

1 Publications

Chronological list

- [1] Martin Fränzle. Verification of compilers for recursive occam-like languages. ProCoS Technical Report Kiel MF 8/1, Christian-Albrechts-Universität Kiel, Germany, 1990.
- [2] Martin Fränzle. Operational failure approximation. In Dines Bjørner, Hans Langmaack, and C. A. R. Hoare, editors, *Monograph of the ESPRIT BRA 3104 ProCoS (Provably Correct Systems)*, pages 165–206. Technical Report, Dept. of Computer Science, Technical University of Denmark, 1992.
- [3] B. Buth, K.-H. Buth, M. Fränzle, B. von Karger, Y. Lakhneche, H. Langmaack, and M. Müller-Olm. Provably correct compiler development and implementation. In U. Kastens and P. Pfahler, editors, *Compiler Construction*, volume 641 of *Lecture Notes in Computer Science*, pages 141–155. Springer-Verlag, 1992.
- [4] Jonathan P. Bowen, Martin Fränzle, Ernst-Rüdiger Olderog, and Anders P. Ravn. Developing correct systems. In *Proc. 5th Euromicro Workshop on Real-Time Systems, Oulu, Finland*, pages 176–189. IEEE Computer Society Press, June 1993.
- [5] Martin Fränzle and Markus Müller-Olm. Drift and granularity of time in real-time system implementation. ProCoS Technical Report Kiel MF 10/2, Christian-Albrechts-Universität Kiel, Germany, August 1993.
- [6] Martin Fränzle and Burghard von Karger. Proposal for a programming language core for ProCoS II. ProCoS Technical Report Kiel MF 11/3, Christian-Albrechts-Universität Kiel, Germany, August 1993.
- [7] M. R. Hansen, E.-R. Olderog, M. Schenke, M. Fränzle, B. von Karger, M. Müller-Olm, and H. Rischel. A Duration Calculus semantics for real-time reactive systems. ProCoS II document [OLD MRH 1/1], Oldenburg Universität, Germany, September 1993.
- [8] Martin Fränzle and Markus Müller-Olm. Towards provably correct code generation for a hard real-time programming language. In Peter A. Fritzson, editor, *Compiler Construction (CC '94)*, volume 786 of *Lecture Notes in Computer Science*, pages 294–308. Springer Verlag, 1994.
- [9] He Jifeng, C. A. R. Hoare, Martin Fränzle, Markus Müller-Olm, Ernst-Rüdiger Olderog, Michael Schenke, Michael R. Hansen, Anders P. Ravn, and Hans Rischel. Provably correct systems. In H. Langmaack, W.-P. de Roever, and J. Vytopil, editors, *Formal Techniques in Real-Time and Fault-Tolerant Systems (FTRTFT '94)*, volume 863 of *Lecture Notes in Computer Science*, pages 288–335. Springer Verlag, 1994.
- [10] Jonathan Bowen, C. A. R. Hoare, Michael R. Hansen, Anders P. Ravn, Hans Rischel, Ernst-Rüdiger Olderog, Michael Schenke, Martin Fränzle, Markus Müller-Olm, He Jifeng, and Zheng Jianping. Provably correct systems. ProCoS Technical Report COORD JB 7/1, Oxford University Computing Laboratory, September 1994. Tutorial material for the 1994 Formal Techniques in Real-Time and Fault-Tolerant Systems conference (FTRTFT'94).
- [11] Martin Fränzle. Test preorder and refinement. ProCoS Technical Report Kiel MF 16/2, Christian-Albrechts-Universität Kiel, Germany, December 1994.
- [12] Martin Fränzle, Bernhard von Stengel, and Arne Wittmüss. A generalized notion of semantic independence. *Information Processing Letters*, 53:5–9, 1995.

