# Antoine Girard

## List of Publications by Year in Descending Order

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

| # | Paper | IF | Citations |
|---|-------|----|-----------| 
| 138 | Lazy controller synthesis for monotone transition systems and directed safety specifications. *Automatica*, **2022**, 135, 109993 | 5.7 | 0 |
| 137 | Least-violating symbolic controller synthesis for safety, reachability and attractivity specifications. *Automatica*, **2021**, 127, 109543 | 5.7 | 2 |
| 136 | Compositional Abstraction-Based Synthesis for Interconnected Systems: An Approximate Composition Approach. *IEEE Transactions on Control of Network Systems*, **2021**, 8, 702-712 | 4 | 2 |
| 135 | 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 |
| 134 | Symbolic Models for a Class of Impulsive Systems **2021**, 5, 247-252 | | 2 |
| 133 | Set Propagation Techniques for Reachability Analysis. *Annual Review of Control, Robotics, and Autonomous Systems*, **2021**, 4, 369-395 | 11.8 | 22 |
| 132 | Symbolic Observer-Based Controller for Uncertain Nonlinear Systems **2021**, 5, 1297-1302 | | 2 |
| 131 | Efficient Data-Driven Abstraction of Monotone Systems with Disturbances. *IFAC-PapersOnLine*, **2021**, 54, 49-54 | 0.7 | 0 |
| 130 | Lazy Symbolic Controller for Continuous-Time Systems Based on Safe Set Boundary Exploration. *IFAC-PapersOnLine*, **2021**, 54, 109-114 | 0.7 | 0 |
| 129 | Formal controller synthesis from specifications given by discrete-time hybrid automata. *Automatica*, **2021**, 131, 109768 | 5.7 | |
| 128 | Assume-guarantee contracts for continuous-time systems. *Automatica*, **2021**, 134, 109910 | 5.7 | 2 |
| 127 | Abstraction of Monotone Systems Based on Feedback Controllers. *IFAC-PapersOnLine*, **2020**, 53, 1819-1824 | 0.7 | 2 |
| 126 | Lazy Safety Controller Synthesis with Multi-Scale Adaptive-Sampling Abstractions of Nonlinear Systems. *IFAC-PapersOnLine*, **2020**, 53, 1837-1843 | 0.7 | 2 |
| 125 | Safety synthesis for incrementally stable switched systems using discretization-free multi-resolution abstractions. *Acta Informatica*, **2020**, 57, 245-269 | 0.9 | 1 |
| 124 | Lyapunov Functions for Shuffle Asymptotic Stability of Discrete-Time Switched Systems **2019**, 3, 499-504 | | 2 |
| 123 | Singular Perturbation Approach for Linear Coupled ODE-PDE Systems. *Advances in Delays and Dynamics*, **2019**, 3-17 | 0.3 | |
| 122 | A Quantitative Approach on Assume-Guarantee Contracts for Safety of Interconnected Systems **2019**, | | 1 |

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| 121 | Efficient Synthesis for Monotone Transition Systems and Directed Safety Specifications **2019**, | | 7 |
| 120 | A symbolic approach to voltage stability and power sharing in time-varying DC microgrids **2019**, | | 5 |
| 119 | Decentralized monotonicity-based voltage control of DC microgrids with ZIP loads. *IFAC-PapersOnLine*, **2019**, 52, 139-144 | 0.7 | 2 |
| 118 | Stability and stabilizability of discrete-time dual switching systems with application to sampled-data systems. *Automatica*, **2019**, 100, 388-395 | 5.7 | 5 |
| 117 | Stability analysis of a general class of singularly perturbed linear hybrid systems. *Automatica*, **2018**, 90, 98-108 | 5.7 | 18 |
| 116 | Event-Based Boundary Control of a Linear $2\times 2$ Hyperbolic System via Backstepping Approach. *IEEE Transactions on Automatic Control*, **2018**, 63, 2686-2693 | 5.9 | 33 |
| 115 | Stabilization and control Lyapunov functions for language constrained discrete-time switched linear systems. *Automatica*, **2018**, 93, 64-74 | 5.7 | 8 |
| 114 | From dissipativity theory to compositional synthesis of symbolic models **2018**, | | 9 |
| 113 | Compositional Abstraction and Safety Synthesis Using Overlapping Symbolic Models. *IEEE Transactions on Automatic Control*, **2018**, 63, 1835-1841 | 5.9 | 33 |
| 112 | Stabilizability and Control Co-Design for Discrete-Time Switched Linear Systems. *Lecture Notes in Control and Information Sciences*, **2018**, 25-46 | 0.5 | |
| 111 | Timing Contracts for Multi-Core Embedded Control Systems. *Lecture Notes in Control and Information Sciences*, **2018**, 97-118 | 0.5 | |
| 110 | On the Composition of Discrete and Continuous-time Assume-Guarantee Contracts for Invariance **2018**, | | 14 |
| 109 | LMI-based design of dynamic event-triggering mechanism for linear systems **2018**, | | 2 |
| 108 | Contract Based Design of Symbolic Controllers for Interconnected Multiperiodic Sampled-Data Systems **2018**, | | 7 |
| 107 | Compositional Abstraction-based Synthesis for Cascade Discrete-Time Control Systems. *IFAC-PapersOnLine*, **2018**, 51, 13-18 | 0.7 | 6 |
| 106 | Language constrained stabilization of discrete-time switched linear systems: an LMI approach. *IFAC-PapersOnLine*, **2018**, 51, 25-30 | 0.7 | 1 |
| 105 | Safety control, a quantitative approach. *IFAC-PapersOnLine*, **2018**, 51, 187-192 | 0.7 | 1 |
| 104 | Symbolic models for incrementally stable switched systems with aperiodic time sampling. *IFAC-PapersOnLine*, **2018**, 51, 253-258 | 0.7 | 4 |

