Sergio Lucia

List of Publications by Year
in descending order

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103	4,125	218662	123420
papers	citations	26 h-index	61 g-index

105	105	105	2577
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Polynomial Chaos Approach to Robust Static Output-Feedback Control With Bounded Truncation Error. IEEE Transactions on Automatic Control, 2023, 68, 470-477.	5.7	6
2	Robust Tube-Enhanced Multi-Stage NMPC With Stability Guarantees. , 2022, 6, 1112-1117.		9
3	Attack Identification for Nonlinear Systems Based on Sparse Optimization. IEEE Transactions on Automatic Control, 2022, 67, 6397-6412.	5.7	4
4	Optimization-Based Predictive Congestion Control for the Tor Network: Opportunities and Challenges. ACM Transactions on Internet Technology, 2022, 22, 1-30.	4.4	0
5	Adaptively robust nonlinear model predictive control based on attack identification. Automatisierungstechnik, 2022, 70, 367-377.	0.8	3
6	Deep Learning Implementation of Model Predictive Control for Multioutput Resonant Converters. IEEE Access, 2022, 10, 65228-65237.	4.2	3
7	Deep Learning-Based Model Predictive Control for Resonant Power Converters. IEEE Transactions on Industrial Informatics, 2021, 17, 409-420.	11.3	59
8	Model Predictive Control for the Internet of Things. Lecture Notes in Control and Information Sciences, 2021, , 165-189.	1.0	2
9	Teaching MPC: Which Way to the Promised Land?. IFAC-PapersOnLine, 2021, 54, 238-243.	0.9	1
10	Multi-step Greedy Reinforcement Learning Based on Model Predictive Control. IFAC-PapersOnLine, 2021, 54, 699-705.	0.9	1
11	E-Learning in Industrial Electronics during Covid-19. , 2021, , .		11
12	Tubeâ€enhanced multiâ€stage model predictive control for flexible robust control of constrained linear systems with additive and parametric uncertainties. International Journal of Robust and Nonlinear Control, 2021, 31, 4458-4487.	3.7	11
13	Constant-Current Gate Driver for GaN HEMTs Applied to Resonant Power Conversion. Energies, 2021, 14, 2377.	3.1	5
14	Approximate moving horizon estimation and robust nonlinear model predictive control via deep learning. Computers and Chemical Engineering, 2021, 148, 107266.	3.8	16
15	Reinforced approximate robust nonlinear model predictive control. , 2021, , .		3
16	Probabilistic performance validation of deep learningâ€based robust NMPC controllers. International Journal of Robust and Nonlinear Control, 2021, 31, 8855-8876.	3.7	20
17	Polynomial chaos-based <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e186" altimg="si541.svg"><mml:msub><mml:mrow><mml:mi mathvariant="script">H</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:math> output-feedback control of systems with probabilistic parametric uncertainties. Automatica, 2021, 131, 109743.	5.0	3
18	From Screening to Production: a Holistic Approach of High-throughput Model-based Screening for Recombinant Protein Production. Computer Aided Chemical Engineering, 2020, , 1723-1728.	0.5	3