- [13] Martin Fränzle. A discrete model of VLSI dynamics in hybrid control applications. ProCoS Technical Report Kiel MF 17/3, Christian-Albrechts-Universität Kiel, Germany, April 1995.
- [14] Martin Fränzle. From continuity to discreteness — five views of embedded control hardware. ProCoS Technical Report Kiel MF 18/1, Christian-Albrechts-Universität Kiel, Germany, August 1995.
- [15] Martin Fränzle. Duration calculus on time-wise discrete models. ProCoS Technical Report Kiel MF 19/1, Christian-Albrechts-Universität Kiel, Germany, March 1996.
- [16] Martin Fränzle. Decidability of duration calculi on restricted model classes. ProCoS Technical Report Kiel MF 21/1, Christian-Albrechts-Universität Kiel, Germany, July 1996.
- [17] Martin Fränzle. Hardware synthesis from temporal logic: Undecidability need not matter. Position paper, Hardware Synthesis and Verification Workshop, Cornell University, Ithaca, USA, August 1996.
- [18] Martin Fränzle. Synthesizing controllers from duration calculus. In Bengt Jonsson and Joachim Parrow, editors, *FTRTFT '96*, volume 1135 of *Lecture Notes in Computer Science*, pages 168–187. Springer Verlag, 1996.
- [19] Martin Fränzle. *Controller Design from Temporal Logic: Undecidability need not matter*. Dissertation, Technische Fakultät der Christian-Albrechts-Universität Kiel, Germany, 1997.
- [20] Martin Fränzle. Model-checking dense-time duration calculus. In Michael R. Hansen, editor, *Duration Calculus: A Logical Approach to Real-Time Systems*, Workshop proceedings of the 10th European Summer School in Logic, Language and Information, pages 31–40. DFKI Saarbrücken, Germany, August 1998.
- [21] Martin Fränzle and Karsten Lüth. Compiling graphical real-time specifications into silicon. In A. P. Ravn and H. Rischel, editors, *FTRTFT'98*, volume 1486 of *Lecture Notes in Computer Science*, pages 272–281. Springer Verlag, 1998.
- [22] Martin Fränzle and Karsten Lüth. Visual temporal logic as a rapid prototyping tool. In D. Bosnacki, S. Mauw, and T. Willemse, editors, *Proceeding of the first international symposium on Visual Formal Methods VFM'99*, number 99-08 in Computing Science Reports, pages 1–15. Dpt. of Mathematics and Computing Science, Eindhoven University of Technology, 1999.
- [23] Martin Fränzle. Analysis of hybrid systems: An ounce of realism can save an infinity of states. In Jörg Flum and Mario Rodríguez-Artalejo, editors, *Computer Science Logic (CSL'99)*, volume 1683 of *Lecture Notes in Computer Science*, pages 126–140. Springer Verlag, 1999.
- [24] Martin Fränzle, Wolfgang Goerigk, Burghard von Karger, and Markus Müller-Olm. Beyond ProCoS at Kiel: A synopsis of recent research. In *ProCoS WG Workshop at FM'99*, pages 1–17. Springer electronic media, September 1999. Available from the FM'99 CD-Rom.
- [25] Martin Fränzle and Markus Müller-Olm. Compilation and synthesis for real-time embedded controllers. In Ernst-Rüdiger Olderog and Bernhard Steffen, editors, *Correct System Design — Recent Insights and Advances*, volume 1710 of *Lecture Notes in Computer Science*, pages 256–287. Springer Verlag, 1999.
- [26] Herman Ågren, Martin Fränzle, and Rainer Lochmann. Prover-based bounded model-checking and inductive verification of SMI models. Confidential technical report, Universität Oldenburg and Prover AB, 2000.
- [27] Martin Fränzle. What will be eventually true of polynomial hybrid automata. In Naoki Kobayashi and Benjamin C. Pierce, editors, *Theoretical Aspects of Computer Software (TACS 2001)*, volume 2215 of *Lecture Notes in Computer Science*, pages 340–359. Springer Verlag, 2001.