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| 103 | Optimal multirate sampling in symbolic models for incrementally stable switched systems. *Automatica*, **2018**, 98, 58-65 | 5.7 | 9 |
| 102 | Contract based Design of Symbolic Controllers for Vehicle Platooning **2018**, | | 3 |
| 101 | Stability verification and timing contract synthesis for linear impulsive systems using reachability analysis. *Nonlinear Analysis: Hybrid Systems*, **2017**, 25, 211-226 | 4.5 | 7 |
| 100 | Fluid-flow modeling and stability analysis of communication networks. *IFAC-PapersOnLine*, **2017**, 50, 4534-4539 | 0.7 | 8 |
| 99 | 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, Universit̄Paris-Saclay (CODECSYS project). *IFAC-PapersOnLine*, **2017**, 50, 7881-7886 | 0.7 | 0 |
| 98 | Multirate Symbolic Models for Incrementally Stable Switched Systems * *This work has been supported by the Labex Digicosme, Universit̄Paris-Saclay (CODECSYS project).. *IFAC-PapersOnLine*, **2017**, 50, 9278-9284 | 0.7 | 1 |
| 97 | Dynamic boundary control synthesis of coupled PDE-ODEs for communication networks under fluid flow modeling **2017**, | | 1 |
| 96 | Scheduling of Embedded Controllers Under Timing Contracts **2017**, | | 6 |
| 95 | . *IEEE Transactions on Automatic Control*, **2016**, 61, 1181-1193 | 5.9 | 42 |
| 94 | Verification and Synthesis of Timing Contracts for Embedded Controllers **2016**, | | 9 |
| 93 | Robust controlled invariance for monotone systems: Application to ventilation regulation in buildings. *Automatica*, **2016**, 70, 14-20 | 5.7 | 12 |
| 92 | Singular Perturbation Approximation of Linear Hyperbolic Systems of Balance Laws. *IEEE Transactions on Automatic Control*, **2016**, 61, 3031-3037 | 5.9 | 7 |
| 91 | 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 |
| 90 | Coordination in Networks of Linear Impulsive Agents. *IEEE Transactions on Automatic Control*, **2016**, 61, 2402-2415 | 5.9 | 26 |
| 89 | 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 |
| 88 | Exponential stabilization of language constrained discrete-time switched linear systems: A geometrical approach **2016**, | | 2 |
| 87 | Language constrained stabilization of discrete-time switched linear systems: a Lyapunov-Metzler inequalities approach **2016**, | | 3 |
| 86 | Event-based stabilization of linear systems of conservation laws using a dynamic triggering condition. *IFAC-PapersOnLine*, **2016**, 49, 362-367 | 0.7 | 8 |

