Antoine Girard

List of Publications by Citations

138	4,406	32	64
papers	citations	h-index	g-index
149	5,428	3	6.43
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
138	Dynamic Triggering Mechanisms for Event-Triggered Control. *IEEE Transactions on Automatic Control*, **2015**, 60, 1992-1997	5.9	642
137	SpaceEx: Scalable Verification of Hybrid Systems. *Lecture Notes in Computer Science*, **2011**, 379-395	0.9	368
136	Approximation Metrics for Discrete and Continuous Systems. *IEEE Transactions on Automatic Control*, **2007**, 52, 782-798	5.9	266
135	Temporal logic motion planning for dynamic robots. *Automatica*, **2009**, 45, 343-352	5.7	241
134	Reachability of Uncertain Linear Systems Using Zonotopes. *Lecture Notes in Computer Science*, **2005**, 291-305	0.9	234
133	. *IEEE Transactions on Automatic Control*, **2010**, 55, 116-126	5.9	210
132	Approximately bisimilar symbolic models for nonlinear control systems. *Automatica*, **2008**, 44, 2508-2516	5.7	178
131	Hybridization methods for the analysis of nonlinear systems. *Acta Informatica*, **2007**, 43, 451-476	0.9	120
130	Reachability analysis of linear systems using support functions. *Nonlinear Analysis: Hybrid Systems*, **2010**, 4, 250-262	4.5	116
129	Efficient Computation of Reachable Sets of Linear Time-Invariant Systems with Inputs. *Lecture Notes in Computer Science*, **2006**, 257-271	0.9	111
128	Hierarchical control system design using approximate simulation. *Automatica*, **2009**, 45, 566-571	5.7	92
127	Approximate Bisimulation: A Bridge Between Computer Science and Control Theory. *European Journal of Control*, **2011**, 17, 568-578	2.5	80
126	Reachability Analysis of Nonlinear Systems Using Conservative Approximation. *Lecture Notes in Computer Science*, **2003**, 20-35	0.9	69
125	Opinion Dynamics With Decaying Confidence: Application to Community Detection in Graphs. *IEEE Transactions on Automatic Control*, **2011**, 56, 1862-1873	5.9	66
124	Reachability Analysis of Hybrid Systems Using Support Functions. *Lecture Notes in Computer Science*, **2009**, 540-554	0.9	64
123	Approximate Simulation Relations for Hybrid Systems. *Discrete Event Dynamic Systems: Theory and Applications*, **2008**, 18, 163-179	1	61
122	Approximate bisimulation relations for constrained linear systems. *Automatica*, **2007**, 43, 1307-1317	5.7	60

121	Event-based control of linear hyperbolic systems of conservation laws. *Automatica*, **2016**, 70, 275-287	5.7	58
120	Controller synthesis for safety and reachability via approximate bisimulation. *Automatica*, **2012**, 48, 947-953	5.7	53
119	Symbolic models for stochastic switched systems: A discretization and a discretization-free approach. *Automatica*, **2015**, 55, 183-196	5.7	51
118	Verification Using Simulation. *Lecture Notes in Computer Science*, **2006**, 272-286	0.9	47
117	. *IEEE Transactions on Control of Network Systems*, **2014**, 1, 155-166	4	43
116	Zonotope/Hyperplane Intersection for Hybrid Systems Reachability Analysis. *Lecture Notes in Computer Science*, **2008**, 215-228	0.9	43
115	. *IEEE Transactions on Automatic Control*, **2016**, 61, 1181-1193	5.9	42
114	Efficient Reachability Analysis for Linear Systems using Support Functions. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2008**, 41, 8966-8971		41
113	CoSyMA **2013**,		39
112	. *IEEE Transactions on Automatic Control*, **2016**, 61, 1537-1549	5.9	38
111	Approximate Bisimulations for Nonlinear Dynamical Systems		36
110	Continuous-Time Consensus under Persistent Connectivity and Slow Divergence of Reciprocal Interaction Weights. *SIAM Journal on Control and Optimization*, **2013**, 51, 2568-2584	1.9	35
109	Stability of Switched Linear Hyperbolic Systems by Lyapunov Techniques. *IEEE Transactions on Automatic Control*, **2014**, 59, 2196-2202	5.9	34
108	Event-Based Boundary Control of a Linear 2×2 Hyperbolic System via Backstepping Approach. *IEEE Transactions on Automatic Control*, **2018**, 63, 2686-2693	5.9	33
107	Compositional Abstraction and Safety Synthesis Using Overlapping Symbolic Models. *IEEE Transactions on Automatic Control*, **2018**, 63, 1835-1841	5.9	33
106	Clustered model reduction of positive directed networks. *Automatica*, **2015**, 59, 238-247	5.7	31
105	Synthesis for Constrained Nonlinear Systems Using Hybridization and Robust Controllers on Simplices. *IEEE Transactions on Automatic Control*, **2012**, 57, 1046-1051	5.9	29
104	Coordination in Networks of Linear Impulsive Agents. *IEEE Transactions on Automatic Control*, **2016**, 61, 2402-2415	5.9	26