- [28] Martin Fränzle and Karsten Lüth. Visual temporal logic as a rapid prototyping tool. *Computer Languages*, 27(1–3):93–113, 2001.
- [29] Martin Fränzle. Take it NP-easy: Bounded model construction for duration calculus. In Ernst-Rüdiger Olderog and Werner Damm, editors, *International Symposium on Formal Techniques in Real-Time and Fault-Tolerant systems (FTRTFT 2002)*, volume 2469 of *Lecture Notes in Computer Science*, pages 245–264. Springer Verlag, 2002.
- [30] Martin Fränzle and Christian Herde. Efficient SAT engines for concise logics: Accelerating proof search for zero-one linear constraint systems. In M. Vardi and A. Voronkov, editors, *Logic for Programming, Artificial Intelligence, and Reasoning (LPAR 2003)*, volume 2850 of *Lecture Notes in Computer Science (subseries LNAI)*. Springer Verlag, 2003.
- [31] Martin Fränzle, Jürgen Niehaus, Alexander Metzner, and Werner Damm. A semantics for distributed execution of STATEMATE. *Formal Aspects of Computing*, 15(4):390–405, 2003.
- [32] Bernd Becker, Markus Behle, Fritz Eisenbrand, Martin Fränzle, Marc Herbstritt, Christian Herde, Jörg Hoffmann, Daniel Kröning, Bernhard Nebel, Ilia Polian, and Ralf Wimmer. Bounded model checking and inductive verification of hybrid discrete-continuous systems. In Dominik Stoffel and Wolfgang Kunz, editors, *GI/ITG/GMM Workshop “Methoden und Beschreibungssprachen zur Modellierung und Verifikation von Schaltungen und Systemen”*, pages 65–75. Universität Kaiserslautern, Shaker Verlag, February 2004.
- [33] Martin Fränzle. Model-checking dense-time duration calculus. *Formal Aspects of Computing*, 16(2):121–139, 2004.
- [34] Martin Fränzle. Towards a model for project area H — a blend of minutes from various discussions. AVACS technical report, Informatics and Mathematical Modelling, Technical University of Denmark, February 2004.
- [35] Martin Fränzle. A draft model for project area H. AVACS technical report, Informatics and Mathematical Modelling, Technical University of Denmark, March 2004.
- [36] Martin Fränzle and Christian Herde. Efficient proof engines for bounded model checking of hybrid systems. In *Proceedings of the Ninth International Workshop on Formal Methods for Industrial Critical Systems (FMICS 04)*, Electronic Notes in Theoretical Computer Science (ENTCS). Elsevier, 2004.
- [37] Martin Fränzle and Michael R. Hansen. A robust interpretation of duration calculus. In Paul Pettersson and Wang Yi, editors, *Proceedings of the 16th Nordic Workshop on Programming Theory (NWPT 04)*, pages 83–85. Dept. of Information Technology, Uppsala University, 2004.
- [38] Jacob Enslev, Anne-Sofie Nielsen, Martin Fränzle, and Michael R. Hansen. Bounded model construction for duration calculus. In Neil Jones et al., editors, *Proceedings of the 17th Nordic Workshop on Programming Theory (NWPT 05)*. Københavns Universitet, October 2005.
- [39] Mani Swaminathan and Martin Fränzle. Automatic and scalable verification of robust real-time systems. In Neil Jones et al., editors, *Proceedings of the 17th Nordic Workshop on Programming Theory (NWPT 05)*. Københavns Universitet, October 2005.
- [40] A. Metzner, M. Fränzle, C. Herde, and I. Stierand. Scheduling Distributed Real-Time Systems by Satisfiability Checking. In *Proceedings of the IEEE Conference on Embedded and Real-Time Computing Systems and Applications*, pages 409–415. IEEE, 2005.
- [41] Martin Fränzle and Michael R. Hansen. A robust interpretation of duration calculus. In *Proceedings of the International Colloquium on Theoretical Aspects of Computing (ICTAC 05)*, volume 3722 of *LNCS*, pages 257–271. Springer Verlag, 2005.