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| 85 | . *IEEE Transactions on Automatic Control*, **2016**, 61, 1537-1549 | 5.9 | 38 |
| 84 | Event-based control of linear hyperbolic systems of conservation laws. *Automatica*, **2016**, 70, 275-287 | 5.7 | 58 |
| 83 | Clustered model reduction of positive directed networks. *Automatica*, **2015**, 59, 238-247 | 5.7 | 31 |
| 82 | Switching Rules for Stabilization of Linear Systems of Conservation Laws. *SIAM Journal on Control and Optimization*, **2015**, 53, 1599-1624 | 1.9 | 17 |
| 81 | Tikhonov theorem for linear hyperbolic systems. *Automatica*, **2015**, 57, 1-10 | 5.7 | 21 |
| 80 | Symbolic models for stochastic switched systems: A discretization and a discretization-free approach. *Automatica*, **2015**, 55, 183-196 | 5.7 | 51 |
| 79 | Symbolic control of monotone systems application to ventilation regulation in buildings **2015**, | | 1 |
| 78 | Dynamic Triggering Mechanisms for Event-Triggered Control. *IEEE Transactions on Automatic Control*, **2015**, 60, 1992-1997 | 5.9 | 642 |
| 77 | 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 | |
| 76 | Safety control with performance guarantees of cooperative systems using compositional abstractions. *IFAC-PapersOnLine*, **2015**, 48, 317-322 | 0.7 | 15 |
| 75 | Stability Verification of Nearly Periodic Impulsive Linear Systems using Reachability Analysis. *IFAC-PapersOnLine*, **2015**, 48, 358-363 | 0.7 | 1 |
| 74 | Stability analysis of a singularly perturbed coupled ODE-PDE system **2015**, | | 7 |
| 73 | Triggering mechanism using freely selected sensors for linear time-invariant systems **2015**, | | 5 |
| 72 | Experimental implementation of UFAD regulation based on Robust Controlled Invariance **2014**, | | 6 |
| 71 | Stability of Switched Linear Hyperbolic Systems by Lyapunov Techniques. *IEEE Transactions on Automatic Control*, **2014**, 59, 2196-2202 | 5.9 | 34 |
| 70 | . *IEEE Transactions on Control of Network Systems*, **2014**, 1, 155-166 | 4 | 43 |
| 69 | On stabilizability conditions for discrete-time switched linear systems **2014**, | | 7 |
| 68 | **2014**, | | 7 |

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| 67 | Iterative computation of polyhedral invariants sets for polynomial dynamical systems **2014**, | | 3 |
| 66 | Boundary control synthesis for hyperbolic systems: A singular perturbation approach **2014**, | | 4 |
| 65 | Compositionality results for cardiac cell dynamics **2014**, | | 8 |
| 64 | Coordination in networks of linear impulsive agents **2014**, | | 2 |
| 63 | 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 |
| 62 | Low-complexity quantized switching controllers using approximate bisimulation. *Nonlinear Analysis: Hybrid Systems*, **2013**, 10, 34-44 | 4.5 | 18 |
| 61 | CoSyMA **2013**, | | 39 |
| 60 | Controllability and invariance of monotone systems for robust ventilation automation in buildings **2013**, | | 13 |
| 59 | Lyapunov techniques for stabilization of switched linear systems of conservation laws **2013**, | | 7 |
| 58 | **2013**, | | 23 |
| 57 | 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 |
| 56 | Controller synthesis for safety and reachability via approximate bisimulation. *Automatica*, **2012**, 48, 947-953 | 5.7 | 53 |
| 55 | Controller synthesis for robust invariance of polynomial dynamical systems using linear programming. *Systems and Control Letters*, **2012**, 61, 506-512 | 2.4 | 9 |
| 54 | Computation of polytopic invariants for polynomial dynamical systems using linear programming. *Automatica*, **2012**, 48, 3114-3121 | 5.7 | 21 |
| 53 | Synthesis for Constrained Nonlinear Systems Using Hybridization and Robust Controllers on Simplices. *IEEE Transactions on Automatic Control*, **2012**, 57, 1046-1051 | 5.9 | 29 |
| 52 | Verification of Safety and Liveness Properties of Metric Transition Systems. *Transactions on Embedded Computing Systems*, **2012**, 11, 1-23 | 1.8 | 3 |
| 51 | Time-Triggered Implementations of Dynamic Controllers. *Transactions on Embedded Computing Systems*, **2012**, 11, 1-24 | 1.8 | 6 |
| 50 | Multi-agent flocking with random communication radius **2012**, | | 5 |

