

Maria Elena Valcher

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

134 papers	2,728 citations	26 h-index	49 g-index
156 ext. papers	3,371 ext. citations	2.7 avg, IF	5.9 L-index

#	Paper	IF	Citations
134	Consensus for clusters of agents with cooperative and antagonistic relationships. <i>Automatica</i> , 2022 , 135, 110002	5.7	2
133	Feedback context-aware pervasive systems in healthcare management: a Boolean Network approach 2022 , 237-260		
132	Scalable Control of Positive Systems. <i>Annual Review of Control, Robotics, and Autonomous Systems</i> , 2021 , 4, 319-341	11.8	0
131	Observability and Reconstructibility of Probabilistic Boolean Networks 2020 , 4, 319-324		17
130	Consensus in the presence of communication faults 2019 ,		1
129	On the effects of communication failures in a multi-agent consensus network 2019 ,		3
128	On the Common Linear Copositive Lyapunov Functions for Compartmental Switched Systems. <i>Lecture Notes in Control and Information Sciences</i> , 2019 , 27-36	0.5	
127	. <i>IEEE Transactions on Automatic Control</i> , 2018 , 63, 3719-3734	5.9	6
126	On the Bipartite Consensus of Higher-Order Multi-agent Systems with Antagonistic Interactions and Switching Topologies. <i>Lecture Notes in Control and Information Sciences - Proceedings</i> , 2018 , 355-367 ^{0.2}		2
125	Leader-Controlled Protocols to Accelerate Convergence in Consensus Networks. <i>IEEE Transactions on Automatic Control</i> , 2018 , 63, 3191-3205	5.9	8
124	State-feedback stabilization of multi-input compartmental systems. <i>Systems and Control Letters</i> , 2018 , 119, 81-91	2.4	6
123	Accelerating Consensus in High-Order Leader-Follower Networks 2018 , 2, 381-386		3
122	A Tutorial on Positive Systems and Large Scale Control 2018 ,		20
121	. <i>IEEE Transactions on Automatic Control</i> , 2017 , 62, 5096-5110	5.9	20
120	Input/output decoupling of Boolean control networks. <i>IET Control Theory and Applications</i> , 2017 , 11, 2081-2088	2.5	12
119	On the consensus of homogeneous multi-agent systems with arbitrarily switching topology. <i>Automatica</i> , 2017 , 84, 79-85	5.7	32
118	On the state-feedback stabilisation of compartmental systems 2017 ,		1

117	Positive Consensus Problem: The Case of Complete Communication. <i>Lecture Notes in Control and Information Sciences</i> , 2017 , 239-252	0.5	1
116	Continuous-Time Compartmental Switched Systems. <i>Lecture Notes in Control and Information Sciences</i> , 2017 , 123-138	0.5	1
115	. <i>IEEE Transactions on Automatic Control</i> , 2016 , 61, 3885-3897	5.9	12
114	Recent developments in Boolean networks control. <i>Journal of Control and Decision</i> , 2016 , 3, 1-18	0.9	34
113	Reachability analysis for switched affine systems and its application to controlled stochastic biochemical reaction networks 2016 ,		2
112	New results on the solution of the positive consensus problem 2016 ,		13
111	On the consensus problem with positivity constraints 2016 ,		6
110	The consensus problem in the behavioral approach. <i>Systems and Control Letters</i> , 2016 , 95, 11-19	2.4	2
109	Output feedback stabilization of Boolean control networks. <i>Automatica</i> , 2015 , 57, 21-28	5.7	100
108	The Value of Conferences [President's Message]. <i>IEEE Control Systems</i> , 2015 , 35, 10-11	2.9	3
107	Partial interconnection and observer-based dead-beat control of two-dimensional behaviors. <i>Multidimensional Systems and Signal Processing</i> , 2015 , 26, 459-479	1.8	
106	A Generalized Tracking and Disturbance Rejection Problem for Multidimensional Behaviors. <i>SIAM Journal on Control and Optimization</i> , 2015 , 53, 1375-1405	1.9	0
105	On the use of hyperplane methods to compute the reachable set of controlled stochastic biochemical reaction networks 2015 ,		2
104	Fault detection problems for Boolean networks and Boolean control networks 2015 ,		3
103	On the stabilizability of continuous-time compartmental switched systems 2015 ,		3
102	Peer Review [President's Message]. <i>IEEE Control Systems</i> , 2015 , 35, 14-16	2.9	2
101	Ethics in Publishing and the Reuse of Previously Published Material [President's Message]. <i>IEEE Control Systems</i> , 2015 , 35, 12-15	2.9	1
100	The Impact of Control: Do We Have an Impact? [President's Message]. <i>IEEE Control Systems</i> , 2015 , 35, 10-60	2.9	

