

Gabriele Pannocchia

List of Publications by Year in descending order

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99
papers

2,454
citations

331259

21
h-index

205818

48
g-index

100
all docs

100
docs citations

100
times ranked

1642
citing authors

#	ARTICLE	IF	CITATIONS
1	Disturbance models for offset-free model-predictive control. <i>AIChE Journal</i> , 2003, 49, 426-437.	1.8	508
2	Cooperative distributed model predictive control. <i>Systems and Control Letters</i> , 2010, 59, 460-469.	1.3	409
3	Fast, large-scale model predictive control by partial enumeration. <i>Automatica</i> , 2007, 43, 852-860.	3.0	101
4	Conditions under which suboptimal nonlinear MPC is inherently robust. <i>Systems and Control Letters</i> , 2011, 60, 747-755.	1.3	100
5	Combined Design of Disturbance Model and Observer for Offset-Free Model Predictive Control. <i>IEEE Transactions on Automatic Control</i> , 2007, 52, 1048-1053.	3.6	98
6	Offset-free MPC explained: novelties, subtleties, and applications. <i>IFAC-PapersOnLine</i> , 2015, 48, 342-351.	0.5	83
7	Offset-free receding horizon control of constrained linear systems. <i>AIChE Journal</i> , 2005, 51, 3134-3146.	1.8	74
8	Experimental and Modeling Studies on High-Temperature Capture of CO ₂ Using Lithium Zirconate Based Sorbents. <i>Industrial & Engineering Chemistry Research</i> , 2007, 46, 6696-6706.	1.8	73
9	Robust model predictive control with guaranteed setpoint tracking. <i>Journal of Process Control</i> , 2004, 14, 927-937.	1.7	56
10	Robust disturbance modeling for model predictive control with application to multivariable ill-conditioned processes. <i>Journal of Process Control</i> , 2003, 13, 693-701.	1.7	54
11	Offset-free tracking MPC: A tutorial review and comparison of different formulations. , 2015, , .		54
12	Prediction of Coal Ash Thermal Properties Using Partial Least-Squares Regression. <i>Industrial & Engineering Chemistry Research</i> , 2003, 42, 4919-4926.	1.8	52
13	A candidate to replace PID control: SISO-constrained LQ control. <i>AIChE Journal</i> , 2005, 51, 1178-1189.	1.8	46
14	A Model Predictive Control Strategy Toward Optimal Structured Treatment Interruptions in Anti-HIV Therapy. <i>IEEE Transactions on Biomedical Engineering</i> , 2010, 57, 1040-1050.	2.5	44
15	Development of an Entrained Flow Gasifier Model for Process Optimization Study. <i>Industrial & Engineering Chemistry Research</i> , 2009, 48, 9028-9033.	1.8	37
16	A Sequential Linear Programming algorithm for economic optimization of Hybrid Renewable Energy Systems. <i>Journal of Process Control</i> , 2019, 74, 189-201.	1.7	32
17	Comparison of input signals in subspace identification of multivariable ill-conditioned systems. <i>Journal of Process Control</i> , 2008, 18, 582-593.	1.7	30
18	Partial enumeration MPC: Robust stability results and application to an unstable CSTR. <i>Journal of Process Control</i> , 2011, 21, 1459-1466.	1.7	28

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19	On Computing Solutions to the Continuous Time Constrained Linear Quadratic Regulator \$ \$. IEEE Transactions on Automatic Control, 2010, 55, 2192-2198.	3.6	25
20	System identification applied to stiction quantification in industrial control loops: A comparative study. Journal of Process Control, 2016, 46, 11-23.	1.7	23
21	Online model-based redesign of experiments with erratic models: A disturbance estimation approach. Computers and Chemical Engineering, 2012, 42, 138-151.	2.0	22
22	A Modifier-Adaptation Strategy towards Offset-Free Economic MPC. Processes, 2017, 5, 2.	1.3	22
23	A predictor form PARSIMonious algorithm for closed-loop subspace identification. Journal of Process Control, 2010, 20, 517-524.	1.7	21
24	Analysis and simulation of an industrial vegetable oil refining process. Journal of Food Engineering, 2013, 116, 840-851.	2.7	21
25	Online constraint removal: Accelerating MPC with a Lyapunov function. Automatica, 2015, 57, 164-169.	3.0	21
26	Toward a Unifying Framework Blending Real-Time Optimization and Economic Model Predictive Control. Industrial & Engineering Chemistry Research, 2019, 58, 13583-13598.	1.8	19
27	Model predictive control design for multivariable processes in the presence of valve stiction. Journal of Process Control, 2018, 71, 25-34.	1.7	18
28	Optimally Managing Chemical Plant Operations: An Example Oriented by Industry 4.0 Paradigms. Industrial & Engineering Chemistry Research, 2021, 60, 7853-7867.	1.8	17
29	Optimal Priority Assignment to Control Tasks. Transactions on Embedded Computing Systems, 2014, 13, 1-17.	2.1	16
30	Whither Discrete Time Model Predictive Control?. IEEE Transactions on Automatic Control, 2015, 60, 246-252.	3.6	15
31	Enhancing MPC formulations by identification and estimation of valve stiction. Journal of Process Control, 2019, 81, 31-39.	1.7	15
32	A rigorous simulation model of geothermal power plants for emission control. Applied Energy, 2020, 263, 114563.	5.1	15
33	Existence and computation of infinite horizon model predictive control with active steady-state input constraints. IEEE Transactions on Automatic Control, 2003, 48, 1002-1006.	3.6	14
34	Accelerating linear model predictive control by constraint removal. European Journal of Control, 2017, 35, 42-49.	1.6	14
35	Achieving a large domain of attraction with short-horizon linear MPC via polyhedral Lyapunov functions. , 2013, , .		14
36	Inherently robust suboptimal nonlinear MPC: Theory and application. , 2011, , .		12