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|---|---|---|---|
| 49 | Clustering-based H2-state aggregation of positive networks and its application to reduction of chemical master equations **2012**, | | 5 |
| 48 | Lyapunov functions for switched linear hyperbolic systems*. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2012**, 45, 382-387 | | 5 |
| 47 | Low-Complexity Switching Controllers for Safety using Symbolic Models*. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2012**, 45, 82-87 | | 8 |
| 46 | Consensus with Constrained Convergence Rate and Time-Delays. *Lecture Notes in Control and Information Sciences*, **2012**, 417-428 | 0.5 | 1 |
| 45 | Reachability Analysis of Polynomial Systems Using Linear Programming Relaxations. *Lecture Notes in Computer Science*, **2012**, 137-151 | 0.9 | 18 |
| 44 | Approximate Bisimulation: A Bridge Between Computer Science and Control Theory. *European Journal of Control*, **2011**, 17, 568-578 | 2.5 | 80 |
| 43 | Opinion Dynamics With Decaying Confidence: Application to Community Detection in Graphs. *IEEE Transactions on Automatic Control*, **2011**, 56, 1862-1873 | 5.9 | 66 |
| 42 | Synthesis of switching controllers using approximately bisimilar multiscale abstractions **2011**, | | 10 |
| 41 | Safety controller synthesis for switched systems using multi-scale symbolic models **2011**, | | 15 |
| 40 | SpaceEx: Scalable Verification of Hybrid Systems. *Lecture Notes in Computer Science*, **2011**, 379-395 | 0.9 | 368 |
| 39 | Synthesis using approximately bisimilar abstractions: time-optimal control problems **2010**, | | 6 |
| 38 | Sufficient conditions for flocking via graph robustness analysis **2010**, | | 8 |
| 37 | . *IEEE Transactions on Automatic Control*, **2010**, 55, 116-126 | 5.9 | 210 |
| 36 | A Model of Opinion Dynamics for Community Detection in Graphs. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2010**, 43, 251-256 | | 2 |
| 35 | Reachability analysis of linear systems using support functions. *Nonlinear Analysis: Hybrid Systems*, **2010**, 4, 250-262 | 4.5 | 116 |
| 34 | Synthesis using approximately bisimilar abstractions **2010**, | | 11 |
| 33 | Temporal logic motion planning for dynamic robots. *Automatica*, **2009**, 45, 343-352 | 5.7 | 241 |
| 32 | Hierarchical control system design using approximate simulation. *Automatica*, **2009**, 45, 566-571 | 5.7 | 92 |

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|---|---|---|---|
| 31 | Bounded and Unbounded Safety Verification Using Bisimulation Metrics. *Lecture Notes in Computer Science*, **2009**, 426-440 | 0.9 | 4 |
| 30 | Reachability Analysis of Hybrid Systems Using Support Functions. *Lecture Notes in Computer Science*, **2009**, 540-554 | 0.9 | 64 |
| 29 | Motion planning for nonlinear systems using hybridizations and robust controllers on simplices **2008**, | | 7 |
| 28 | Efficient Reachability Analysis for Linear Systems using Support Functions. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2008**, 41, 8966-8971 | | 41 |
| 27 | Approximate Simulation Relations for Hybrid Systems. *Discrete Event Dynamic Systems: Theory and Applications*, **2008**, 18, 163-179 | 1 | 61 |
| 26 | Approximately bisimilar symbolic models for nonlinear control systems. *Automatica*, **2008**, 44, 2508-2516 | 5.7 | 178 |
| 25 | Approximately Bisimilar Symbolic Models for Incrementally Stable Switched Systems. *Lecture Notes in Computer Science*, **2008**, 201-214 | 0.9 | 13 |
| 24 | Zonotope/Hyperplane Intersection for Hybrid Systems Reachability Analysis. *Lecture Notes in Computer Science*, **2008**, 215-228 | 0.9 | 43 |
| 23 | Approximate bisimulation relations for constrained linear systems. *Automatica*, **2007**, 43, 1307-1317 | 5.7 | 60 |
| 22 | Hybridization methods for the analysis of nonlinear systems. *Acta Informatica*, **2007**, 43, 451-476 | 0.9 | 120 |
| 21 | Symbolic models for nonlinear control systems using approximate bisimulation **2007**, | | 12 |
| 20 | Approximate hierarchies of linear control systems **2007**, | | 6 |
| 19 | Approximation Metrics for Discrete and Continuous Systems. *IEEE Transactions on Automatic Control*, **2007**, 52, 782-798 | 5.9 | 266 |
| 18 | Hierarchical Synthesis of Hybrid Controllers from Temporal Logic Specifications **2007**, 203-216 | | 12 |
| 17 | Approximately Bisimilar Finite Abstractions of Stable Linear Systems **2007**, 231-244 | | 24 |
| 16 | Time-triggered implementations of dynamic controllers **2006**, | | 13 |
| 15 | Hierarchical Control using Approximate Simulation Relations **2006**, | | 10 |
| 14 | Towards a multiresolution approach to linear control. *IEEE Transactions on Automatic Control*, **2006**, 51, 1261-1270 | 5.9 | 4 |

# List of Publications