99	The Joy of Research [President's Message]. <i>IEEE Control Systems</i> , 2015 , 35, 12-13	2.9	
98	Switched Positive Linear Systems. <i>Foundations and Trends in Systems and Control</i> , 2015 , 2, 101-273	4	66
97	Fault Detection Analysis of Boolean Control Networks. <i>IEEE Transactions on Automatic Control</i> , 2015 , 60, 2734-2739	5.9	46
96	Stability properties of a class of positive switched systems with rank one difference. <i>Systems and Control Letters</i> , 2014 , 64, 12-19	2.4	7
95	. <i>IEEE Transactions on Automatic Control</i> , 2014 , 59, 1258-1270	5.9	143
94	On the Stabilizability and Consensus of Positive Homogeneous Multi-Agent Dynamical Systems. <i>IEEE Transactions on Automatic Control</i> , 2014 , 59, 1936-1941	5.9	57
93	On the consensus and bipartite consensus in high-order multi-agent dynamical systems with antagonistic interactions. <i>Systems and Control Letters</i> , 2014 , 66, 94-103	2.4	239
92	Identification problems for Boolean networks and Boolean control networks. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2014 , 47, 5399-5404		3
91	Fault detection of Boolean control networks 2014 ,		4
90	The consensus problem in the behavioral approach 2014 ,		1
89	On the reachable set of the controlled gene expression system 2014 ,		9
88	Feedback stabilization, regulation and optimal control of Boolean control networks 2014 ,		12
87	Symbolic dynamics of Boolean control networks. <i>Automatica</i> , 2013 , 49, 2525-2530	5.7	35
86	Zero-Time-Controllability and Dead-Beat Control of Two-Dimensional Behaviors. <i>SIAM Journal on Control and Optimization</i> , 2013 , 51, 195-220	1.9	2
85	Asymptotic stability and stabilizability of special classes of discrete-time positive switched systems. <i>Linear Algebra and Its Applications</i> , 2013 , 438, 1814-1831	0.9	14
84	On the periodic trajectories of Boolean control networks. <i>Automatica</i> , 2013 , 49, 1506-1509	5.7	112
83	. <i>IEEE Transactions on Automatic Control</i> , 2013 , 58, 1390-1401	5.9	237
82	Finite-horizon optimal control of Boolean control networks 2013 ,		2

81	A stabilizable switched linear system does not necessarily admit a smooth homogeneous Lyapunov function 2013 ,		2
80	On the controllability and stabilizability of non-homogeneous multi-agent dynamical systems. <i>Systems and Control Letters</i> , 2012 , 61, 780-787	2.4	7
79	. <i>IEEE Transactions on Automatic Control</i> , 2012 , 57, 3038-3050	5.9	94
78	. <i>IEEE Transactions on Automatic Control</i> , 2012 , 57, 1208-1221	5.9	125
77	. <i>IEEE Transactions on Automatic Control</i> , 2012 , 57, 2163-2175	5.9	6
76	Observability and reconstructibility of Boolean control networks 2012 ,		9
75	Dead-beat control of two-dimensional behaviors 2012 ,		1
74	Reachability of a Class of Discrete-Time Positive Switched Systems. <i>SIAM Journal on Control and Optimization</i> , 2011 , 49, 162-184	1.9	5
73	Distributed Parameters Dynamic Model of a Solar Fresnel Collector Field. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2011 , 44, 14784-14789		5
72	Stability and stabilizability of special classes of discrete-time positive switched systems 2011 ,		7
71	Is stabilization of switched positive linear systems equivalent to the existence of an Hurwitz convex combination of the system matrices? 2011 ,		3
70	On the stability of continuous-time positive switched systems 2010 ,		2
69	Linear Copositive Lyapunov Functions for Continuous-Time Positive Switched Systems. <i>IEEE Transactions on Automatic Control</i> , 2010 , 55, 1933-1937	5.9	158
68	Stabilizability of discrete-time positive switched systems 2010 ,		8
67	Reachability Properties of Single-Input Continuous-Time Positive Switched Systems. <i>IEEE Transactions on Automatic Control</i> , 2010 , 55, 1117-1130	5.9	9
66	Asymptotic exponential cones of Metzler matrices and their use in the solution of an algebraic problem. <i>Linear Algebra and Its Applications</i> , 2010 , 432, 980-1006	0.9	3
65	2009 ,		1
64	Reachability Properties of Continuous-Time Positive Systems. <i>IEEE Transactions on Automatic Control</i> , 2009 , 54, 1586-1590	5.9	35

