

Paulo Tabuada

List of Publications by Year in Descending Order

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Version: 2024-04-25

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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	Being Correct Is Not Enough: Efficient Verification Using Robust Linear Temporal Logic. <i>ACM Transactions on Computational Logic</i> , 2022 , 23, 1-39	0.9	2
157	On the computational complexity of the secure state-reconstruction problem. <i>Automatica</i> , 2022 , 136, 110083	5.7	0
156	Sampled-Data Stabilization With Control Lyapunov Functions via Quadratically Constrained Quadratic Programs 2022 , 6, 680-685		0
155	Safety and Stability Guarantees for Control Loops With Deep Learning Perception 2022 , 6, 1286-1291		1
154	An enhanced hierarchy for (robust) controlled invariance 2021 ,		1
153	. <i>IEEE Transactions on Automatic Control</i> , 2021 , 66, 538-549	5.9	3
152	Secure State-Reconstruction Over Networks Subject to Attacks 2021 , 5, 157-162		1
151	Control Barrier Function-Based Quadratic Programs Introduce Undesirable Asymptotically Stable Equilibria 2021 , 5, 731-736		10
150	Distortion-Based Lightweight Security for Cyber-Physical Systems. <i>IEEE Transactions on Automatic Control</i> , 2021 , 66, 1588-1601	5.9	0
149	Cloud-Based Quadratic Optimization With Partially Homomorphic Encryption. <i>IEEE Transactions on Automatic Control</i> , 2021 , 66, 2357-2364	5.9	9
148	The Secure State Estimation Problem. <i>Lecture Notes in Control and Information Sciences</i> , 2021 , 123-143	0.5	
147	A Coding Theoretic View of Secure State Reconstruction 2020 , 357-369		
146	Sum-of-Squares methods for controlled invariant sets with applications to model-predictive control. <i>Nonlinear Analysis: Hybrid Systems</i> , 2020 , 36, 100858	4.5	4
145	A simple hierarchy for computing controlled invariant sets 2020 ,		2
144	From LTL to rLTL monitoring 2020 ,		2
143	Securing state reconstruction under sensor and actuator attacks: Theory and design. <i>Automatica</i> , 2020 , 116, 108920	5.7	12
142	Data driven stability analysis of black-box switched linear systems. <i>Automatica</i> , 2019 , 109, 108533	5.7	8

141	Position paper on the challenges posed by modern applications to cyber-physical systems theory. <i>Nonlinear Analysis: Hybrid Systems</i> , 2019 , 34, 147-165	4.5	13
140	Control Barrier Functions: Theory and Applications 2019 ,		186
139	Evrostos 2019 ,		3
138	Plausible deniability as a notion of privacy 2019 ,		2
137	Symmetries and privacy in control over the cloud: uncertainty sets and side knowledge* 2019 ,		1
136	Non-local Linearization of Nonlinear Differential Equations via Polyflows 2019 ,		10
135	2019 ,		3
134	When is the Secure State-Reconstruction Problem Hard? 2019 ,		3
133	2019 ,		2
132	Supervisory Control of Discrete-Event Systems Under Attacks. <i>Dynamic Games and Applications</i> , 2019 , 9, 965-983	1.1	20
131	Correctness Guarantees for the Composition of Lane Keeping and Adaptive Cruise Control. <i>IEEE Transactions on Automation Science and Engineering</i> , 2018 , 15, 1216-1229	4.9	39
130	SMT-Based Observer Design for Cyber-Physical Systems under Sensor Attacks. <i>ACM Transactions on Cyber-Physical Systems</i> , 2018 , 2, 1-27	2.3	32
129	Mode-Target Games: Reactive Synthesis for Control Applications. <i>IEEE Transactions on Automatic Control</i> , 2018 , 63, 196-202	5.9	2
128	Will Distributed Computing Revolutionize Peace? The Emergence of Battlefield IoT 2018 ,		8
127	. <i>Proceedings of the IEEE</i> , 2018 , 106, 1655-1679	14.3	18
126	Underminer. <i>Transactions on Embedded Computing Systems</i> , 2018 , 17, 1-28	1.8	7
125	Periodic Event-Triggered Control 2018 , 104-120		3
124	Deciding Stability of a Switched System Without Identifying It 2018 ,		1

