Maria Seron

List of Publications by Year
in descending order

147 papers	3,790 citations	201674 27 h-index	144013 57 g-index
149 all docs	149 docs citations	149 times ranked	2184 citing authors

#	Article	IF	Citations
1	Robust model predictive control of constrained linear systems with bounded disturbances. Automatica, 2005, 41, 219-224.	5.0	1,140
2	A systematic method to obtain ultimate bounds for perturbed systems. International Journal of Control, 2007, 80, 167-178.	1.9	144
3	Positive invariant sets for fault tolerant multisensor control schemes. International Journal of Control, 2010, 83, 2622-2640.	1.9	141
4	Feedback limitations in nonlinear systems: from Bode integrals to cheap control. IEEE Transactions on Automatic Control, 1999, 44, 829-833.	5.7	134
5	Multisensor switching control strategy with fault tolerance guarantees. Automatica, 2008, 44, 88-97.	5.0	121
6	Model Predictive Control of Distributed Air-Conditioning Loads to Compensate Fluctuations in Solar Power. IEEE Transactions on Smart Grid, 2017, 8, 3055-3065.	9.0	105
7	Robust output-feedback model predictive control for systems with unstructured uncertainty. Automatica, 2008, 44, 1933-1943.	5.0	93
8	Nonlinear adaptive control of feedback passive systems. Automatica, 1995, 31, 1053-1060.	5.0	78
9	Global analytical model predictive control with input constraints. , 0, , .		76
10	From vehicular platoons to general networked systems: String stability and related concepts. Annual Reviews in Control, 2017, 44, 157-172.	7.9	71
11	Robust fault estimation and compensation for LPV systems under actuator and sensor faults. Automatica, 2015, 52, 294-301.	5.0	67
12	Sensor fault-tolerant vector control of induction motors. IET Control Theory and Applications, 2010, 4, 1707-1724.	2.1	58
13	Fault Tolerant Control Allowing Sensor Healthy-to-Faulty and Faulty-to-Healthy Transitions. IEEE Transactions on Automatic Control, 2012, 57, 1657-1669.	5.7	52
14	Robust model predictive control: reflections and opportunities. Journal of Control and Decision, 2014, 1, 115-148.	1.6	46
15	Enlarged terminal sets guaranteeing stability of receding horizon control. Systems and Control Letters, 2002, 47, 57-63.	2.3	44
16	Limiting performance of optimal linear filters. Automatica, 1999, 35, 189-199.	5.0	42
17	Reference governor design for tracking problems with fault detection guarantees. Journal of Process Control, 2012, 22, 829-836.	3.3	42
18	Anti-windup and Model Predictive Control: Reflections and Connections*. European Journal of Control, 2000, 6, 467-477.	2.6	38