63	Reachability Analysis for Different Classes of Positive Systems. <i>Lecture Notes in Control and Information Sciences</i> , 2009 , 29-41	0.5	4
62	k-Switching Reachability Sets of Continuous-Time Positive Switched Systems. <i>Lecture Notes in Control and Information Sciences</i> , 2009 , 173-181	0.5	
61	On the reachability properties of continuous-time positive systems 2008 ,		5
60	On the reachability of single-input positive switched systems 2008 ,		3
59	Recent advances on the reachability of single-input positive switched systems 2008 ,		2
58	Dead-beat estimation problems for 2D behaviors. <i>Multidimensional Systems and Signal Processing</i> , 2008 , 19, 287-306	1.8	9
57	Monomial reachability and zero controllability of discrete-time positive switched systems. <i>Systems and Control Letters</i> , 2008 , 57, 340-347	2.4	7
56	Generalized Luenberger observers for 2D state-space models 2007 ,		2
55	On the zero pattern properties and asymptotic behavior of continuous-time positive system trajectories. <i>Linear Algebra and Its Applications</i> , 2007 , 425, 283-302	0.9	19
54	On the reachability of continuous-time positive switched systems 2006 ,		6
53	Reachability properties of discrete-time positive switched systems 2006 ,		2
52	A Behavioral Approach to Estimation and Dead-Beat Observer Design With Applications to StateSpace Models. <i>IEEE Transactions on Automatic Control</i> , 2006 , 51, 1787-1797	5.9	13
51	A polynomial matrix approach to the structural properties of 2D positive systems. <i>Linear Algebra and Its Applications</i> , 2006 , 413, 458-473	0.9	5
50	The general fault detection and isolation problem for 2D state-space models. <i>Systems and Control Letters</i> , 2006 , 55, 894-899	2.4	26
49	Observer-based Fault Detection and Isolation for 2D State-space Models. <i>Multidimensional Systems and Signal Processing</i> , 2006 , 17, 219-242	1.8	33
48	An energy-based adaptive control design technique for multibody-mechanisms with flexible links. <i>IEEE/ASME Transactions on Mechatronics</i> , 2005 , 10, 571-580	5.5	7
47	Driving variable realizations and the non-negative realization problem for controllable behaviours. <i>International Journal of Control</i> , 2005 , 78, 720-733	1.5	
46	Controllability and reachability of 2-D positive systems: a graph theoretic approach. <i>IEEE Transactions on Circuits and Systems Part 1: Regular Papers</i> , 2005 , 52, 576-585		40

45	LINEAR-QUADRATIC CONTROL AND QUADRATIC DIFFERENTIAL FORMS. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2005 , 38, 1-12		4
44	Two-dimensional behavior decompositions with Finite-Dimensional Intersection: A Complete Characterization. <i>Multidimensional Systems and Signal Processing</i> , 2005 , 16, 335-354	1.8	9
43	Unknown input observers for 2D state-space models. <i>International Journal of Control</i> , 2004 , 77, 861-876	1.5	18
42	Optimal filtering, fault detection and isolation for linear discrete-time systems in a noisy environment. <i>International Journal of Adaptive Control and Signal Processing</i> , 2003 , 17, 729-750	2.8	7
41	On some special features which are peculiar to discrete time behaviors with trajectories on \mathbb{Z}^+ . <i>Linear Algebra and Its Applications</i> , 2002 , 351-352, 719-737	0.9	3
40	Some Results on the Relationship Between Two-Dimensional Behaviors Decompositions and the Factor Skew-Primeness Property. <i>Multidimensional Systems and Signal Processing</i> , 2002 , 13, 289-315	1.8	3
39	ON THE POSITIVE REALIZATION OF CONTROLLABLE BEHAVIORS. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2002 , 35, 47-52		
38	DISTURBED FAULT DETECTION AND ISOLATION PROBLEMS FOR LINEAR STATE MODELS IN A NOISY ENVIRONMENT. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2002 , 35, 167-172		1
37	On the Construction of Matrix Invariants with Applications. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2001 , 34, 783-788		
36	State-space descriptions and observability properties of 2D finite-dimensional autonomous behaviors. <i>Systems and Control Letters</i> , 2001 , 44, 91-102	2.4	2
35	Behavior decompositions and two-sided diophantine equations. <i>Automatica</i> , 2001 , 37, 1387-1395	5.7	10
34	Autonomous behaviours decomposition and modal analysis. <i>International Journal of Control</i> , 2001 , 74, 1690-1705	1.5	2
33	Nonnegative Realization of Autonomous Systems in the Behavioral Approach. <i>SIAM Journal on Control and Optimization</i> , 2001 , 40, 540-556	1.9	7
32	On the stability of delay-differential systems in the behavioral framework. <i>IEEE Transactions on Automatic Control</i> , 2001 , 46, 1634-1638	5.9	
31	A note on the direct sum decomposition of two-dimensional behaviors. <i>IEEE Transactions on Circuits and Systems Part 1: Regular Papers</i> , 2001 , 48, 490-494		11
30	Nonnegative linear systems in the behavioral approach: the autonomous case. <i>Linear Algebra and Its Applications</i> , 2000 , 319, 147-162	0.9	8
29	A behavioral approach to classic polynomial matrix descriptions. <i>Systems and Control Letters</i> , 2000 , 40, 279-288	2.4	2
28	On the Decomposition of Two-Dimensional Behaviors. <i>Multidimensional Systems and Signal Processing</i> , 2000 , 11, 49-65	1.8	18