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37	Prediction Error Based Performance Monitoring, Degradation Diagnosis and Remedies in Offset-Free MPC: Theory and Applications. Asian Journal of Control, 2014, 16, 995-1005.	1.9	12
38	Distributed model predictive control for energy management in a network of microgrids using the dual decomposition method. Optimal Control Applications and Methods, 2020, 41, 25-41.	1.3	12
39	Parsimonious cooperative distributed MPC algorithms for offset-free tracking. Journal of Process Control, 2017, 60, 1-13.	1.7	11
40	An economic MPC formulation with offset-free asymptotic performance. IFAC-PapersOnLine, 2018, 51, 393-398.	0.5	11
41	Implementation of an Industry 4.0 system to optimally manage chemical plant operation. IFAC-PapersOnLine, 2020, 53, 11545-11550.	0.5	11
42	Consistency of Property Estimators in Multicomponent Distillation Control. Industrial & Engineering Chemistry Research, 2003, 42, 4452-4460.	1.8	10
43	Simple and efficient moving horizon estimation based on the fast gradient method. IFAC-PapersOnLine, 2015, 48, 428-433.	0.5	10
44	Implementation of an economic MPC with robustly optimal steady-state behavior. IFAC-PapersOnLine, 2018, 51, 92-97.	0.5	10
45	How to Use Simplified Dynamics in Model Predictive Control of Superfractionators. Industrial & Engineering Chemistry Research, 2005, 44, 2687-2696.	1.8	9
46	A valve stiction tolerant formulation of MPC for industrial processes. IFAC-PapersOnLine, 2017, 50, 9044-9049.	0.5	9
47	An Open-Source System Identification Package for Multivariable Processes. , 2018, , .		9
48	Model predictive control for optimal oral anticoagulant drug administration. AIChE Journal, 2006, 52, 3315-3320.	1.8	8
49	How auxiliary variables and plant data collection affect closed-loop performance of inferential control. Journal of Process Control, 2007, 17, 653-663.	1.7	8
50	Offset-Free Economic MPC Based on Modifier Adaptation: Investigation of Several Gradient-Estimation Techniques. Processes, 2021, 9, 901.	1.3	8
51	Offset-free control of constrained linear discrete-time systems subject to persistent unmeasured disturbances. , 0, , .		7
52	RIGOROUS SIMULATION AND MODEL PREDICTIVE CONTROL OF A CRUDE DISTILLATION UNIT. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 635-640.	0.4	7
53	Efficient Cooperative Distributed MPC using Partial Enumeration* *This work was supported by National Science Foundation (Grant CTS-0456694). IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 607-612.	0.4	5
54	Accelerating tube-based model predictive control by constraint removal. , 2015, , .		5

