AndrÃ© Platzer

List of Publications by Year
in descending order

123	3,480	257101	223531
papers	citations	24 h-index	46 g-index

139	139	139	1213
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Differential Dynamic Logic for Hybrid Systems. Journal of Automated Reasoning, 2008, 41, 143-189.	1.1	282
2	Logical Analysis of Hybrid Systems. , 2010, , .		191
3	KeYmaera: A Hybrid Theorem Prover for Hybrid Systems (System Description). Lecture Notes in Computer Science, 2008, , 171-178.	1.0	156
4	A Bayesian Approach to Model Checking Biological Systems. Lecture Notes in Computer Science, 2009, , 218-234.	1.0	152
5	KeYmaeraÂX: An Axiomatic Tactical Theorem Prover for Hybrid Systems. Lecture Notes in Computer Science, 2015, , 527-538.	1.0	130
6	Logical Foundations of Cyber-Physical Systems. , 2018, , .		119
7	Differential-algebraic Dynamic Logic for Differential-algebraic Programs. Journal of Logic and Computation, 2010, 20, 309-352.	0.5	105
8	Adaptive Cruise Control: Hybrid, Distributed, and Now Formally Verified. Lecture Notes in Computer Science, 2011, , 42-56.	1.0	86
9	European Train Control System: A Case Study in Formal Verification. Lecture Notes in Computer Science, 2009, , 246-265.	1.0	83
10	Bayesian statistical model checking with application to Stateflow/Simulink verification. Formal Methods in System Design, 2013, 43, 338-367.	0.9	78
11	Supporting Heterogeneity in Cyber-Physical Systems Architectures. IEEE Transactions on Automatic Control, 2014, 59, 3178-3193.	3.6	70
12	ModelPlex: verified runtime validation of verified cyber-physical system models. Formal Methods in System Design, 2016, 49, 33-74.	0.9	70
13	A Complete Uniform Substitution Calculus for Differential Dynamic Logic. Journal of Automated Reasoning, 2017, 59, 219-265.	1.1	68
14	Logics of Dynamical Systems. , 2012, , .		66
15	Statistical Model Checking for Markov Decision Processes. , 2012, , .		66
16	Formal Verification of Curved Flight Collision Avoidance Maneuvers: A Case Study. Lecture Notes in Computer Science, 2009, , 547-562.	1.0	66
17	The Complete Proof Theory of Hybrid Systems. , 2012, , .		62
18	Bayesian statistical model checking with application to Simulink/Stateflow verification. , 2010, , .		59

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19	Formal verification of obstacle avoidance and navigation of ground robots. International Journal of Robotics Research, 2017, 36, 1312-1340.	5.8	57
20	On Provably Safe Obstacle Avoidance for Autonomous Robotic Ground Vehicles. , 0, , .		52
21	Computing differential invariants of hybrid systems asÂfixedpoints. Formal Methods in System Design, 2009, 35, 98-120.	0.9	49
22	How to model and prove hybrid systems with KeYmaera: a tutorial on safety. International Journal on Software Tools for Technology Transfer, 2016, 18, 67-91.	1.7	47
23	Computing Differential Invariants of Hybrid Systems as Fixedpoints. Lecture Notes in Computer Science, 2008, , 176-189.	1.0	47
24	The Image Computation Problem in Hybrid Systems Model Checking. , 2007, , 473-486.		45
25	A Formally Verified Hybrid System for the Next-Generation Airborne Collision Avoidance System. Lecture Notes in Computer Science, 2015, , 21-36.	1.0	43
26	Formally verified differential dynamic logic. , 2017, , .		36
27	Towards Formal Verification of Freeway Traffic Control. , 2012, , .		35
28	VeriPhy: verified controller executables from verified cyber-physical system models. , 2018, , .		33
29	A formally verified hybrid system for safe advisories in the next-generation airborne collision avoidance system. International Journal on Software Tools for Technology Transfer, 2017, 19, 717-741.	1.7	32
30	Real World Verification. Lecture Notes in Computer Science, 2009, , 485-501.	1.0	32
31	Verification of Cyberphysical Transportation Systems. IEEE Intelligent Systems, 2009, 24, 10-13.	4.0	30
32	Differential Dynamic Logic for Verifying Parametric Hybrid Systems. Lecture Notes in Computer Science, 2007, , 216-232.	1.0	30
33	Verification of Hybrid Systems. , 2018, , 1047-1110.		29
34	Characterizing Algebraic Invariants by Differential Radical Invariants. Lecture Notes in Computer Science, 2014, , 279-294.	1.0	29
35	Verifiably Safe Off-Model Reinforcement Learning. Lecture Notes in Computer Science, 2019, , 413-430.	1.0	27
36	ModelPlex: Verified Runtime Validation of Verified Cyber-Physical System Models. Lecture Notes in Computer Science, 2014, , 199-214.	1.0	27