27	An Algebraic Approach to the Construction of Polyhedral Invariant Cones. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2000 , 22, 453-471	1.5	13
26	Characteristic cones and stability properties of two-dimensional autonomous behaviors. <i>IEEE Transactions on Circuits and Systems Part 1: Regular Papers</i> , 2000 , 47, 290-302		54
25	Dead beat observer synthesis. <i>Systems and Control Letters</i> , 1999 , 37, 285-292	2.4	19
24	State observers for discrete-time linear systems with unknown inputs. <i>IEEE Transactions on Automatic Control</i> , 1999 , 44, 397-401	5.9	80
23	Observer synthesis in the behavioral approach. <i>IEEE Transactions on Automatic Control</i> , 1999 , 44, 2297-2307	3.9	31
22	Stability properties and periodic evolutions of bilinear systems in input-output form. <i>IEEE Transactions on Automatic Control</i> , 1999 , 44, 1197-1202	5.9	0
21	Primitivity of Positive Matrix Pairs: Algebraic Characterization, Graph Theoretic Description, and 2D Systems Interpretation. <i>SIAM Journal on Matrix Analysis and Applications</i> , 1998 , 19, 71-88	1.5	19
20	Multidimensional Systems with Finite Support Behaviors: Signal Structure, Generation, and Detection. <i>SIAM Journal on Control and Optimization</i> , 1998 , 36, 760-779	1.9	17
19	On the internal stability and asymptotic behavior of 2-D positive systems. <i>IEEE Transactions on Circuits and Systems Part 1: Regular Papers</i> , 1997 , 44, 602-613		72
18	nD Polynomial Matrices with Applications to Multidimensional Signal Analysis. <i>Multidimensional Systems and Signal Processing</i> , 1997 , 8, 387-408	1.8	54
17	On some connections between bilinear input/output maps and 2D systems. <i>Nonlinear Analysis: Theory, Methods & Applications</i> , 1997 , 30, 1995-2005	1.3	2
16	On the control of finite support behaviors. <i>Systems and Control Letters</i> , 1997 , 31, 65-75	2.4	
15	Directed graphs, 2D state models, and characteristic polynomials of irreducible matrix pairs. <i>Linear Algebra and Its Applications</i> , 1997 , 263, 275-310	0.9	45
14	Matrix Pairs and 2D Systems Analysis. <i>European Consortium for Mathematics in Industry</i> , 1997 , 56-69		
13	A state-space approach to the design of syndrome formers. <i>Systems and Control Letters</i> , 1996 , 27, 99-107	2.4	
12	On the spectral and combinatorial structure of 2D positive systems. <i>Linear Algebra and Its Applications</i> , 1996 , 245, 223-258	0.9	19
11	Controllability and reachability criteria for discrete time positive systems. <i>International Journal of Control</i> , 1996 , 65, 511-536	1.5	92
10	Matrix Pairs in Two-Dimensional Systems: An Approach Based on Trace Series and Hankel Matrices. <i>SIAM Journal on Control and Optimization</i> , 1995 , 33, 1127-1150	1.9	9

9	State models and asymptotic behaviour of 2D positive systems. <i>IMA Journal of Mathematical Control and Information</i> , 1995 , 12, 17-36	1.1	22
8	On 2D finite support convolutional codes: An algebraic approach. <i>Multidimensional Systems and Signal Processing</i> , 1994 , 5, 231-243	1.8	30
7	On the structure of finite memory and separable two-dimensional systems. <i>Automatica</i> , 1994 , 30, 347-357	0.7	8
6	. <i>IEEE Transactions on Information Theory</i> , 1994 , 40, 1068-1082	2.8	39
5	Polynomial inverses of 2D transfer matrices and finite memory realizations via inverse systems. <i>Multidimensional Systems and Signal Processing</i> , 1993 , 4, 269-284	1.8	3
4	A behavioral approach to the estimation problem and its applications to state-space models		3
3			1
2	On the Positive Reachability of 2D Positive Systems. <i>Lecture Notes in Control and Information Sciences</i> , 297-304	0.5	13
1	An Algebraic Approach to the Structural Properties of Continuous Time Positive Switched Systems	185-192	7