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19	Componentwise ultimate bound and invariant set computation for switched linear systems. Automatica, 2010, 46, 1897-1901.	5.0	38
20	Probabilistic set invariance and ultimate boundedness. Automatica, 2012, 48, 2670-2676.	5.0	36
21	Receding horizon control applied to optimal mine planning. Automatica, 2006, 42, 1337-1342.	5.0	33
22	Control design with guaranteed ultimate bound for perturbed systems. Automatica, 2008, 44, 1815-1821.	5.0	33
23	Actuator fault tolerant control of systems with polytopic uncertainties using set-based diagnosis and virtual-actuator-based reconfiguration. Automatica, 2017, 75, 182-190.	5.0	33
24	Actuator fault tolerant multi-controller scheme using set separation based diagnosis. International Journal of Control, 2010, 83, 2328-2339.	1.9	32
25	Robustification of backstepping against input unmodeled dynamics. IEEE Transactions on Automatic Control, 2000, 45, 1358-1363.	5.7	31
26	Bounds and invariant sets for a class of switching systems with delayed-state-dependent perturbations. Automatica, 2013, 49, 748-754.	5.0	30
27	Fault-tolerant control of systems with convex polytopic linear parameter varying model uncertainty using virtual-sensor-based controller reconfiguration. Annual Reviews in Control, 2013, 37, 146-153.	7.9	29
28	Non-stationary stochastic embedding for transfer function estimation. Automatica, 2002, 38, 47-62.	5.0	28
29	Actuator faultâ€tolerant control based on set separation. International Journal of Adaptive Control and Signal Processing, 2010, 24, 1070-1090.	4.1	28
30	A Flatness-Based Iterative Method for Reference Trajectory Generation in Constrained NMPC. Lecture Notes in Control and Information Sciences, 2009, , 325-333.	1.0	26
31	Robust Output-Feedback MPC With Integral Action. IEEE Transactions on Automatic Control, 2010, 55, 1531-1543.	5.7	26
32	Fault tolerant control using virtual actuators and setâ€separation detection principles. International Journal of Robust and Nonlinear Control, 2012, 22, 709-742.	3.7	26
33	Vehicular platoons in cyclic interconnections. Automatica, 2018, 94, 283-293.	5.0	26
34	Systematic ultimate bound computation for sampled-data systems with quantization. Automatica, 2007, 43, 1117-1123.	5.0	25
35	Fundamental design tradeoffs in filtering, prediction, and smoothing. IEEE Transactions on Automatic Control, 1997, 42, 1240-1251.	5.7	24
36	Robust multisensor fault tolerant model-following MPC design for constrained systems. International Journal of Applied Mathematics and Computer Science, 2012, 22, 211-223.	1.5	24

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37	Lagrangian duality between constrained estimation and control. Automatica, 2005, 41, 935-944.	5.0	23
38	Multisensor fusion fault tolerant control. Automatica, 2011, 47, 1461-1466.	5.0	23
39	Bounds and invariant sets for a class of discrete-time switching systems with perturbations. International Journal of Control, 2014, 87, 371-383.	1.9	22
40	Control system design issues for unstable linear systems with saturated inputs. IET Control Theory and Applications, 1995, 142, 335-344.	1.7	21
41	Sensor fault-tolerant control of a magnetic levitation system. International Journal of Robust and Nonlinear Control, 2010, 20, 2108-2121.	3.7	20
42	Nonlinear tracking and input disturbance rejection with application to pH control. Journal of Process Control, 1996, 6, 195-202.	3.3	19
43	A revisit to inverse optimality of linear systems. International Journal of Control, 2012, 85, 1506-1514.	1.9	19
44	Integrated sensor and actuator fault-tolerant control. International Journal of Control, 2013, 86, 689-708.	1.9	19
45	Virtual actuator for Lure systems with Lipschitz-continuous nonlinearity. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 222-227.	0.4	18
46	Predictive control:â€‰a historical perspective. International Journal of Robust and Nonlinear Control, 2012, 22, 1296-1313.	3.7	18
47	Robust multiactuator faultâ€tolerant MPC design for constrainedâ€‰systems. International Journal of Robust and Nonlinear Control, 2013, 23, 1828-1845.	3.7	18
48	Splines and polynomial tools for flatness-based constrained motion planning. International Journal of Systems Science, 2012, 43, 1396-1411.	5.5	17
49	Predictive metamorphic control. Automatica, 2013, 49, 3670-3676.	5.0	17
50	A fundamental control performance limit for a class of positive nonlinear systems. Automatica, 2018, 95, 14-22.	5.0	16
51	Performance degradation in feedback control due to constraints. IEEE Transactions on Automatic Control, 2003, 48, 1381-1385.	5.7	15
52	Methods for trajectory generation in a magnetic-levitation system under constraints. , 2010, , .		15
53	Cheap control tracking performance for non-right-invertible systems. International Journal of Robust and Nonlinear Control, 2002, 12, 1253-1273.	3.7	14
54	Geometric characterization of multivariable quadratically stabilizing quantizers. International Journal of Control, 2006, 79, 845-857.	1.9	14

