for Linear Time-Invariant Systems with Noisy Measurements. Industrial & Engineering Chemistry Research, 2019, 58, 23201-23210.	1.8	1
97	Lyapunov based on-line model reduction and control of semilinear dissipative distributed parameter systems with minimum feedback information. Journal of Process Control, 2021, 104, 135-145.	1.7	1
98	Establishing an inexpensive, space efficient colony of *Bemisia tabaci* MEAM1 utilizing modelling and feedback control principles. Journal of Applied Entomology, 0, , .	0.8	1
99	OPTIMAL OPERATION OF THIN FILM GROWTH WITH MULTISCALE PROCESS OBJECTIVES. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 315-320.	0.4	0
100	Identification of macroscopic process observables for thin-film growth. , 2006, , .		0
101	Dynamic optimization of multiscale PDE/kMC process systems using nonlinear order reduction and tabulation techniques. Proceedings of the American Control Conference, 2007, , .	0.0	0
102	Optimal design and operation of a multiscale GaAs/AlAs deposition process. , 2009, , .		0
103	Dynamic fault detection and accommodation for dissipative distributed processes. , 2009, , .		0
104	Optimization of Interruptions in HIV treatment using a multiscale mechanistic model. , 2014, , .		0
105	Economic model predictive control of parabolic PDE systems using empirical eigenfunctions. , 2014, , .		0
106	Economic model predictive control of parabolic PDE systems: Handling state constraints by adaptive proper orthogonal decomposition. , 2014, , .		0
107	Low-dimensional adaptive output feedback controller design for transport-reaction processes. , 2015, , .		0
108	Wave motion suppression in the presence of unknown parameters using recursively updated empirical basis functions. , 2015, , .		0

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109	Spatiotemporal response shaping of transport-reaction processes via adaptive reduced order models. , 2016, , .		0
110	Gene Regulatory Network Construction and Key Gene Recognition of Diabetic Nephropathy. , 2019, , .		0
111	Generalized SVD reduced-order observers for Nonlinear systems*. , 2020, , .		0
112	Control of semilinear dissipative distributed parameter systems with minimum feedback information. , 2020, , .		0
113	GSVD Information Filter for Discrete-Time Linear Dynamic Systems with Gross Errors. , 2021, , .		0