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55	Robust Multivariable Inverse-Based Controllers: Theory and Application. Industrial & Engineering Chemistry Research, 1999, 38, 2375-2382.	1.8	4
56	Optimal modified models for robust predictive controllers. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1999, 32, 6757-6762.	0.4	4
57	ROBUST OFFSET-FREE MODEL PREDICTIVE CONTROL. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 297-302.	0.4	4
58	A Fast, Easily Tuned, SISO, Model Predictive Controller. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 907-912.	0.4	4
59	Performance degradation diagnosis and remedies in offset-free MPC. , 2012, , .		4
60	Parsimonious Cooperative Distributed MPC for Tracking Piece-Wise Constant Setpoints. IFAC-PapersOnLine, 2016, 49, 520-525.	0.5	4
61	Observer-based offset-free internal model control. IFAC-PapersOnLine, 2017, 50, 898-903.	0.5	4
62	Use of Different Kinds of Linear Models in Predictive Control of Distillation Columns. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2000, 33, 689-694.	0.4	3
63	Estimator Design with PLS Model for Consistent Control of Refinery Main Fractionators. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 125-130.	0.4	3
64	Is suboptimal nonlinear MPC inherently robust?*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 7981-7986.	0.4	3
65	A Multivariable Approach for Control System Optimization of IGCC with CCS in DECAR Bit Project. Energy Procedia, 2012, 23, 370-380.	1.8	3
66	Identification and experimental validation of an HIV model for HAART treated patients. Computer Methods and Programs in Biomedicine, 2013, 112, 432-440.	2.6	3
67	On the maximal controller gain in linear MPC 1 1This work was partially funded by the German Research Foundation (DFG) under the grants SCHU 2094/2-1 and MO 1086/11-1.. IFAC-PapersOnLine, 2017, 50, 9218-9223.	0.5	3
68	Decentralized Robust Model Predictive Control for Multi-Input Linear Systems. , 2018, , .		3
69	Biomethane Production: Mass and Energy Balances of Alternative Supply Chains. Industrial & Engineering Chemistry Research, 2019, 58, 10951-10962.	1.8	3
70	MULTIVARIABLE SUBSPACE IDENTIFICATION AND PREDICTIVE CONTROL OF A HEAT-INTEGRATED SUPERFRACTIONATOR RIGOROUS MODEL. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 421-426.	0.4	2
71	ON TEST DESIGN FOR SUBSPACE IDENTIFICATION OF MULTIVARIABLE ILL-CONDITIONED SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 219-224.	0.4	2
72	Optimal Computational Resource Allocation for Control Task under Fixed Priority Scheduling. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 12599-12604.	0.4	2

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73	Distributed Model Predictive Control. , 2013, , 1-9.		2
74	Identification techniques for stiction quantification in the presence of nonstationary disturbances. IFAC-PapersOnLine, 2015, 48, 629-634.	0.5	2
75	Assessing the speed-up achievable by online constraint removal in MPC. , 2015, , .		2
76	Constraint removal in linear MPC: An improved criterion and complexity analysis. , 2016, , .		2
77	Identification and estimation of valve stiction by the use of a smoothed model. IFAC-PapersOnLine, 2018, 51, 684-689.	0.5	2
78	Vision-based Model Predictive Control for Unmanned Aerial Vehicles Automatic Trajectory Generation and Tracking. , 2019, , .		2
79	Offset-free IMC with generalized disturbance models. Automatica, 2020, 122, 109270.	3.0	2
80	A new formulation of Economic Model Predictive Control without terminal constraint. Automatica, 2021, 125, 109420.	3.0	2
81	Estimation technique for offset-free economic MPC based on modifier adaptation. IFAC-PapersOnLine, 2020, 53, 11251-11256.	0.5	2
82	Reducing the computational effort of MPC with closed-loop optimal sequences of affine laws. IFAC-PapersOnLine, 2020, 53, 11344-11349.	0.5	2
83	Handbook of Model Predictive Control [Bookshelf]. IEEE Control Systems, 2020, 40, 96-99.	1.0	2
84	A Critical Comparison of Linear and Nonlinear Property Estimators in Inferential Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 977-982.	0.4	1
85	Partial Enumeration MPC: Robust Stability Results and Application to an Unstable CSTR. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 7-12.	0.4	1
86	Closed-Loop PARSIMonious Subspace Identification: Theory and Application to MPC. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 361-366.	0.4	1
87	Combining pharmacological therapy and vaccination in Chronic Myeloid Leukemia via model predictive control. , 2013, 2013, 3925-8.		1
88	A parsimonious algorithm for the solution of continuous-time constrained LQR problems with guaranteed convergence. , 2013, , .		1
89	MPC based optimization applied to treatment of HCV infections. Computer Methods and Programs in Biomedicine, 2021, 210, 106383.	2.6	1
90	A disturbance estimation approach for online model-based redesign of experiments in the presence of systematic errors. Computer Aided Chemical Engineering, 2011, 29, 467-471.	0.3	1

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91	A NEW PERFORMANCE EVALUATION STRATEGY FOR DECENTRALIZED MULTIVARIABLE PID CONTROL SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 185-190.	0.4	0
92	Computation of the Infinite Horizon Continuous Time Constrained Linear Quadratic Regulator* *This research was supported by National Science Foundation (Grant CTS-0456694).. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 237-242.	0.4	0
93	On the use of Nonlinear Model Predictive Control for pharmacological therapy optimization. , 2010, , .		0
94	MPC Performance Monitoring of a Rigorously Simulated Industrial Process. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 601-606.	0.4	0
95	Parameters identification of HIV dynamic models for HAART treated patients: A comparative study. , 2014, , .		0
96	A performance monitoring algorithm for sustained optimal operation with economic MPC. , 2019, , .		0
97	Distributed Model Predictive Control. , 2021, , 598-605.		0
98	Data-driven Nonlinear MPC using Dynamic Response Surface Methodology. IFAC-PapersOnLine, 2021, 54, 272-277.	0.5	0
99	Distributed Model Predictive Control. , 2019, , 1-8.		0