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55	Bank of Virtual Actuators for Fault Tolerant Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 5436-5441.	0.4	13
56	Invariant-set-based fault diagnosis in Lure systems. International Journal of Robust and Nonlinear Control, 2014, 24, 2405-2422.	3.7	13
57	Diagnosis and actuator fault tolerant control in vehicle active suspension. , 2007, , .		11
58	A combined model predictive control/space vector modulation (MPC-SVM) strategy for direct torque and flux control of induction motors. , 2011, , .		11
59	Application of nonlinear model predictive control to an industrial induction heating furnace. Annual Reviews in Control, 2013, 37, 271-277.	7.9	11
60	Ultimate boundedness and regions of attraction of frequency droop controlled microgrids with secondary control loops. Automatica, 2017, 81, 416-428.	5.0	11
61	Sensitivity limitations in nonlinear feedback control. Systems and Control Letters, 1996, 27, 249-254.	2.3	10
62	Fault tolerant control using virtual actuators and invariant-set based fault detection and identification. , 2009, , .		10
63	Robust MPC design for fault tolerance of constrained multisensor linear systems. , 2010, , .		10
64	Zonotopic ultimate bounds for linear systems with bounded disturbances. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 9224-9229.	0.4	10
65	Invariant-set-based fault tolerant control using virtual sensors. IET Control Theory and Applications, 2011, 5, 1092-1103.	2.1	10
66	A performance bound for optimal insulin infusion in individuals with TypeÂ1 diabetes ingesting a meal with slow postprandial response. Automatica, 2019, 103, 531-537.	5.0	10
67	Stochastic model predictive control: Insights and performance comparisons for linear systems. International Journal of Robust and Nonlinear Control, 2019, 29, 5038-5057.	3.7	10
68	On fundamental limitations for rudder roll stabilization of ships. , 0, , .		9
69	Finitely parameterised implementation of receding horizon control for constrained linear systems. , 2002, , .		9
70	On robust stability and set invariance of switched linear parameter varying systems. International Journal of Control, 2015, 88, 2588-2597.	1.9	9
71	Vehicular Platoons in cyclic interconnections with constant inter-vehicle spacing. IFAC-PapersOnLine, 2017, 50, 2511-2516.	0.9	9
72	A dissipativity approach to robustness in constrained model predictive control. , 2007, , .		8

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73	Opportunities and Challenges in the Application of Nonlinear MPC to Industrial Problems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 39-49.	0.4	8
74	A systematic stochastic design strategy achieving an optimal tradeoff between peak BGL and probability of hypoglycaemic events for individuals having type 1 diabetes mellitus. Biomedical Signal Processing and Control, 2020, 57, 101813.	5.7	8
75	Fault-tolerant control of a magnetic levitation system using virtual-sensor-based reconfiguration. , 2010, , .		7
76	Preview and Feedforward in Model Predictive Control: Conceptual and Design Issues*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 5555-5560.	0.4	7
77	A fault tolerant control scheme based on sensorâ€“actuation channel switching and dwell time. International Journal of Robust and Nonlinear Control, 2014, 24, 775-792.	3.7	7
78	A cost-effective sparse communication strategy for networked linear control systems: an SVD-based approach. International Journal of Robust and Nonlinear Control, 2015, 25, 2223-2240.	3.7	7
79	On invariant sets and closedâ€loop boundedness of Lureâ€type nonlinear systems by LPVâ€embedding. International Journal of Robust and Nonlinear Control, 2016, 26, 1092-1111.	3.7	7
80	Continuous-time probabilistic ultimate bounds and invariant sets: Computation and assignment. Automatica, 2016, 71, 98-105.	5.0	7
81	Integration of invariantâ€setâ€based FDI with varying sampling rate virtual actuator and controller. International Journal of Adaptive Control and Signal Processing, 2016, 30, 393-411.	4.1	7
82	Faultâ€tolerant fusionâ€based MPC with sensor recovery for constrained LPV systems. International Journal of Robust and Nonlinear Control, 2018, 28, 3589-3605.	3.7	7
83	Feedback and feedforward control in the context of model predictive control with application to the management of type 1 diabetes mellitus. Control Engineering Practice, 2019, 89, 228-237.	5.5	7
84	Advanced hybrid models for control of Matrix Converters in mining vehicle applications. , 2021, , .		7
85	Multivariable quadratically-stabilizing quantizers with finite density. Automatica, 2008, 44, 1880-1885.	5.0	6
86	Componentwise ultimate bound computation for switched linear systems. , 2009, , .		6
87	DTFC versus MPC for induction motor control reconfiguration after inverter faults. , 2010, , .		6
88	On splines and polynomial tools for constrained motion planning. , 2010, , .		6
89	Robust MPC multicontroller design for actuator fault tolerance of constrained systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 4678-4683.	0.4	6
90	Robust actuator fault compensation accounting for uncertainty in the fault estimation. International Journal of Adaptive Control and Signal Processing, 2014, 28, 1440-1453.	4.1	6