103	Approximately Bisimilar Finite Abstractions of Stable Linear Systems **2007**, 231-244		24
102	**2013**,		23
101	Temporal Logic Verification Using Simulation. *Lecture Notes in Computer Science*, **2006**, 171-186	0.9	23
100	Set Propagation Techniques for Reachability Analysis. *Annual Review of Control, Robotics, and Autonomous Systems*, **2021**, 4, 369-395	11.8	22
99	Tikhonov theorem for linear hyperbolic systems. *Automatica*, **2015**, 57, 1-10	5.7	21
98	Computation of polytopic invariants for polynomial dynamical systems using linear programming. *Automatica*, **2012**, 48, 3114-3121	5.7	21
97	Approximate bisimulation for a class of stochastic hybrid systems **2006**,		20
96	Stability analysis of a general class of singularly perturbed linear hybrid systems. *Automatica*, **2018**, 90, 98-108	5.7	18
95	Low-complexity quantized switching controllers using approximate bisimulation. *Nonlinear Analysis: Hybrid Systems*, **2013**, 10, 34-44	4.5	18
94	Approximate Bisimulations for Constrained Linear Systems		18
93	Reachability Analysis of Polynomial Systems Using Linear Programming Relaxations. *Lecture Notes in Computer Science*, **2012**, 137-151	0.9	18
92	Switching Rules for Stabilization of Linear Systems of Conservation Laws. *SIAM Journal on Control and Optimization*, **2015**, 53, 1599-1624	1.9	17
91	Safety control with performance guarantees of cooperative systems using compositional abstractions. *IFAC-PapersOnLine*, **2015**, 48, 317-322	0.7	15
90	Safety controller synthesis for switched systems using multi-scale symbolic models **2011**,		15
89	On the Composition of Discrete and Continuous-time Assume-Guarantee Contracts for Invariance **2018**,		14
88	Controllability and invariance of monotone systems for robust ventilation automation in buildings **2013**,		13
87	Time-triggered implementations of dynamic controllers **2006**,		13
86	Approximately Bisimilar Symbolic Models for Incrementally Stable Switched Systems. *Lecture Notes in Computer Science*, **2008**, 201-214	0.9	13

85	Robust controlled invariance for monotone systems: Application to ventilation regulation in buildings. *Automatica*, **2016**, 70, 14-20	5.7	12
84	Symbolic models for nonlinear control systems using approximate bisimulation **2007**,		12
83	Hierarchical Synthesis of Hybrid Controllers from Temporal Logic Specifications **2007**, 203-216		12
82	Synthesis using approximately bisimilar abstractions **2010**,		11
81	Synthesis of switching controllers using approximately bisimilar multiscale abstractions **2011**,		10
80	Hierarchical Control using Approximate Simulation Relations **2006**,		10
79	From dissipativity theory to compositional synthesis of symbolic models **2018**,		9
78	Verification and Synthesis of Timing Contracts for Embedded Controllers **2016**,		9
77	Controller synthesis for robust invariance of polynomial dynamical systems using linear programming. *Systems and Control Letters*, **2012**, 61, 506-512	2.4	9
76	Optimal multirate sampling in symbolic models for incrementally stable switched systems. *Automatica*, **2018**, 98, 58-65	5.7	9
75	Stabilization and control Lyapunov functions for language constrained discrete-time switched linear systems. *Automatica*, **2018**, 93, 64-74	5.7	8
74	Fluid-flow modeling and stability analysis of communication networks. *IFAC-PapersOnLine*, **2017**, 50, 4534-4539	0.7	8
73	Compositionality results for cardiac cell dynamics **2014**,		8
72	Sufficient conditions for flocking via graph robustness analysis **2010**,		8
71	Low-Complexity Switching Controllers for Safety using Symbolic Models*. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2012**, 45, 82-87		8
70	APPROXIMATE SIMULATION RELATIONS FOR HYBRID SYSTEMS. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2006**, 39, 106-111		8
69	Recent Progress in Continuoushybrid Reachability Analysis **2006**,		8
68	An optimisation approach for stability analysis and controller synthesis of linear hyperbolic systems. *ESAIM - Control, Optimisation and Calculus of Variations*, **2016**, 22, 1236-1263	1	8