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37	Quantified Differential Dynamic Logic for Distributed Hybrid Systems. Lecture Notes in Computer Science, 2010, , 469-483.	1.0	27
38	Certifying the safe design of a virtual fixture control algorithm for a surgical robot. , 2013, , .		26
39	Formal verification of distributed aircraft controllers. , 2013, , .		22
40	A Method for Invariant Generation for Polynomial Continuous Systems. Lecture Notes in Computer Science, 2016, , 268-288.	1.0	22
41	Differential Game Logic. ACM Transactions on Computational Logic, 2015, 17, 1-51.	0.7	22
42	Safe intersections: At the crossing of hybrid systems and verification. , 2011, , .		21
43	Formal verification of ACAS X, an industrial airborne collision avoidance system. , 2015, , .		21
44	A Formal Safety Net for Waypoint-Following in Ground Robots. IEEE Robotics and Automation Letters, 2019, 4, 2910-2917.	3.3	20
45	Differential Equation Axiomatization. , 2018, , .		19
46	A Complete Axiomatization of Quantified Differential Dynamic Logic for Distributed Hybrid Systems. Logical Methods in Computer Science, 0, Volume 8, Issue 4, .	0.4	19
47	Differential Refinement Logic. , 2016, , .		18
48	High-Assurance SPIRAL: End-to-End Guarantees for Robot and Car Control. IEEE Control Systems, 2017, 37, 82-103.	1.0	18
49	Stochastic Differential Dynamic Logic for Stochastic Hybrid Programs. Lecture Notes in Computer Science, 2011, , 446-460.	1.0	18
50	Differential Hybrid Games. ACM Transactions on Computational Logic, 2017, 18, 1-44.	0.7	18
51	Differential Equation Invariance Axiomatization. Journal of the ACM, 2020, 67, 1-66.	1.8	18
52	The Structure of Differential Invariants and Differential Cut Elimination. Logical Methods in Computer Science, 0, Volume 8, Issue 4, .	0.4	18
53	Using theorem provers to guarantee closed-loop system properties. , 2012, , .		17
54	A Uniform Substitution Calculus for Differential Dynamic Logic. Lecture Notes in Computer Science, 2015, , 467-481.	1.0	17