123	2018,		4
122	Distorting an Adversary's View in Cyber-Physical Systems 2018,		2
121	Verifying rLTL formulas: now faster than ever before! 2018,		3
120	Toward an Internet of Battlefield Things: A Resilience Perspective. <i>Computer</i> , 2018 , 51, 24-36	1.6	20
119	Lazy Controller Synthesis using Three-valued Abstractions for Safety and Reachability Specifications 2018,		5
118	Computing controlled invariant sets for hybrid systems with applications to model-predictive control. <i>IFAC-PapersOnLine</i> , 2018 , 51, 193-198	0.7	8
117	Protecting the Privacy of Networked Multi-Agent Systems Controlled over the Cloud 2018,		3
116	Correction to "Compositional Transient Stability Analysis of Multimachine Power Networks" <i>IEEE Transactions on Control of Network Systems</i> , 2017 , 4, 676-677	4	2
115	Computing Robust Controlled Invariant Sets of Linear Systems. <i>IEEE Transactions on Automatic Control</i> , 2017 , 62, 3665-3670	5.9	40
114	First steps toward formal controller synthesis for bipedal robots with experimental implementation. <i>Nonlinear Analysis: Hybrid Systems</i> , 2017 , 25, 155-173	4.5	7
113	. <i>IEEE Transactions on Automatic Control</i> , 2017 , 62, 4917-4932	5.9	144
112	PrOLoc 2017,		16
111	PrOLoc: resilient localization with private observers using partial homomorphic encryption 2017,		2
110	. <i>IEEE Transactions on Automatic Control</i> , 2017 , 62, 3861-3876	5.9	377
109	Realizing simultaneous lane keeping and adaptive speed regulation on accessible mobile robot testbeds 2017,		14
108	Abstracting Partially Feedback Linearizable Systems Compositionally 2017 , 1, 227-232		16
107	Secure State Estimation Against Sensor Attacks in the Presence of Noise. <i>IEEE Transactions on Control of Network Systems</i> , 2017 , 4, 49-59	4	66
106	An SMT-based approach to secure state estimation under sensor and actuator attacks 2017,		7

105	Linear temporal logic motion planning for teams of underactuated robots using satisfiability modulo convex programming 2017 ,		16
104	Data-driven control for feedback linearizable single-input systems 2017 ,		17
103	SMC 2017 ,		21
102	SMT-Based Observer Design for Cyber-Physical Systems under Sensor Attacks 2016 ,		13
101	Event-Triggered State Observers for Sparse Sensor Noise/Attacks. <i>IEEE Transactions on Automatic Control</i> , 2016 , 61, 2079-2091	5.9	183
100	A Notion of Robustness for Cyber-Physical Systems. <i>IEEE Transactions on Automatic Control</i> , 2016 , 61, 2108-2123	5.9	35
99	Correct-by-Construction Adaptive Cruise Control: Two Approaches. <i>IEEE Transactions on Control Systems Technology</i> , 2016 , 24, 1294-1307	4.8	71
98	Self-triggered controllers and hard real-time guarantees 2016 ,		10
97	Scalable lazy SMT-based motion planning 2016 ,		13
96	Decomposing controller synthesis for safety specifications 2016 ,		4
95	Underminer 2016 ,		5
94	Privacy-aware quadratic optimization using partially homomorphic encryption 2016 ,		39
93	System identification in the presence of adversarial outputs 2016 ,		5
92	2016 ,		10
91	Adaptive cruise control: Experimental validation of advanced controllers on scale-model cars 2015 ,		19
90	First steps toward formal controller synthesis for bipedal robots 2015 ,		5
89	A Framework for the Event-Triggered Stabilization of Nonlinear Systems. <i>IEEE Transactions on Automatic Control</i> , 2015 , 60, 982-996	5.9	399
88	Controller Synthesis for Mode-Target Games. <i>IFAC-PapersOnLine</i> , 2015 , 48, 343-350	0.7	2

