

# Paulo Tabuada

## List of Publications by Citations

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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.

158  
papers

9,779  
citations

40  
h-index

97  
g-index

183  
ext. papers

12,601  
ext. citations

3.4  
avg, IF

7.12  
L-index

#	Paper	IF	Citations
158	Event-Triggered Real-Time Scheduling of Stabilizing Control Tasks. <i>IEEE Transactions on Automatic Control</i> , <b>2007</b> , 52, 1680-1685	5.9	2365
157	Secure Estimation and Control for Cyber-Physical Systems Under Adversarial Attacks. <i>IEEE Transactions on Automatic Control</i> , <b>2014</b> , 59, 1454-1467	5.9	683
156	To Sample or not to Sample: Self-Triggered Control for Nonlinear Systems. <i>IEEE Transactions on Automatic Control</i> , <b>2010</b> , 55, 2030-2042	5.9	519
155	Decentralized Event-Triggered Control Over Wireless Sensor/Actuator Networks. <i>IEEE Transactions on Automatic Control</i> , <b>2011</b> , 56, 2456-2461	5.9	439
154	A Framework for the Event-Triggered Stabilization of Nonlinear Systems. <i>IEEE Transactions on Automatic Control</i> , <b>2015</b> , 60, 982-996	5.9	399
153	. <i>IEEE Transactions on Automatic Control</i> , <b>2017</b> , 62, 3861-3876	5.9	377
152	Verification and Control of Hybrid Systems <b>2009</b> ,		350
151	An ISS self-triggered implementation of linear controllers. <i>Automatica</i> , <b>2010</b> , 46, 1310-1314	5.7	283
150	<b>2014</b> ,		222
149	. <i>IEEE Transactions on Automatic Control</i> , <b>2006</b> , 51, 1862-1877	5.9	190
148	Control Barrier Functions: Theory and Applications <b>2019</b> ,		186
147	Event-Triggered State Observers for Sparse Sensor Noise/Attacks. <i>IEEE Transactions on Automatic Control</i> , <b>2016</b> , 61, 2079-2091	5.9	183
146	Approximately bisimilar symbolic models for nonlinear control systems. <i>Automatica</i> , <b>2008</b> , 44, 2508-2516	5.7	178
145	Symbolic Models for Nonlinear Control Systems Without Stability Assumptions. <i>IEEE Transactions on Automatic Control</i> , <b>2012</b> , 57, 1804-1809	5.9	153
144	. <i>IEEE Transactions on Automatic Control</i> , <b>2017</b> , 62, 4917-4932	5.9	144
143	On event-triggered and self-triggered control over sensor/actuator networks <b>2008</b> ,		127
142	Robustness of Control Barrier Functions for Safety Critical Control**This work is partially supported by the National Science Foundation Grants 1239055, 1239037 and 1239085.. <i>IFAC-PapersOnLine</i> , <b>2015</b> , 48, 54-61	0.7	119