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55	Automating Verification of Cooperation, Control, and Design in Traffic Applications. , 2007, , 115-169.		17
56	Tactical contract composition for hybrid system component verification. International Journal on Software Tools for Technology Transfer, 2018, 20, 615-643.	1.7	16
57	Dynamic Logic with Non-rigid Functions. Lecture Notes in Computer Science, 2006, , 266-280.	1.0	16
58	Bellerophon: Tactical Theorem Proving forÂHybrid Systems. Lecture Notes in Computer Science, 2017, , 207-224.	1.0	16
59	A Temporal Dynamic Logic for Verifying Hybrid System Invariants. Lecture Notes in Computer Science, 2007, , 457-471.	1.0	16
60	Logical Verification and Systematic Parametric Analysis in Train Control. Lecture Notes in Computer Science, 2008, , 646-649.	1.0	16
61	The KeYmaera X Proof IDE - Concepts on Usability in Hybrid Systems Theorem Proving. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 240, 67-81.	0.8	16
62	A Hybrid, Dynamic Logic for Hybrid-Dynamic Information Flow. , 2018, , .		15
63	Vector Barrier Certificates and Comparison Systems. Lecture Notes in Computer Science, 2018, , 418-437.	1.0	15
64	Collaborative Verification-Driven Engineering of Hybrid Systems. Mathematics in Computer Science, 2014, 8, 71-97.	0.2	14
65	A hierarchy of proof rules for checking positive invariance of algebraic and semi-algebraic sets. Computer Languages, Systems and Structures, 2017, 47, 19-43.	1.4	13
66	Statistical Model Checking for Distributed Probabilistic-Control Hybrid Automata with Smart Grid Applications. Lecture Notes in Computer Science, 2011, , 131-146.	1.0	13
67	Hybrid Theorem Proving of Aerospace Systems: Applications and Challenges. Journal of Aerospace Information Systems, 2014, 11, 702-713.	1.0	12
68	Refactoring, Refinement, and Reasoning. Lecture Notes in Computer Science, 2014, , 481-496.	1.0	12
69	Quantified differential invariants. , 2011, , .		11
70	HyPLC. , 2019, , .		11
71	Playing Hybrid Games with KeYmaera. Lecture Notes in Computer Science, 2012, , 439-453.	1.0	11
72	Towards a Hybrid Dynamic Logic for Hybrid Dynamic Systems. Electronic Notes in Theoretical Computer Science, 2007, 174, 63-77.	0.9	10

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73	The Logical Path to Autonomous Cyber-Physical Systems. Lecture Notes in Computer Science, 2019, , 25-33.	1.0	10
74	SAT-based Abstraction Refinement for Real-time Systems. Electronic Notes in Theoretical Computer Science, 2007, 182, 107-122.	0.9	9
75	Using parameters in architectural views to support heterogeneous design and verification. , 2011, , .		9
76	dTL2: Differential Temporal Dynamic Logic with Nested Temporalities for Hybrid Systems. Lecture Notes in Computer Science, 2014, , 292-306.	1.0	9
77	Logic and Compositional Verification of Hybrid Systems. Lecture Notes in Computer Science, 2011, , 28-43.	1.0	9
78	A Differential Operator Approach to Equational Differential Invariants. Lecture Notes in Computer Science, 2012, , 28-48.	1.0	9
79	Efficiency analysis of formally verified adaptive cruise controllers. , 2013, , .		8
80	$$mathsf {dL}_{iota }$$: Definite Descriptions in Differential Dynamic Logic. Lecture Notes in Computer Science, 2019, , 94-110.	1.0	8
81	Pegasus: A Framework for Sound Continuous Invariant Generation. Lecture Notes in Computer Science, 2019, , 138-157.	1.0	8
82	Distributed Theorem Proving for Distributed Hybrid Systems. Lecture Notes in Computer Science, 2011, , 356-371.	1.0	8
83	Change and Delay Contracts for Hybrid System Component Verification. Lecture Notes in Computer Science, 2017, , 134-151.	1.0	8
84	VeriPhy: verified controller executables from verified cyber-physical system models. ACM SIGPLAN Notices, 2018, 53, 617-630.	0.2	8
85	Formal Verification of Train Control with Air Pressure Brakes. Lecture Notes in Computer Science, 2017, , 173-191.	1.0	8
86	Verified Traffic Networks: Component-Based Verification of Cyber-Physical Flow Systems. , 2015, , .		7
87	Differential Logic for Reasoning About Hybrid Systems. , 2007, , 746-749.		7
88	Safe AI for CPS (Invited Paper). , 2018, , .		6
89	An axiomatic approach to existence and liveness for differential equations. Formal Aspects of Computing, 2021, 33, 461-518.	1.4	6
90	An Axiomatic Approach to Liveness for Differential Equations. Lecture Notes in Computer Science, 2019, , 371-388.	1.0	6