87	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> , 2015 , 48, 54-61	0.7	119
86	Comparing asynchronous l-complete approximations and quotient based abstractions 2015 ,		5
85	Secure state estimation: Optimal guarantees against sensor attacks in the presence of noise 2015 ,		26
84	Sound and complete state estimation for linear dynamical systems under sensor attacks using Satisfiability Modulo Theory solving 2015 ,		21
83	Secure state reconstruction in differentially flat systems under sensor attacks using satisfiability modulo theory solving 2015 ,		14
82	Uses and abuses of the swing equation model 2015 ,		14
81	2015 ,		21
80	Attack-resilient state estimation in the presence of noise 2015 ,		40
79	System Architectures, Protocols and Algorithms for Aperiodic Wireless Control Systems. <i>IEEE Transactions on Industrial Informatics</i> , 2014 , 10, 175-184	11.9	96
78	Self-triggered linear quadratic control. <i>Automatica</i> , 2014 , 50, 1279-1287	5.7	112
77	Robustness of attack-resilient state estimators 2014 ,		114
76	Towards Kron reduction of generalized electrical networks. <i>Automatica</i> , 2014 , 50, 2586-2590	5.7	19
75	Compositional Transient Stability Analysis of Multimachine Power Networks. <i>IEEE Transactions on Control of Network Systems</i> , 2014 , 1, 4-14	4	50
74	Secure Estimation and Control for Cyber-Physical Systems Under Adversarial Attacks. <i>IEEE Transactions on Automatic Control</i> , 2014 , 59, 1454-1467	5.9	683
73	Towards Robustness for Cyber-Physical Systems. <i>IEEE Transactions on Automatic Control</i> , 2014 , 59, 3151-3163	5.9	44
72	Event-triggered projected Luenberger observer for linear systems under sparse sensor attacks 2014 ,		13
71	. <i>IEEE Transactions on Automatic Control</i> , 2014 , 59, 3120-3121	5.9	28
70	2014 ,		9

69	Preliminary results on correct-by-construction control software synthesis for adaptive cruise control 2014 ,		19
68	2014 ,		222
67	Abstracting and refining robustness for cyber-physical systems 2014 ,		10
66	Towards a compositional analysis of multi-machine power systems transient stability 2013 ,		1
65	Non-invasive Spoofing Attacks for Anti-lock Braking Systems. <i>Lecture Notes in Computer Science</i> , 2013 , 55-72	0.9	91
64	Specification-guided controller synthesis for linear systems and safe linear-time temporal logic 2013 ,		21
63	A theory of robust omega-regular software synthesis. <i>Transactions on Embedded Computing Systems</i> , 2013 , 13, 1-27	1.8	9
62	A symbolic approach to the design of robust cyber-physical systems 2013 ,		7
61	Symbolic Models for Nonlinear Control Systems Without Stability Assumptions. <i>IEEE Transactions on Automatic Control</i> , 2012 , 57, 1804-1809	5.9	153
60	Kron reduction of power networks with lossy and dynamic transmission lines 2012 ,		12
59	Input-output robustness for discrete systems 2012 ,		19
58	Scaling up controller synthesis for linear systems and safety specifications 2012 ,		8
57	Security for control systems under sensor and actuator attacks 2012 ,		27
56	Decentralized Event-Triggered Control Over Wireless Sensor/Actuator Networks. <i>IEEE Transactions on Automatic Control</i> , 2011 , 56, 2456-2461	5.9	439
55	Backstepping Design for Incremental Stability. <i>IEEE Transactions on Automatic Control</i> , 2011 , 56, 2184-2189	5.9	54
54	Self-triggered control over wireless sensor and actuator networks 2011 ,		27
53	A unifying Lyapunov-based framework for the event-triggered control of nonlinear systems 2011 ,		53
52	Event-triggered and self-triggered stabilization of distributed networked control systems 2011 ,		54

51	Secure state-estimation for dynamical systems under active adversaries 2011 ,		67
50	Symbolic approximate time-optimal control. <i>Systems and Control Letters</i> , 2011 , 60, 256-263	2.4	21
49	Pessoa 2.0 2011 ,		26
48	Robust discrete synthesis against unspecified disturbances 2011 ,		20
47	Towards backstepping design for incremental stability 2010 ,		2
46	Symbolic models for unstable nonlinear control systems 2010 ,		3
45	To Sample or not to Sample: Self-Triggered Control for Nonlinear Systems. <i>IEEE Transactions on Automatic Control</i> , 2010 , 55, 2030-2042	5.9	519
44	2010 ,		12
43	Dynamic Scheduling and Control-Quality Optimization of Self-Triggered Control Applications 2010 ,		11
42	Approximate time-optimal control via approximate alternating simulations 2010 ,		5
41	Symbolic models for nonlinear time-delay systems using approximate bisimulations. <i>Systems and Control Letters</i> , 2010 , 59, 365-373	2.4	46
40	An ISS self-triggered implementation of linear controllers. <i>Automatica</i> , 2010 , 46, 1310-1314	5.7	283
39	PESSOA: A Tool for Embedded Controller Synthesis. <i>Lecture Notes in Computer Science</i> , 2010 , 566-569	0.9	69
38	On self-triggered control for linear systems: Guarantees and complexity 2009 ,		40
37	Isochronous manifolds in self-triggered control 2009 ,		8
36	A symbolic model approach to the digital control of nonlinear time-delay systems 2009 ,		2
35	Input-to-state stability of self-triggered control systems 2009 ,		27
34	On the Benefits of Relaxing the Periodicity Assumption for Networked Control Systems over CAN 2009 ,		33

