

# Maria Seron

## List of Publications by Year in descending order

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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	Novel Comprehensive Control of Matrix Converters. , 2021, , .		4
2	Grid-side power factor optimisation for Matrix Converters in mobile mining vehicle applications. , 2021, , .		4
3	Advanced hybrid models for control of Matrix Converters in mining vehicle applications. , 2021, , .		7
4	Geometric MPC for three-phase AC inverters with performance bounds. International Journal of Control, 2020, 93, 156-169.	1.9	0
5	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
6	Fundamental performance properties of a general class of observers for linear systems having predictable disturbances. Automatica, 2020, 113, 108717.	5.0	4
7	Towards a Simple Sampled-Data Control Law for Stably Invertible Linear Systems. IFAC-PapersOnLine, 2020, 53, 4582-4587.	0.9	2
8	The Use of Model Predictive Control in AC Drives for Mining Applications. , 2020, , .		0
9	Novel Control Scheme for Matrix Converters. , 2020, , .		0
10	Matrix Converters with input resonance suppression for mobile mining vehicles. , 2020, , .		5
11	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
12	A performance bound for optimal insulin infusion in individuals with Type 1 diabetes ingesting a meal with slow postprandial response. Automatica, 2019, 103, 531-537.	5.0	10
13	Actuator fault tolerant control based on probabilistic ultimate bounds. ISA Transactions, 2019, 84, 20-30.	5.7	6
14	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
15	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
16	Fault estimation and controller compensation in Lure systems by LPV-embedding. International Journal of Control, 2019, 92, 1914-1927.	1.9	5
17	Lyapunov-Function-Free Backstepping Design with Application to the Lorenz System. IFAC-PapersOnLine, 2018, 51, 223-228.	0.9	1
18	A fundamental control performance limit for a class of positive nonlinear systems. Automatica, 2018, 95, 14-22.	5.0	16

#	ARTICLE	IF	CITATIONS
19	A modified relay autotuner for systems having large broadband disturbances. <i>Automatica</i> , 2018, 94, 178-185.	5.0	4
20	Vehicular platoons in cyclic interconnections. <i>Automatica</i> , 2018, 94, 283-293.	5.0	26
21	Control Limitations in Models of T1DM and the Robustness of Optimal Insulin Delivery. <i>Journal of Diabetes Science and Technology</i> , 2018, 12, 926-936.	2.2	5
22	Fault-tolerant fusion-based MPC with sensor recovery for constrained LPV systems. <i>International Journal of Robust and Nonlinear Control</i> , 2018, 28, 3589-3605.	3.7	7
23	Ultimate boundedness and regions of attraction of frequency droop controlled microgrids with secondary control loops. <i>Automatica</i> , 2017, 81, 416-428.	5.0	11
24	Model Predictive Control of Distributed Air-Conditioning Loads to Compensate Fluctuations in Solar Power. <i>IEEE Transactions on Smart Grid</i> , 2017, 8, 3055-3065.	9.0	105
25	Characterisation of Optimal Responses to Pulse Inputs in the Bergman Minimal Model. <i>IFAC-PapersOnLine</i> , 2017, 50, 15163-15168.	0.9	3
26	Vehicular Platoons in cyclic interconnections with constant inter-vehicle spacing. <i>IFAC-PapersOnLine</i> , 2017, 50, 2511-2516.	0.9	9
27	From vehicular platoons to general networked systems: String stability and related concepts. <i>Annual Reviews in Control</i> , 2017, 44, 157-172.	7.9	71
28	Actuator fault tolerant control of systems with polytopic uncertainties using set-based diagnosis and virtual-actuator-based reconfiguration. <i>Automatica</i> , 2017, 75, 182-190.	5.0	33
29	Integrated framework for constrained minimum-time trajectory generation, fault detection and reconfiguration: A case study. <i>International Journal of Adaptive Control and Signal Processing</i> , 2016, 30, 986-1001.	4.1	1
30	On invariant sets and closed-loop boundedness of Lure-type nonlinear systems by LPV-embedding. <i>International Journal of Robust and Nonlinear Control</i> , 2016, 26, 1092-1111.	3.7	7
31	Continuous-time probabilistic ultimate bounds and invariant sets: Computation and assignment. <i>Automatica</i> , 2016, 71, 98-105.	5.0	7
32	Actuator Fault Diagnosis Using Probabilistic Ultimate Bounds. <i>IEEE Latin America Transactions</i> , 2016, 14, 2550-2555.	1.6	2
33	Integration of invariant-set-based FDI with varying sampling rate virtual actuator and controller. <i>International Journal of Adaptive Control and Signal Processing</i> , 2016, 30, 393-411.	4.1	7
34	Ultimate bound minimisation by state feedback in discrete-time switched linear systems under arbitrary switching. <i>Nonlinear Analysis: Hybrid Systems</i> , 2016, 21, 84-102.	3.5	4
35	Eigenstructure Assignment for Componentwise Ultimate Bound Minimization in Discrete-Time Linear Systems. <i>IEEE Transactions on Automatic Control</i> , 2016, 61, 3669-3675.	5.7	2
36	Fault Tolerant Control for Lure Systems Via LPV Embedding. <i>Advanced Science Letters</i> , 2016, 22, 2719-2723.	0.2	3