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91	Logic & Proofs for Cyber-Physical Systems. Lecture Notes in Computer Science, 2016, , 15-21.	1.0	6
92	Uniform Substitution for Differential Game Logic. Lecture Notes in Computer Science, 2018, , 211-227.	1.0	6
93	Cyber-Physical Systems: Overview. , 2018, , 1-24.		5
94	Deductive Stability Proofs for Ordinary Differential Equations. Lecture Notes in Computer Science, 2021, , 181-199.	1.0	5
95	A Retrospective on Developing Hybrid System Provers in the KeYmaera Family. Lecture Notes in Computer Science, 2020, , 21-64.	1.0	5
96	Logical Analysis of Hybrid Systems. Lecture Notes in Computer Science, 2012, , 43-49.	1.0	4
97	Numerically-aided Deductive Safety Proof for a Powertrain Control System. Electronic Notes in Theoretical Computer Science, 2015, 317, 19-25.	0.9	4
98	Logic-Based Modeling Approaches for Qualitative and Hybrid Reasoning in Dynamic Spatial Systems. ACM Computing Surveys, 2015, 48, 1-40.	16.1	4
99	Uniform Substitution at One Fell Swoop. Lecture Notes in Computer Science, 2019, , 425-441.	1.0	4
100	Differential Dynamic Logics. KI - Kunstliche Intelligenz, 2010, 24, 75-77.	2.2	3
101	A logic of proofs for differential dynamic logic: toward independently checkable proof certificates for dynamic logics. , 2016, , .		3
102	CoasterX: A Case Study in Component-Driven Hybrid Systems Proof Automation. IFAC-PapersOnLine, 2018, 51, 55-60.	0.5	3
103	Switched Systems as Hybrid Programs. IFAC-PapersOnLine, 2021, 54, 247-252.	0.5	3
104	Structured Proofs for Adversarial Cyber-Physical Systems. Transactions on Embedded Computing Systems, 2021, 20, 1-26.	2.1	3
105	Pegasus: sound continuous invariant generation. Formal Methods in System Design, 0, , 1.	0.9	3
106	European Train Control System. , 2010, , 277-301.		3
107	Constructive Hybrid Games. Lecture Notes in Computer Science, 2020, , 454-473.	1.0	3
108	Formally Verified Next-generation Airborne Collision Avoidance Games in ACASÂX. Transactions on Embedded Computing Systems, 2023, 22, 1-30.	2.1	3

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109	A Component-Based Hybrid Systems Verification and Implementation Tool in KeYmaeraÂX (Tool) Tj ETQq1 1 0.784314 rgBT /Overlock	1.0	2
110	Constructive Game Logic. Lecture Notes in Computer Science, 2020, , 84-111.	1.0	2
111	Safe and Resilient Practical Waypoint-Following for Autonomous Vehicles. , 2022, 6, 1574-1579.		2
112	Verified Quadratic Virtual Substitution for Real Arithmetic. Lecture Notes in Computer Science, 2021, , 200-217.	1.0	2
113	Forward invariant cuts to simplify proofs of safety. , 2015, , .		1
114	Differential Dynamic Logic dâ„’. , 2010, , 33-122.		1
115	Deduction Modulo Real Algebra and Computer Algebra. , 2010, , 233-252.		1
116	Air Traffic Collision Avoidance. , 2010, , 303-334.		1
117	Verifiably safe SCUBA diving using commodity sensors. , 2019, , .		1
118	Verifying Switched System Stability With Logic. , 2022, , .		1
119	How to prove hybrid systems and why that matters. , 2015, , .		0
120	Toward multi-task support and security analyses in PLC program translation for verification. , 2019, , .		0
121	Computing Differential Invariants as Fixed Points. , 2010, , 253-274.		0
122	Differential-Algebraic Dynamic Logic DAL. , 2010, , 123-202.		0
123	Towards Physical Hybrid Systems. Lecture Notes in Computer Science, 2019, , 216-232.	1.0	0