141	Robustness of attack-resilient state estimators <b>2014</b> ,		114
140	Self-triggered linear quadratic control. <i>Automatica</i> , <b>2014</b> , 50, 1279-1287	5.7	112
139	System Architectures, Protocols and Algorithms for Aperiodic Wireless Control Systems. <i>IEEE Transactions on Industrial Informatics</i> , <b>2014</b> , 10, 175-184	11.9	96
138	Symbolic Models for Nonlinear Control Systems: Alternating Approximate Bisimulations. <i>SIAM Journal on Control and Optimization</i> , <b>2009</b> , 48, 719-733	1.9	93
137	Non-invasive Spoofing Attacks for Anti-lock Braking Systems. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 55-72	0.9	91
136	. <i>IEEE Transactions on Automatic Control</i> , <b>2008</b> , 53, 1406-1418	5.9	76
135	Bisimulation relations for dynamical, control, and hybrid systems. <i>Theoretical Computer Science</i> , <b>2005</b> , 342, 229-261	1.1	75
134	Correct-by-Construction Adaptive Cruise Control: Two Approaches. <i>IEEE Transactions on Control Systems Technology</i> , <b>2016</b> , 24, 1294-1307	4.8	71
133	PESSOA: A Tool for Embedded Controller Synthesis. <i>Lecture Notes in Computer Science</i> , <b>2010</b> , 566-569	0.9	69
132	Secure state-estimation for dynamical systems under active adversaries <b>2011</b> ,		67
131	Secure State Estimation Against Sensor Attacks in the Presence of Noise. <i>IEEE Transactions on Control of Network Systems</i> , <b>2017</b> , 4, 49-59	4	66
130	Backstepping Design for Incremental Stability. <i>IEEE Transactions on Automatic Control</i> , <b>2011</b> , 56, 2184-2189	5.9	54
129	Event-triggered and self-triggered stabilization of distributed networked control systems <b>2011</b> ,		54
128	Self-triggered stabilization of homogeneous control systems <b>2008</b> ,		54
127	A unifying Lyapunov-based framework for the event-triggered control of nonlinear systems <b>2011</b> ,		53
126	Compositional Transient Stability Analysis of Multimachine Power Networks. <i>IEEE Transactions on Control of Network Systems</i> , <b>2014</b> , 1, 4-14	4	50
125	Preliminary results on state-triggered scheduling of stabilizing control tasks <b>2006</b> ,		48
124	Bisimilar control affine systems. <i>Systems and Control Letters</i> , <b>2004</b> , 52, 49-58	2.4	47

123	Symbolic models for nonlinear time-delay systems using approximate bisimulations. <i>Systems and Control Letters</i> , <b>2010</b> , 59, 365-373	2.4	46
122	Towards Robustness for Cyber-Physical Systems. <i>IEEE Transactions on Automatic Control</i> , <b>2014</b> , 59, 3151-3163	5.9	44
121	Computing Robust Controlled Invariant Sets of Linear Systems. <i>IEEE Transactions on Automatic Control</i> , <b>2017</b> , 62, 3665-3670	5.9	40
120	Attack-resilient state estimation in the presence of noise <b>2015</b> ,		40
119	On self-triggered control for linear systems: Guarantees and complexity <b>2009</b> ,		40
118	Correctness Guarantees for the Composition of Lane Keeping and Adaptive Cruise Control. <i>IEEE Transactions on Automation Science and Engineering</i> , <b>2018</b> , 15, 1216-1229	4.9	39
117	Privacy-aware quadratic optimization using partially homomorphic encryption <b>2016</b> ,		39
116	Model Checking LTL over Controllable Linear Systems Is Decidable. <i>Lecture Notes in Computer Science</i> , <b>2003</b> , 498-513	0.9	39
115	A Notion of Robustness for Cyber-Physical Systems. <i>IEEE Transactions on Automatic Control</i> , <b>2016</b> , 61, 2108-2123	5.9	35
114	On the Benefits of Relaxing the Periodicity Assumption for Networked Control Systems over CAN <b>2009</b> ,		33
113	SMT-Based Observer Design for Cyber-Physical Systems under Sensor Attacks. <i>ACM Transactions on Cyber-Physical Systems</i> , <b>2018</b> , 2, 1-27	2.3	32
112	. <i>IEEE Transactions on Automatic Control</i> , <b>2014</b> , 59, 3120-3121	5.9	28
111	On the Stability of Zeno Equilibria. <i>Lecture Notes in Computer Science</i> , <b>2006</b> , 34-48	0.9	28
110	Self-triggered control over wireless sensor and actuator networks <b>2011</b> ,		27
109	Input-to-state stability of self-triggered control systems <b>2009</b> ,		27
108	Security for control systems under sensor and actuator attacks <b>2012</b> ,		27
107	Controller synthesis for bisimulation equivalence. <i>Systems and Control Letters</i> , <b>2008</b> , 57, 443-452	2.4	27
106	Compositional Abstractions of Hybrid Control Systems. <i>Discrete Event Dynamic Systems: Theory and Applications</i> , <b>2004</b> , 14, 203-238	1	27