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19	Stability properties of multi-stage nonlinear model predictive control. Systems and Control Letters, 2020, 143, 104743.	2.3	24
20	PredicTor: Predictive Congestion Control for the Tor Network. , 2020, , .		3
21	Development of new high-performance induction heating systems using model predictive control1. International Journal of Applied Electromagnetics and Mechanics, 2020, , 1-8.	0.6	0
22	Computing in the Blink of an Eye: Current Possibilities for Edge Computing and Hardware-Agnostic Programming. IEEE Access, 2020, 8, 41626-41636.	4.2	1
23	Efficient Representation and Approximation of Model Predictive Control Laws via Deep Learning. IEEE Transactions on Cybernetics, 2020, 50, 3866-3878.	9.5	119
24	A probabilistic validation approach for penalty function design in Stochastic Model Predictive Control. IFAC-PapersOnLine, 2020, 53, 11271-11276.	0.9	3
25	Identifying Attacks on Nonlinear Cyber-Physical Systems in a Robust Model Predictive Control Setup. , 2020, , .		3
26	A Hierarchical Attack Identification Method for Nonlinear Systems. , 2020, , .		3
27	Stability and feasibility of neural network-based controllers via output range analysis. , 2020, , .		15
28	Hierarchical Attack Identification for Distributed Robust Nonlinear Control. IFAC-PapersOnLine, 2020, 53, 6113-6120.	0.9	5
29	Sparse Magnetometer-free Inertial Motion Tracking â€“ A Condition for Observability in Double Hinge Joint Systems. IFAC-PapersOnLine, 2020, 53, 16023-16030.	0.9	5
30	Economic nonlinear predictive control of water distribution networks based on surrogate modeling and automatic clustering. IFAC-PapersOnLine, 2020, 53, 16636-16643.	0.9	9
31	Multiresonant Power Converter for Improved Dual-Frequency Induction Heating. IEEE Transactions on Power Electronics, 2019, 34, 2097-2103.	7.9	15
32	Efficient robust nonlinear model predictive control via approximate multi-stage programming: A neural networks based approach. Computer Aided Chemical Engineering, 2019, , 1261-1266.	0.5	1
33	Learning-based approximation of robust nonlinear predictive control with state estimation applied to a towing kite. , 2019, , .		17
34	Multiple-Output ZVS Resonant Inverter Architecture for Flexible Induction Heating Appliances. IEEE Access, 2019, 7, 157046-157056.	4.2	27
35	Smart Hot Water Control with Learned Human Behavior for Minimal Energy Consumption. , 2019, , .		8
36	Deep Learning-Based Magnetic Coupling Detection for Advanced Induction Heating Appliances. IEEE Access, 2019, 7, 181668-181677.	4.2	28

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37	Improved Multi-Load Resonant Power Conversion Using Model Predictive Control. , 2019, , .		2
38	Modeling Enzyme Controlled Metabolic Networks in Rapidly Changing Environments by Robust Optimization. , 2019, 3, 248-253.		3
39	High-Performance and Cost-Effective ZCS Matrix Resonant Inverter for Total Active Surface Induction Heating Appliances. IEEE Transactions on Power Electronics, 2019, 34, 117-125.	7.9	22
40	FPGA-Based Resonant Load Identification Technique for Flexible Induction Heating Appliances. IEEE Transactions on Industrial Electronics, 2018, 65, 9421-9428.	7.9	25
41	Optimized FPGA Implementation of Model Predictive Control for Embedded Systems Using High-Level Synthesis Tool. IEEE Transactions on Industrial Informatics, 2018, 14, 137-145.	11.3	73
42	A Synergistic Approach to Robust Output Feedback Control: Tube-based Multi-stage NMPC. IFAC-PapersOnLine, 2018, 51, 500-505.	0.9	7
43	Robust Dual Multi-stage NMPC using Guaranteed Parameter Estimation. IFAC-PapersOnLine, 2018, 51, 72-77.	0.9	6
44	A deep learning-based approach to robust nonlinear model predictive control. IFAC-PapersOnLine, 2018, 51, 511-516.	0.9	54
45	A Combined Multi-stage and Tube-based MPC Scheme for Constrained Linear Systems. IFAC-PapersOnLine, 2018, 51, 481-486.	0.9	9
46	Handling Structural Plant-model Mismatch using a Model-error Model in the Multi-stage NMPC framework. IFAC-PapersOnLine, 2018, 51, 1074-1079.	0.9	13
47	Dual robust nonlinear model predictive control: A multi-stage approach. Journal of Process Control, 2018, 72, 39-51.	3.3	35
48	Deep learning-based embedded mixed-integer model predictive control. , 2018, , .		22
49	Model Predictive Control for Resonant Power Converters Applied to Induction Heating. , 2018, , .		3
50	Modern Control Architectures and Implementation. , 2018, , 477-502.		9
51	Towards low-energy, low-cost and high-performance IoT-based operation of interconnected systems. , 2018, , .		4
52	Robust Static $mathcal{H}_{infty}$ Output-Feedback Control Using Polynomial Chaos. , 2018, , .		5
53	Review of Silicon Carbide Power Devices and Their Applications. IEEE Transactions on Industrial Electronics, 2017, 64, 8193-8205.	7.9	916
54	Rapid development of modular and sustainable nonlinear model predictive control solutions. Control Engineering Practice, 2017, 60, 51-62.	5.5	98