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91	Actuator fault tolerant control based on probabilistic ultimate bounds. ISA Transactions, 2019, 84, 20-30.	5.7	6
92	Optimization opportunities in mining, metal and mineral processing. Annual Reviews in Control, 2008, 32, 17-32.	7.9	5
93	Multisensor fusion fault-tolerant control with diagnosis via a set separation principle. , 2009, , .		5
94	Inverse minimax optimality of model predictive control policies. Systems and Control Letters, 2009, 58, 31-38.	2.3	5
95	Multisensor fusion fault-tolerant control of a magnetic levitation system. , 2010, , .		5
96	Minimum-time trajectory generation for constrained linear systems using flatness and B-splines. International Journal of Control, 2011, 84, 1565-1585.	1.9	5
97	Control Limitations in Models of T1DM and the Robustness of Optimal Insulin Delivery. Journal of Diabetes Science and Technology, 2018, 12, 926-936.	2.2	5
98	Fault estimation and controller compensation in Lure systems by LPV-embedding. International Journal of Control, 2019, 92, 1914-1927.	1.9	5
99	Matrix Converters with input resonance suppression for mobile mining vehicles. , 2020, , .		5
100	Flatness-based Minimum-time Trajectory Generation for Constrained Linear Systems Using B-Splines. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 6674-6679.	0.4	4
101	On eigenvalue-eigenvector assignment for componentwise ultimate bound minimisation in MIMO LTI discrete-time systems. , 2013, , .		4
102	Set Invariance Approach for Fault Detection and Isolation in Lure Systems by LPV-embedding. IFAC-PapersOnLine, 2015, 48, 1036-1041.	0.9	4
103	Ultimate bound minimisation by state feedback in discrete-time switched linear systems under arbitrary switching. Nonlinear Analysis: Hybrid Systems, 2016, 21, 84-102.	3.5	4
104	A modified relay autotuner for systems having large broadband disturbances. Automatica, 2018, 94, 178-185.	5.0	4
105	Fundamental performance properties of a general class of observers for linear systems having predictable disturbances. Automatica, 2020, 113, 108717.	5.0	4
106	Novel Comprehensive Control of Matrix Converters. , 2021, , .		4
107	Grid-side power factor optimisation for Matrix Converters in mobile mining vehicle applications. , 2021, , .		4
108	On Infimum Quantization Density for Multiple-input Systems. , 0, , .		3