105	Secure state estimation: Optimal guarantees against sensor attacks in the presence of noise <b>2015</b> ,		26
104	Pessoa 2.0 <b>2011</b> ,		26
103	Hierarchical trajectory refinement for a class of nonlinear systems. <i>Automatica</i> , <b>2005</b> , 41, 701-708	5.7	25
102	Quotients of Fully Nonlinear Control Systems. <i>SIAM Journal on Control and Optimization</i> , <b>2005</b> , 43, 1844-1866	1.6	22
101	Sound and complete state estimation for linear dynamical systems under sensor attacks using Satisfiability Modulo Theory solving <b>2015</b> ,		21
100	<b>2015</b> ,		21
99	Specification-guided controller synthesis for linear systems and safe linear-time temporal logic <b>2013</b> ,		21
98	Symbolic approximate time-optimal control. <i>Systems and Control Letters</i> , <b>2011</b> , 60, 256-263	2.4	21
97	SMC <b>2017</b> ,		21
96	Robust discrete synthesis against unspecified disturbances <b>2011</b> ,		20
95	Supervisory Control of Discrete-Event Systems Under Attacks. <i>Dynamic Games and Applications</i> , <b>2019</b> , 9, 965-983	1.1	20
94	Toward an Internet of Battlefield Things: A Resilience Perspective. <i>Computer</i> , <b>2018</b> , 51, 24-36	1.6	20
93	Adaptive cruise control: Experimental validation of advanced controllers on scale-model cars <b>2015</b> ,		19
92	Towards Kron reduction of generalized electrical networks. <i>Automatica</i> , <b>2014</b> , 50, 2586-2590	5.7	19
91	Preliminary results on correct-by-construction control software synthesis for adaptive cruise control <b>2014</b> ,		19
90	Input-output robustness for discrete systems <b>2012</b> ,		19
89	Bisimulation Relations for Dynamical and Control Systems. <i>Electronic Notes in Theoretical Computer Science</i> , <b>2003</b> , 69, 120-136	0.7	19
88	. <i>Proceedings of the IEEE</i> , <b>2018</b> , 106, 1655-1679	14.3	18

87	Data-driven control for feedback linearizable single-input systems <b>2017</b> ,		17
86	PrOLoc <b>2017</b> ,		16
85	Abstracting Partially Feedback Linearizable Systems Compositionally <b>2017</b> , 1, 227-232		16
84	Linear temporal logic motion planning for teams of underactuated robots using satisfiability modulo convex programming <b>2017</b> ,		16
83	Approximate reduction of dynamic systems. <i>Systems and Control Letters</i> , <b>2008</b> , 57, 538-545	2.4	16
82	Approximate Simulation Relations and Finite Abstractions of Quantized Control Systems <b>2007</b> , 529-542		15
81	Realizing simultaneous lane keeping and adaptive speed regulation on accessible mobile robot testbeds <b>2017</b> ,		14
80	Secure state reconstruction in differentially flat systems under sensor attacks using satisfiability modulo theory solving <b>2015</b> ,		14
79	Uses and abuses of the swing equation model <b>2015</b> ,		14
78	Position paper on the challenges posed by modern applications to cyber-physical systems theory. <i>Nonlinear Analysis: Hybrid Systems</i> , <b>2019</b> , 34, 147-165	4.5	13
77	SMT-Based Observer Design for Cyber-Physical Systems under Sensor Attacks <b>2016</b> ,		13
76	Event-triggered projected Luenberger observer for linear systems under sparse sensor attacks <b>2014</b> ,		13
75	Symbolic models for control systems. <i>Acta Informatica</i> , <b>2007</b> , 43, 477-500	0.9	13
74	Approximately Bisimilar Symbolic Models for Incrementally Stable Switched Systems. <i>Lecture Notes in Computer Science</i> , <b>2008</b> , 201-214	0.9	13
73	Scalable lazy SMT-based motion planning <b>2016</b> ,		13
72	Kron reduction of power networks with lossy and dynamic transmission lines <b>2012</b> ,		12
71	<b>2010</b> ,		12
70	Symbolic models for nonlinear control systems using approximate bisimulation <b>2007</b> ,		12