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55	Adaptive nonlinear predictive control and estimation of microaerobic processes. IFAC-PapersOnLine, 2017, 50, 12635-12640.	0.9	2
56	Robust nonlinear model predictive control with reduction of uncertainty via dual control. , 2017, , .		6
57	Towards adaptive health-aware charging of Li-ion batteries: A real-time predictive control approach using first-principles models. , 2017, , .		12
58	A novel tube-based output feedback MPC for constrained linear systems. , 2017, , .		12
59	On stability of stochastic linear systems via polynomial chaos expansions. , 2017, , .		9
60	An Improved Output Feedback MPC scheme for Constrained Linear Systems * *The research leading to these results has received funding from the European Commission under grant agreement number 291458 (MOBOCON). IFAC-PapersOnLine, 2017, 50, 15506-15511.	0.9	2
61	Polynomial Chaos-Based H 2 -optimal Static Output Feedback Control of Systems with Probabilistic Parametric Uncertainties. IFAC-PapersOnLine, 2017, 50, 3536-3541.	0.9	3
62	Monotonicity of Kinetic Proofreading. IFAC-PapersOnLine, 2016, 49, 306-311.	0.9	1
63	A non-conservative robust output feedback MPC for constrained linear systems. , 2016, , .		3
64	Exploiting models of different granularity in robust predictive control. , 2016, , .		7
65	Efficient stochastic model predictive control for embedded systems based on second-order cone programs. , 2016, , .		1
66	Predictive control, embedded cyberphysical systems and systems of systems â€“ A perspective. Annual Reviews in Control, 2016, 41, 193-207.	7.9	62
67	A Set-Based Optimal Control Approach for Pharmacokinetic/Pharmacodynamic Drug Dosage Design. IFAC-PapersOnLine, 2016, 49, 797-802.	0.9	7
68	Adaptive Multi-stage Output Feedback NMPC using the Extended Kalman Filter for time varying uncertainties applied to a CSTR. IFAC-PapersOnLine, 2015, 48, 242-247.	0.9	4
69	Improved Design of Nonlinear Model Predictive Controllers. IFAC-PapersOnLine, 2015, 48, 254-259.	0.9	14
70	Potential and Limitations of Multi-stage Nonlinear Model Predictive Control. IFAC-PapersOnLine, 2015, 48, 1015-1020.	0.9	6
71	Contract-based Predictive Control of Distributed Systems with Plug and Play Capabilities. IFAC-PapersOnLine, 2015, 48, 205-211.	0.9	35
72	Efficient stochastic model predictive control based on polynomial chaos expansions for embedded applications. , 2015, , .		14