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37	Complex polytopic Lyapunov functions and componentwise ultimate bounds for switched linear systems: A missing link. , 2015, , .		0
38	An actuator fault tolerant strategy under controller-driven sampling and measurement losses. , 2015, , .		0
39	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
40	On robust stability and set invariance of switched linear parameter varying systems. International Journal of Control, 2015, 88, 2588-2597.	1.9	9
41	Ultimate bounds and regions of attraction for two-inverter microgrids with primary and secondary frequency control loops. , 2015, , .		1
42	Set Invariance Approach for Fault Detection and Isolation in Lure Systems by LPV-embedding. IFAC-PapersOnLine, 2015, 48, 1036-1041.	0.9	4
43	Robust fault estimation and compensation for LPV systems under actuator and sensor faults. Automatica, 2015, 52, 294-301.	5.0	67
44	Robust model predictive control: reflections and opportunities. Journal of Control and Decision, 2014, 1, 115-148.	1.6	46
45	Ultimate boundedness of droop controlled microgrids with secondary loops. , 2014, , .		2
46	An investigation of set-theoretic methods for fault detection in Lure systems. , 2014, , .		2
47	A set separation sensor switching approach to the fault tolerant control of linear parameter varying systems. , 2014, , .		2
48	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
49	A discussion on sensor recovery techniques for fault tolerant multisensor schemes. International Journal of Systems Science, 2014, 45, 1708-1722.	5.5	3
50	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
51	Invariant-set-based fault diagnosis in Lure systems. International Journal of Robust and Nonlinear Control, 2014, 24, 2405-2422.	3.7	13
52	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
53	A state-dependent switching law to quadratically stabilise switched linear systems. , 2014, , .		1
54	Bounds and invariant sets for a class of switching systems with delayed-state-dependent perturbations. Automatica, 2013, 49, 748-754.	5.0	30

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55	Predictive metamorphic control. Automatica, 2013, 49, 3670-3676.	5.0	17
56	Fault-tolerant control under controller-driven sampling using a virtual actuator strategy. , 2013, , .		2
57	Robust multiactuator fault-tolerant MPC design for constrained systems. International Journal of Robust and Nonlinear Control, 2013, 23, 1828-1845.	3.7	18
58	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
59	Integrated sensor and actuator fault-tolerant control. International Journal of Control, 2013, 86, 689-708.	1.9	19
60	Application of nonlinear model predictive control to an industrial induction heating furnace. Annual Reviews in Control, 2013, 37, 271-277.	7.9	11
61	On eigenvalue-eigenvector assignment for componentwise ultimate bound minimisation in MIMO LTI discrete-time systems. , 2013, , .		4
62	Sparse networked control of input constrained linear systems. , 2013, , .		0
63	A revisit to inverse optimality of linear systems. International Journal of Control, 2012, 85, 1506-1514.	1.9	19
64	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
65	Set-based Actuator Fault Diagnosis in Lure Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 234-239.	0.4	1
66	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
67	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
68	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
69	Fault tolerant control using virtual actuators and set-separation detection principles. International Journal of Robust and Nonlinear Control, 2012, 22, 709-742.	3.7	26
70	Splines and polynomial tools for flatness-based constrained motion planning. International Journal of Systems Science, 2012, 43, 1396-1411.	5.5	17
71	Probabilistic set invariance and ultimate boundedness. Automatica, 2012, 48, 2670-2676.	5.0	36
72	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