33	Symbolic Models for Nonlinear Control Systems: Alternating Approximate Bisimulations. <i>SIAM Journal on Control and Optimization</i> , 2009 , 48, 719-733	1.9	93
32	Verification and Control of Hybrid Systems 2009 ,		350
31	. <i>IEEE Transactions on Automatic Control</i> , 2008 , 53, 1406-1418	5.9	76
30	Self-triggered stabilization of homogeneous control systems 2008 ,		54
29	Space-time scaling laws for self-triggered control 2008 ,		4
28	On event-triggered and self-triggered control over sensor/actuator networks 2008 ,		127
27	Approximately bisimilar symbolic models for nonlinear control systems. <i>Automatica</i> , 2008 , 44, 2508-2516	5.7	178
26	Controller synthesis for bisimulation equivalence. <i>Systems and Control Letters</i> , 2008 , 57, 443-452	2.4	27
25	Approximate reduction of dynamic systems. <i>Systems and Control Letters</i> , 2008 , 57, 538-545	2.4	16
24	Approximately Bisimilar Symbolic Models for Incrementally Stable Switched Systems. <i>Lecture Notes in Computer Science</i> , 2008 , 201-214	0.9	13
23	Event-Triggered Real-Time Scheduling of Stabilizing Control Tasks. <i>IEEE Transactions on Automatic Control</i> , 2007 , 52, 1680-1685	5.9	2365
22	Symbolic models for control systems. <i>Acta Informatica</i> , 2007 , 43, 477-500	0.9	13
21	Symbolic models for nonlinear control systems using approximate bisimulation 2007 ,		12
20	Symbolic models for linear control systems with disturbances 2007 ,		2
19	On Simulations and Bisimulations of General Flow Systems 2007 , 145-158		8
18	Approximate Simulation Relations and Finite Abstractions of Quantized Control Systems 2007 , 529-542		15
17	Approximate Reduction of Dynamical Systems 2006 ,		3
16	Preliminary results on state-triggered scheduling of stabilizing control tasks 2006 ,		48

15	On the Stability of Zeno Equilibria. <i>Lecture Notes in Computer Science</i> , 2006 , 34-48	0.9	28
14	. <i>IEEE Transactions on Automatic Control</i> , 2006 , 51, 1862-1877	5.9	190
13	Local factorization of trajectory lifting morphisms for single-input affine control systems. <i>Systems and Control Letters</i> , 2006 , 55, 761-769	2.4	
12	Bisimulation relations for dynamical, control, and hybrid systems. <i>Theoretical Computer Science</i> , 2005 , 342, 229-261	1.1	75
11	Hierarchical trajectory refinement for a class of nonlinear systems. <i>Automatica</i> , 2005 , 41, 701-708	5.7	25
10	Sensor/Actuator Abstractions for Symbolic Embedded Control Design. <i>Lecture Notes in Computer Science</i> , 2005 , 640-654	0.9	2
9	Quotients of Fully Nonlinear Control Systems. <i>SIAM Journal on Control and Optimization</i> , 2005 , 43, 1844-1866	1.6	22
8	Compositional Abstractions of Hybrid Control Systems. <i>Discrete Event Dynamic Systems: Theory and Applications</i> , 2004 , 14, 203-238	1	27
7	Bisimilar control affine systems. <i>Systems and Control Letters</i> , 2004 , 52, 49-58	2.4	47
6	Open Maps, Alternating Simulations and Control Synthesis. <i>Lecture Notes in Computer Science</i> , 2004 , 466-480	0.9	8
5	Abstractions of Hamiltonian control systems. <i>Automatica</i> , 2003 , 39, 2025-2033	5.7	9
4	Bisimulation Relations for Dynamical and Control Systems. <i>Electronic Notes in Theoretical Computer Science</i> , 2003 , 69, 120-136	0.7	19
3	Model Checking LTL over Controllable Linear Systems Is Decidable. <i>Lecture Notes in Computer Science</i> , 2003 , 498-513	0.9	39
2	Composing Abstractions of Hybrid Systems. <i>Lecture Notes in Computer Science</i> , 2002 , 436-450	0.9	12
1	Hybrid Abstractions that Preserve Timed Languages. <i>Lecture Notes in Computer Science</i> , 2001 , 501-514	0.9	4