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73	Economic Multi-stage Output Feedback NMPC using the Unscented Kalman Filter. IFAC-PapersOnLine, 2015, 48, 38-43.	0.9	12
74	Predictive Control in the Era of Networked Control and Communication - a Perspective. IFAC-PapersOnLine, 2015, 48, 322-331.	0.9	3
75	Improving scenario decomposition algorithms for robust nonlinear model predictive control. Computers and Chemical Engineering, 2015, 79, 30-45.	3.8	39
76	Robust output feedback NMPC with guaranteed constraint satisfaction. IFAC-PapersOnLine, 2015, 48, 326-331.	0.9	0
77	Handling structural plant-model mismatch via multi-stage nonlinear model predictive control. , 2015, , .		9
78	An efficient distributed algorithm for multi-stage robust nonlinear predictive control. , 2015, , .		5
79	Towards dual robust nonlinear model predictive control: A multi-stage approach. , 2015, , .		10
80	Implementation of an FPGA-Based Online Hardware-in-the-Loop Emulator Using High-Level Synthesis Tools for Resonant Power Converters Applied to Induction Heating Appliances. IEEE Transactions on Industrial Electronics, 2015, 62, 2206-2214.	7.9	43
81	Analytical Model of the Half-Bridge Series Resonant Inverter for Improved Power Conversion Efficiency and Performance. IEEE Transactions on Power Electronics, 2015, 30, 4128-4143.	7.9	52
82	Multi-stage Nonlinear Model Predictive Control with verified robust constraint satisfaction. , 2014, , .		24
83	Economic multi-stage output nonlinear model predictive control. , 2014, , .		10
84	An environment for the efficient testing and implementation of robust NMPC. , 2014, , .		11
85	Control of towing kites under uncertainty using robust economic nonlinear model predictive control. , 2014, , .		14
86	Induction Heating Technology and Its Applications: Past Developments, Current Technology, and Future Challenges. IEEE Transactions on Industrial Electronics, 2014, 61, 2509-2520.	7.9	570
87	Analysis and Implementation of FPGA-Based Online Parametric Identification Algorithms for Resonant Power Converters. IEEE Transactions on Industrial Informatics, 2014, 10, 1144-1153.	11.3	43
88	Handling uncertainty in economic nonlinear model predictive control: A comparative case study. Journal of Process Control, 2014, 24, 1247-1259.	3.3	134
89	Efficient Robust Economic Nonlinear Model Predictive Control of an Industrial Batch Reactor. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 11093-11098.	0.4	11
90	Robust Nonlinear Model Predictive Control with Reduction of Uncertainty via Robust Optimal Experiment Design. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 1904-1909.	0.4	21

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91	Induction Heating Appliances: Toward More Flexible Cooking Surfaces. IEEE Industrial Electronics Magazine, 2013, 7, 35-47.	2.6	133
92	Non-conservative robust Nonlinear Model Predictive Control via scenario decomposition. , 2013, , .		8
93	Multi-stage nonlinear model predictive control applied to a semi-batch polymerization reactor under uncertainty. Journal of Process Control, 2013, 23, 1306-1319.	3.3	283
94	High-Level Synthesis for Accelerating the FPGA Implementation of Computationally Demanding Control Algorithms for Power Converters. IEEE Transactions on Industrial Informatics, 2013, 9, 1371-1379.	11.3	59
95	FPGA-Based Test-Bench for Resonant Inverter Load Characterization. IEEE Transactions on Industrial Informatics, 2013, 9, 1645-1654.	11.3	47
96	Simple Control Scheme for Batch Time Minimization of Exothermic Semibatch Polymerizations. Industrial & Engineering Chemistry Research, 2013, 52, 5906-5920.	3.7	14
97	Robust nonlinear model predictive control of a batch bioreactor using multi-stage stochastic programming. , 2013, , .		15
98	A new Robust NMPC Scheme and its Application to a Semi-batch Reactor Example. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 69-74.	0.4	31
99	Multi-stage and Two-stage Robust Nonlinear Model Predictive Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 181-186.	0.4	14
100	Real-Time FPGA-Based Hardware-in-the-Loop Simulation Test Bench Applied to Multiple-Output Power Converters. IEEE Transactions on Industry Applications, 2011, 47, 853-860.	4.9	85
101	Efficiency-Oriented Design of ZVS Half-Bridge Series Resonant Inverter With Variable Frequency Duty Cycle Control. IEEE Transactions on Power Electronics, 2010, 25, 1671-1674.	7.9	158
102	Series-Resonant Multiinverter for Multiple Induction Heaters. IEEE Transactions on Power Electronics, 2010, 25, 2860-2868.	7.9	115
103	Load-Adaptive Control Algorithm of Half-Bridge Series Resonant Inverter for Domestic Induction Heating. IEEE Transactions on Industrial Electronics, 2009, 56, 3106-3116.	7.9	200