67	Event-based stabilization of linear systems of conservation laws using a dynamic triggering condition. *IFAC-PapersOnLine*, **2016**, 49, 362-367	0.7	8
66	Singular Perturbation Approximation of Linear Hyperbolic Systems of Balance Laws. *IEEE Transactions on Automatic Control*, **2016**, 61, 3031-3037	5.9	7
65	Stability verification and timing contract synthesis for linear impulsive systems using reachability analysis. *Nonlinear Analysis: Hybrid Systems*, **2017**, 25, 211-226	4.5	7
64	Stability analysis of a singularly perturbed coupled ODE-PDE system **2015**,		7
63	On stabilizability conditions for discrete-time switched linear systems **2014**,		7
62	**2014**,		7
61	Lyapunov techniques for stabilization of switched linear systems of conservation laws **2013**,		7
60	Motion planning for nonlinear systems using hybridizations and robust controllers on simplices **2008**,		7
59	Efficient Synthesis for Monotone Transition Systems and Directed Safety Specifications **2019**,		7
58	Contract Based Design of Symbolic Controllers for Interconnected Multiperiodic Sampled-Data Systems **2018**,		7
57	Singular perturbation approximation by means of a H2 Lyapunov function for linear hyperbolic systems. *Systems and Control Letters*, **2016**, 88, 24-31	2.4	6
56	Experimental implementation of UFAD regulation based on Robust Controlled Invariance **2014**,		6
55	Synthesis using approximately bisimilar abstractions: time-optimal control problems **2010**,		6
54	Time-Triggered Implementations of Dynamic Controllers. *Transactions on Embedded Computing Systems*, **2012**, 11, 1-24	1.8	6
53	Approximate hierarchies of linear control systems **2007**,		6
52	Quantifying the gap between embedded control models and time-triggered implementations		6
51	Scheduling of Embedded Controllers Under Timing Contracts **2017**,		6
50	Compositional Abstraction-based Synthesis for Cascade Discrete-Time Control Systems. *IFAC-PapersOnLine*, **2018**, 51, 13-18	0.7	6

49	Triggering mechanism using freely selected sensors for linear time-invariant systems **2015**,		5
48	Lyapunov stability of a singularly perturbed system of two conservation laws. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2013**, 46, 227-232		5
47	Multi-agent flocking with random communication radius **2012**,		5
46	Clustering-based H2-state aggregation of positive networks and its application to reduction of chemical master equations **2012**,		5
45	Lyapunov functions for switched linear hyperbolic systems*. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2012**, 45, 382-387		5
44	A symbolic approach to voltage stability and power sharing in time-varying DC microgrids **2019**,		5
43	Stability and stabilizability of discrete-time dual switching systems with application to sampled-data systems. *Automatica*, **2019**, 100, 388-395	5.7	5
42	Boundary control synthesis for hyperbolic systems: A singular perturbation approach **2014**,		4
41	Towards a multiresolution approach to linear control. *IEEE Transactions on Automatic Control*, **2006**, 51, 1261-1270	5.9	4
40	Bounded and Unbounded Safety Verification Using Bisimulation Metrics. *Lecture Notes in Computer Science*, **2009**, 426-440	0.9	4
39	Symbolic models for incrementally stable switched systems with aperiodic time sampling. *IFAC-PapersOnLine*, **2018**, 51, 253-258	0.7	4
38	Iterative computation of polyhedral invariants sets for polynomial dynamical systems **2014**,		3
37	Verification of Safety and Liveness Properties of Metric Transition Systems. *Transactions on Embedded Computing Systems*, **2012**, 11, 1-23	1.8	3
36	Language constrained stabilization of discrete-time switched linear systems: a Lyapunov-Metzler inequalities approach **2016**,		3
35	Contract-Based Design of Symbolic Controllers for Safety in Distributed Multiperiodic Sampled-Data Systems. *IEEE Transactions on Automatic Control*, **2021**, 66, 1055-1070	5.9	3
34	Contract based Design of Symbolic Controllers for Vehicle Platooning **2018**,		3
33	Lyapunov Functions for Shuffle Asymptotic Stability of Discrete-Time Switched Systems **2019**, 3, 499-504		2
32	Coordination in networks of linear impulsive agents **2014**,		2