69	Securing state reconstruction under sensor and actuator attacks: Theory and design. <i>Automatica</i> , <b>2020</b> , 116, 108920	5.7	12
68	Composing Abstractions of Hybrid Systems. <i>Lecture Notes in Computer Science</i> , <b>2002</b> , 436-450	0.9	12
67	Dynamic Scheduling and Control-Quality Optimization of Self-Triggered Control Applications <b>2010</b> ,		11
66	Abstracting and refining robustness for cyber-physical systems <b>2014</b> ,		10
65	Self-triggered controllers and hard real-time guarantees <b>2016</b> ,		10
64	<b>2016</b> ,		10
63	Non-local Linearization of Nonlinear Differential Equations via Polyflows <b>2019</b> ,		10
62	Control Barrier Function-Based Quadratic Programs Introduce Undesirable Asymptotically Stable Equilibria <b>2021</b> , 5, 731-736		10
61	<b>2014</b> ,		9
60	A theory of robust omega-regular software synthesis. <i>Transactions on Embedded Computing Systems</i> , <b>2013</b> , 13, 1-27	1.8	9
59	Abstractions of Hamiltonian control systems. <i>Automatica</i> , <b>2003</b> , 39, 2025-2033	5.7	9
58	Cloud-Based Quadratic Optimization With Partially Homomorphic Encryption. <i>IEEE Transactions on Automatic Control</i> , <b>2021</b> , 66, 2357-2364	5.9	9
57	Data driven stability analysis of black-box switched linear systems. <i>Automatica</i> , <b>2019</b> , 109, 108533	5.7	8
56	Will Distributed Computing Revolutionize Peace? The Emergence of Battlefield IoT <b>2018</b> ,		8
55	Isochronous manifolds in self-triggered control <b>2009</b> ,		8
54	Scaling up controller synthesis for linear systems and safety specifications <b>2012</b> ,		8
53	Open Maps, Alternating Simulations and Control Synthesis. <i>Lecture Notes in Computer Science</i> , <b>2004</b> , 466-480	0.9	8
52	On Simulations and Bisimulations of General Flow Systems <b>2007</b> , 145-158		8

51	Computing controlled invariant sets for hybrid systems with applications to model-predictive control. <i>IFAC-PapersOnLine</i> , <b>2018</b> , 51, 193-198	0.7	8
50	First steps toward formal controller synthesis for bipedal robots with experimental implementation. <i>Nonlinear Analysis: Hybrid Systems</i> , <b>2017</b> , 25, 155-173	4.5	7
49	An SMT-based approach to secure state estimation under sensor and actuator attacks <b>2017</b> ,		7
48	A symbolic approach to the design of robust cyber-physical systems <b>2013</b> ,		7
47	Underminer. <i>Transactions on Embedded Computing Systems</i> , <b>2018</b> , 17, 1-28	1.8	7
46	First steps toward formal controller synthesis for bipedal robots <b>2015</b> ,		5
45	Comparing asynchronous l-complete approximations and quotient based abstractions <b>2015</b> ,		5
44	Approximate time-optimal control via approximate alternating simulations <b>2010</b> ,		5
43	Underminer <b>2016</b> ,		5
42	System identification in the presence of adversarial outputs <b>2016</b> ,		5
41	Lazy Controller Synthesis using Three-valued Abstractions for Safety and Reachability Specifications <b>2018</b> ,		5
40	Sum-of-Squares methods for controlled invariant sets with applications to model-predictive control. <i>Nonlinear Analysis: Hybrid Systems</i> , <b>2020</b> , 36, 100858	4.5	4
39	Space-time scaling laws for self-triggered control <b>2008</b> ,		4
38	Hybrid Abstractions that Preserve Timed Languages. <i>Lecture Notes in Computer Science</i> , <b>2001</b> , 501-514	0.9	4
37	Decomposing controller synthesis for safety specifications <b>2016</b> ,		4
36	<b>2018</b> ,		4
35	Evrostos <b>2019</b> ,		3
34	Symbolic models for unstable nonlinear control systems <b>2010</b> ,		3