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73	Predictive control: a historical perspective. International Journal of Robust and Nonlinear Control, 2012, 22, 1296-1313.	3.7	18
74	Reference governor design for tracking problems with fault detection guarantees. Journal of Process Control, 2012, 22, 829-836.	3.3	42
75	Model predictive control for induction motor control reconfiguration after inverter faults. Journal European Des Systemes Automatises, 2012, 46, 307-321.	0.4	0
76	Minimum-time trajectory generation for constrained linear systems using flatness and B-splines. International Journal of Control, 2011, 84, 1565-1585.	1.9	5
77	A combined model predictive control/space vector modulation (MPC-SVM) strategy for direct torque and flux control of induction motors. , 2011, , .		11
78	Bank of Virtual Actuators for Fault Tolerant Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 5436-5441.	0.4	13
79	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
80	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
81	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
82	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
83	Invariant-set-based fault tolerant control using virtual sensors. IET Control Theory and Applications, 2011, 5, 1092-1103.	2.1	10
84	Maximal controllability of input constrained unstable systems by the addition of implicit constraints. Automatica, 2011, 47, 2260-2266.	5.0	0
85	Multisensor fusion fault tolerant control. Automatica, 2011, 47, 1461-1466.	5.0	23
86	Sensor fault-tolerant vector control of induction motors. IET Control Theory and Applications, 2010, 4, 1707-1724.	2.1	58
87	Actuator fault-tolerant control based on set separation. International Journal of Adaptive Control and Signal Processing, 2010, 24, 1070-1090.	4.1	28
88	Componentwise ultimate bound and invariant set computation for switched linear systems. Automatica, 2010, 46, 1897-1901.	5.0	38
89	Sensor fault-tolerant control of a magnetic levitation system. International Journal of Robust and Nonlinear Control, 2010, 20, 2108-2121.	3.7	20
90	A fault tolerant control scheme based on sensor-actuation channel switching and dwell time. , 2010, , .		3

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91	Actuator fault tolerant multi-controller scheme using set separation based diagnosis. International Journal of Control, 2010, 83, 2328-2339.	1.9	32
92	Switching strategy for sensor fault tolerant vector control of doubly fed induction machines. , 2010, , .		1
93	Robust MPC design for fault tolerance of constrained multisensor linear systems. , 2010, , .		10
94	Speed-sensorless control of induction motors with improved fault tolerance against current sensor failure. , 2010, , .		3
95	Fault detection, isolation, and recovery using spline tools and differential flatness with application to a magnetic levitation system. , 2010, , .		3
96	Fault-tolerant control of a magnetic levitation system using virtual-sensor-based reconfiguration. , 2010, , .		7
97	Multisensor fusion fault-tolerant control of a magnetic levitation system. , 2010, , .		5
98	Robust Output-Feedback MPC With Integral Action. IEEE Transactions on Automatic Control, 2010, 55, 1531-1543.	5.7	26
99	Positive invariant sets for fault tolerant multisensor control schemes. International Journal of Control, 2010, 83, 2622-2640.	1.9	141
100	Reference governor for tracking with fault detection capabilities. , 2010, , .		3
101	DTFC versus MPC for induction motor control reconfiguration after inverter faults. , 2010, , .		6
102	Methods for trajectory generation in a magnetic-levitation system under constraints. , 2010, , .		15
103	On splines and polynomial tools for constrained motion planning. , 2010, , .		6
104	Improved multisensor switching scheme for fault tolerant control. , 2009, , .		1
105	Componentwise ultimate bound computation for switched linear systems. , 2009, , .		6
106	Multisensor fusion fault-tolerant control with diagnosis via a set separation principle. , 2009, , .		5
107	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
108	Inverse minimax optimality of model predictive control policies. Systems and Control Letters, 2009, 58, 31-38.	2.3	5