31	A Model of Opinion Dynamics for Community Detection in Graphs. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2010**, 43, 251-256		2
30	Abstraction of Monotone Systems Based on Feedback Controllers. *IFAC-PapersOnLine*, **2020**, 53, 1819-1824		2
29	Lazy Safety Controller Synthesis with Multi-Scale Adaptive-Sampling Abstractions of Nonlinear Systems. *IFAC-PapersOnLine*, **2020**, 53, 1837-1843	0.7	2
28	Least-violating symbolic controller synthesis for safety, reachability and attractivity specifications. *Automatica*, **2021**, 127, 109543	5.7	2
27	Compositional Abstraction-Based Synthesis for Interconnected Systems: An Approximate Composition Approach. *IEEE Transactions on Control of Network Systems*, **2021**, 8, 702-712	4	2
26	Exponential stabilization of language constrained discrete-time switched linear systems: A geometrical approach **2016**,		2
25	Decentralized monotonicity-based voltage control of DC microgrids with ZIP loads. *IFAC-PapersOnLine*, **2019**, 52, 139-144	0.7	2
24	Symbolic Models for a Class of Impulsive Systems **2021**, 5, 247-252		2
23	Symbolic Observer-Based Controller for Uncertain Nonlinear Systems **2021**, 5, 1297-1302		2
22	LMI-based design of dynamic event-triggering mechanism for linear systems **2018**,		2
21	Assume-guarantee contracts for continuous-time systems. *Automatica*, **2021**, 134, 109910	5.7	2
20	Symbolic control of monotone systems application to ventilation regulation in buildings **2015**,		1
19	Stability Verification of Nearly Periodic Impulsive Linear Systems using Reachability Analysis. *IFAC-PapersOnLine*, **2015**, 48, 358-363	0.7	1
18	Multirate Symbolic Models for Incrementally Stable Switched Systems * *This work has been supported by the Labex Digicosme, Universit Paris-Saclay (CODECSYS project).. *IFAC-PapersOnLine*, **2017**, 50, 9278-9284	0.7	1
17	Dynamic boundary control synthesis of coupled PDE-ODEs for communication networks under fluid flow modeling **2017**,		1
16	Consensus with Constrained Convergence Rate and Time-Delays. *Lecture Notes in Control and Information Sciences*, **2012**, 417-428	0.5	1
15	Approximate Simulation Relations for Hybrid Systems **2006**, 106-111		1
14	A Quantitative Approach on Assume-Guarantee Contracts for Safety of Interconnected Systems **2019**,		1

List of Publications

13	Safety synthesis for incrementally stable switched systems using discretization-free multi-resolution abstractions. *Acta Informatica*, **2020**, 57, 245-269	0.9	1
12	Language constrained stabilization of discrete-time switched linear systems: an LMI approach. *IFAC-PapersOnLine*, **2018**, 51, 25-30	0.7	1
11	Safety control, a quantitative approach. *IFAC-PapersOnLine*, **2018**, 51, 187-192	0.7	1
10	Tools for the Analysis of Hybrid Models227-251		1
9	Self-Triggered Control for Sampled-data Systems using Reachability Analysis * *This work was supported by the Agence Nationale de la Recherche (COMPACS project ANR-13-BS03-0004) and by the Labex Digi-Cosme, Universit Paris-Saclay (CODECSYS project). *IFAC-PapersOnLine*, **2017**, 50, 7881-7886	0.7	0
8	Lazy controller synthesis for monotone transition systems and directed safety specifications. *Automatica*, **2022**, 135, 109993	5.7	0
7	Efficient Data-Driven Abstraction of Monotone Systems with Disturbances. *IFAC-PapersOnLine*, **2021**, 54, 49-54	0.7	0
6	Lazy Symbolic Controller for Continuous-Time Systems Based on Safe Set Boundary Exploration. *IFAC-PapersOnLine*, **2021**, 54, 109-114	0.7	0
5	Stabilizability and Control Co-Design for Discrete-Time Switched Linear Systems. *Lecture Notes in Control and Information Sciences*, **2018**, 25-46	0.5	
4	Numerical Computation of Lyapunov Function for Hyperbolic PDE using LMI Formulation and Polytopic Embeddings**This work has been partially supported by the LabEx PERSYVAL-Lab ANR-11-LABX-0025.. *IFAC-PapersOnLine*, **2015**, 48, 7-12	0.7	
3	Timing Contracts for Multi-Core Embedded Control Systems. *Lecture Notes in Control and Information Sciences*, **2018**, 97-118	0.5	
2	Singular Perturbation Approach for Linear Coupled ODE-PDE Systems. *Advances in Delays and Dynamics*, **2019**, 3-17	0.3	
1	Formal controller synthesis from specifications given by discrete-time hybrid automata. *Automatica* , **2021**, 131, 109768	5.7	