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109	A fault tolerant control scheme based on sensor-actuation channel switching and dwell time. , 2010, , .		3
110	Speed-sensorless control of induction motors with improved fault tolerance against current sensor failure. , 2010, , .		3
111	Fault detection, isolation, and recovery using spline tools and differential flatness with application to a magnetic lévitation system. , 2010, , .		3
112	Reference governor for tracking with fault detection capabilities. , 2010, , .		3
113	A discussion on sensor recovery techniques for fault tolerant multisensor schemes. International Journal of Systems Science, 2014, 45, 1708-1722.	5.5	3
114	Characterisation of Optimal Responses to Pulse Inputs in the Bergman Minimal Model. IFAC-PapersOnLine, 2017, 50, 15163-15168.	0.9	3
115	Set theoretic approach to fault-tolerant control of linear parameter-varying systems with sensor reintegration. International Journal of Control, 2019, 92, 858-874.	1.9	3
116	Open-cut Mine Planning via Closed-loop Receding-horizon Optimal Control. , 2007, , 43-62.		3
117	Fault Tolerant Control for Lure Systems Via LPV Embedding. Advanced Science Letters, 2016, 22, 2719-2723.	0.2	3
118	When does QP yield the exact solution to constrained NMPC?. International Journal of Control, 2009, 82, 812-821.	1.9	2
119	Fault-tolerant control under controller-driven sampling using a virtual actuator strategy. , 2013, , .		2
120	Ultimate boundedness of droop controlled microgrids with secondary loops. , 2014, , .		2
121	An investigation of set-theoretic methods for fault detection in Lure systems. , 2014, , .		2
122	A set separation sensor switching approach to the fault tolerant control of linear parameter varying systems. , 2014, , .		2
123	Actuator Fault Diagnosis Using Probabilistic Ultimate Bounds. IEEE Latin America Transactions, 2016, 14, 2550-2555.	1.6	2
124	Eigenstructure Assignment for Componentwise Ultimate Bound Minimization in Discrete-Time Linear Systems. IEEE Transactions on Automatic Control, 2016, 61, 3669-3675.	5.7	2
125	Reduced parameterisation MPC for input-constrained unstable linear systems Part 1: Implementation. , 2009, , .		2
126	Towards a Simple Sampled-Data Control Law for Stably Invertible Linear Systems. IFAC-PapersOnLine, 2020, 53, 4582-4587.	0.9	2

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127	Quadratic Leaky Integrate-and-Fire Neural Network Tuned with an Evolution-Strategy for a Simulated 3D Biped Walking Controller. , 2008, , .		1
128	Improved multisensor switching scheme for fault tolerant control. , 2009, , .		1
129	Switching strategy for sensor fault tolerant vector control of doubly fed induction machines. , 2010, , .		1
130	Set-based Actuator Fault Diagnosis in Lure Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 234-239.	0.4	1
131	A state-dependent switching law to quadratically stabilise switched linear systems. , 2014, , .		1
132	Ultimate bounds and regions of attraction for two-inverter microgrids with primary and secondary frequency control loops. , 2015, , .		1
133	Integrated framework for constrained minimumâ€time trajectory generation, fault detection and reconfiguration: A caseâ€study. International Journal of Adaptive Control and Signal Processing, 2016, 30, 986-1001.	4.1	1
134	Lyapunov-Function-Free Backstepping Design with Application to the Lorenz System. IFAC-PapersOnLine, 2018, 51, 223-228.	0.9	1
135	Null controllable sets of unstable systems and their application to MPC. , 2009, , .		1
136	Reduced parameterisation MPC for input-constrained unstable linear systems Part 2: Properties. , 2009, , .		1
137	BACKLASH COMPENSATION USING RECEDING HORIZON CONTROL. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 508-513.	0.4	0
138	Best Possible Region of Attraction for a Class of Unstable Systems Using Short Horizon MPC Concepts. , 0, , .		0
139	Maximal controllability of input constrained unstable systems by the addition of implicit constraints. Automatica, 2011, 47, 2260-2266.	5.0	0
140	Fault-Tolerant Control of Convex Polytopic Linear Parameter Varying Systems Using Virtual-Sensor-Based Reconfiguration. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 240-246.	0.4	0
141	Sparse networked control of input constrained linear systems. , 2013, , .		0
142	Complex polytopic Lyapunov functions and componentwise ultimate bounds for switched linear systems: A missing link. , 2015, , .		0
143	An actuator fault tolerant strategy under controller-driven sampling and measurement losses. , 2015, , .		0
144	Geometric MPC for three-phase AC inverters with performance bounds. International Journal of Control, 2020, 93, 156-169.	1.9	0

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145	Model predictive control for induction motor control reconï¬guration after inverter faults. Journal Europeen Des Systemes Automatises, 2012, 46, 307-321.	0.4	0
146	The Use of Model Predictive Control in AC Drives for Mining Applications. , 2020, , .		0
147	Novel Control Scheme for Matrix Converters. , 2020, , .		0