33	Approximate Reduction of Dynamical Systems <b>2006,</b>		3
32	Periodic Event-Triggered Control <b>2018,</b> 104-120		3
31	<b>2019,</b>		3
30	When is the Secure State-Reconstruction Problem Hard? <b>2019,</b>		3
29	. <i>IEEE Transactions on Automatic Control</i> , <b>2021,</b> 66, 538-549	5.9	3
28	Verifying rLTL formulas: now faster than ever before! <b>2018,</b>		3
27	Protecting the Privacy of Networked Multi-Agent Systems Controlled over the Cloud <b>2018,</b>		3
26	Correction to "Compositional Transient Stability Analysis of Multimachine Power Networks" <i>IEEE Transactions on Control of Network Systems</i> , <b>2017,</b> 4, 676-677	4	2
25	PrOLoc: resilient localization with private observers using partial homomorphic encryption <b>2017,</b>		2
24	Mode-Target Games: Reactive Synthesis for Control Applications. <i>IEEE Transactions on Automatic Control</i> , <b>2018,</b> 63, 196-202	5.9	2
23	Controller Synthesis for Mode-Target Games. <i>IFAC-PapersOnLine</i> , <b>2015,</b> 48, 343-350	0.7	2
22	Towards backstepping design for incremental stability <b>2010,</b>		2
21	A symbolic model approach to the digital control of nonlinear time-delay systems <b>2009,</b>		2
20	Symbolic models for linear control systems with disturbances <b>2007,</b>		2
19	Sensor/Actuator Abstractions for Symbolic Embedded Control Design. <i>Lecture Notes in Computer Science</i> , <b>2005,</b> 640-654	0.9	2
18	Being Correct Is Not Enough: Efficient Verification Using Robust Linear Temporal Logic. <i>ACM Transactions on Computational Logic</i> , <b>2022,</b> 23, 1-39	0.9	2
17	A simple hierarchy for computing controlled invariant sets <b>2020,</b>		2
16	From LTL to rLTL monitoring <b>2020,</b>		2

15	Plausible deniability as a notion of privacy <b>2019</b> ,		2
14	<b>2019</b> ,		2
13	Distorting an Adversary's View in Cyber-Physical Systems <b>2018</b> ,		2
12	Towards a compositional analysis of multi-machine power systems transient stability <b>2013</b> ,		1
11	An enhanced hierarchy for (robust) controlled invariance <b>2021</b> ,		1
10	Symmetries and privacy in control over the cloud: uncertainty sets and side knowledge* <b>2019</b> ,		1
9	Secure State-Reconstruction Over Networks Subject to Attacks <b>2021</b> , 5, 157-162		1
8	Deciding Stability of a Switched System Without Identifying It <b>2018</b> ,		1
7	Safety and Stability Guarantees for Control Loops With Deep Learning Perception <b>2022</b> , 6, 1286-1291		1
6	On the computational complexity of the secure state-reconstruction problem. <i>Automatica</i> , <b>2022</b> , 136, 110083	5.7	0
5	Distortion-Based Lightweight Security for Cyber-Physical Systems. <i>IEEE Transactions on Automatic Control</i> , <b>2021</b> , 66, 1588-1601	5.9	0
4	Sampled-Data Stabilization With Control Lyapunov Functions via Quadratically Constrained Quadratic Programs <b>2022</b> , 6, 680-685		0
3	A Coding Theoretic View of Secure State Reconstruction <b>2020</b> , 357-369		
2	Local factorization of trajectory lifting morphisms for single-input affine control systems. <i>Systems and Control Letters</i> , <b>2006</b> , 55, 761-769	2.4	
1	The Secure State Estimation Problem. <i>Lecture Notes in Control and Information Sciences</i> , <b>2021</b> , 123-143	0.5	