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109	Fault tolerant control using virtual actuators and invariant-set based fault detection and identification. , 2009, , .		10
110	When does QP yield the exact solution to constrained NMPC?. International Journal of Control, 2009, 82, 812-821.	1.9	2
111	Null controllable sets of unstable systems and their application to MPC. , 2009, , .		1
112	Reduced parameterisation MPC for input-constrained unstable linear systems Part 2: Properties. , 2009, , .		1
113	Reduced parameterisation MPC for input-constrained unstable linear systems Part 1: Implementation. , 2009, , .		2
114	Optimization opportunities in mining, metal and mineral processing. Annual Reviews in Control, 2008, 32, 17-32.	7.9	5
115	Robust output-feedback model predictive control for systems with unstructured uncertainty. Automatica, 2008, 44, 1933-1943.	5.0	93
116	Control design with guaranteed ultimate bound for perturbed systems. Automatica, 2008, 44, 1815-1821.	5.0	33
117	Multivariable quadratically-stabilizing quantizers with finite density. Automatica, 2008, 44, 1880-1885.	5.0	6
118	Multisensor switching control strategy with fault tolerance guarantees. Automatica, 2008, 44, 88-97.	5.0	121
119	Quadratic Leaky Integrate-and-Fire Neural Network Tuned with an Evolution-Strategy for a Simulated 3D Biped Walking Controller. , 2008, , .		1
120	A dissipativity approach to robustness in constrained model predictive control. , 2007, , .		8
121	Diagnosis and actuator fault tolerant control in vehicle active suspension. , 2007, , .		11
122	A systematic method to obtain ultimate bounds for perturbed systems. International Journal of Control, 2007, 80, 167-178.	1.9	144
123	Systematic ultimate bound computation for sampled-data systems with quantization. Automatica, 2007, 43, 1117-1123.	5.0	25
124	Open-cut Mine Planning via Closed-loop Receding-horizon Optimal Control. , 2007, , 43-62.		3
125	Receding horizon control applied to optimal mine planning. Automatica, 2006, 42, 1337-1342.	5.0	33
126	Geometric characterization of multivariable quadratically stabilizing quantizers. International Journal of Control, 2006, 79, 845-857.	1.9	14



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127	BACKLASH COMPENSATION USING RECEDING HORIZON CONTROL. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 508-513.	0.4	0
128	Robust model predictive control of constrained linear systems with bounded disturbances. Automatica, 2005, 41, 219-224.	5.0	1,140
129	Lagrangian duality between constrained estimation and control. Automatica, 2005, 41, 935-944.	5.0	23
130	Performance degradation in feedback control due to constraints. IEEE Transactions on Automatic Control, 2003, 48, 1381-1385.	5.7	15
131	Finitely parameterised implementation of receding horizon control for constrained linear systems. , 2002, , .		9
132	Enlarged terminal sets guaranteeing stability of receding horizon control. Systems and Control Letters, 2002, 47, 57-63.	2.3	44
133	Cheap control tracking performance for non-right-invertible systems. International Journal of Robust and Nonlinear Control, 2002, 12, 1253-1273.	3.7	14
134	Non-stationary stochastic embedding for transfer function estimation. Automatica, 2002, 38, 47-62.	5.0	28
135	Anti-windup and Model Predictive Control: Reflections and Connections*. European Journal of Control, 2000, 6, 467-477.	2.6	38
136	Robustification of backstepping against input unmodeled dynamics. IEEE Transactions on Automatic Control, 2000, 45, 1358-1363.	5.7	31
137	Limiting performance of optimal linear filters. Automatica, 1999, 35, 189-199.	5.0	42
138	Feedback limitations in nonlinear systems: from Bode integrals to cheap control. IEEE Transactions on Automatic Control, 1999, 44, 829-833.	5.7	134
139	Fundamental design tradeoffs in filtering, prediction, and smoothing. IEEE Transactions on Automatic Control, 1997, 42, 1240-1251.	5.7	24
140	Nonlinear tracking and input disturbance rejection with application to pH control. Journal of Process Control, 1996, 6, 195-202.	3.3	19
141	Sensitivity limitations in nonlinear feedback control. Systems and Control Letters, 1996, 27, 249-254.	2.3	10
142	Control system design issues for unstable linear systems with saturated inputs. IET Control Theory and Applications, 1995, 142, 335-344.	1.7	21
143	Nonlinear adaptive control of feedback passive systems. Automatica, 1995, 31, 1053-1060.	5.0	78
144	Global analytical model predictive control with input constraints. , 0, , .		76

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145	On fundamental limitations for rudder roll stabilization of ships. , 0, , .		9
146	On Infimum Quantization Density for Multiple-input Systems. , 0, , .		3
147	Best Possible Region of Attraction for a Class of Unstable Systems Using Short Horizon MPC Concepts. , 0, , .		0