- [42] A. Metzner, M. Fränzle, C. Herde, and I. Stierand. An Optimal Approach to the Task Allocation Problem on Hierarchical Architectures. In *Proceedings of the 20th IEEE International Parallel and Distributed Processing Symposium*. IEEE, 2006.
- [43] Martin Fränzle, Christian Herde, Stefan Ratschan, Tobias Schubert, and Tino Teige. Interval constraint solving using propositional SAT solving techniques. In *Proceedings of the CP 2006 First International Workshop on the Integration of SAT and CP Techniques*, pages 81–95. Microsoft Research, 2006.
- [44] Bahareh Badban, Martin Fränzle, Jan Peleska, and Tino Teige. Test automation for hybrid systems. In *Proceedings of the Third International Workshop on SOFTWARE QUALITY AS-SURANCE (SOQUA 2006)*, pages 14–21. ACM, 2006.
- [45] Martin Fränzle and Christian Herde. HySAT: An efficient proof engine for bounded model checking of hybrid systems. *Formal Methods in System Design*, 30:179–198, 2007.
- [46] Erika Ábrahám, Tobias Schubert, Bernd Becker, Martin Fränzle, and Christian Herde. Parallel SAT solving in bounded model checking. In *Formal Methods: Applications and Technology, Proceedings of the 5th international workshop on Parallel and Distributed Methods in verification (PDMC)*, volume 4346 of *Lecture Notes in Computer Science*, pages 301–315. Springer Verlag, 2007.
- [47] Mani Swaminathan and Martin Fränzle. A symbolic decision procedure for robust safety of timed systems. In *Proceedings of the 14th International Symposium on Temporal Representation and Reasoning (TIME 2007)*, page 192. IEEE, 2007.
- [48] Martin Fränzle and Michael R. Hansen. Deciding an interval logic with accumulated durations. In Orna Grumberg and Michael Huth, editors, *Proceedings of the Thirteenth International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 07)*, volume 4424 of *Lecture Notes in Computer Science*, pages 201–215. Springer Verlag, 2007.
- [49] Martin Fränzle, Hardi Hungar, Christian Schmitt, and Boris Wirtz. Hlang: Compositional representation of hybrid systems via predicates. Reports of SFB/TR 14 AVACS 20, SFB/TR 14 AVACS, July 2007. ISSN: 1860-9821, <http://www.avacs.org>.
- [50] Martin Fränzle. Verification of hybrid systems. In Werner Damm and Holger Hermanns, editors, *Computer Aided Verification (CAV 07)*, volume 4590 of *Lecture Notes in Computer Science*, page 38. Springer Verlag, 2007. Abstract for invited tutorial.
- [51] Joost-Pieter Katoen, Mani Swaminathan, and Martin Fränzle. Symbolic robustness analysis for probabilistic timed automata. In Einar Broch Johnsen, Olaf Owe, and Gerardo Schneider, editors, *Proceedings of the 19th Nordic Workshop on Programming Theory*, pages 38–39, Oslo, Norway, October 2007. Oslo University Press.
- [52] Bernd Becker, Werner Damm, Martin Fränzle, Ernst-Rüdiger Olderog, Andreas Podelski, and Reinhard Wilhelm. SFB/TR 14 AVACS – automatic verification and analysis of complex systems. *it – Information Technology*, 49(2):118–126, 2007.
- [53] Martin Fränzle, Christian Herde, Stefan Ratschan, Tobias Schubert, and Tino Teige. Efficient solving of large non-linear arithmetic constraint systems with complex Boolean structure. *Journal on Satisfiability, Boolean Modeling and Computation*, 1:209–236, 2007.
- [54] T. Teige, C. Herde, M. Fränzle, N. Kalinnik, and A. Eggers. A Generalized Two-watched-literal Scheme in a mixed Boolean and Non-linear Arithmetic Constraint Solver. In José Neves, Manuel Filipe Santos, and José Manuel Machado, editors, *Proceedings of the 13th Portuguese Conference on Artificial Intelligence (EPIA 2007)*, New Trends in Artificial Intelligence, pages 729–741. APPIA, December 2007.

- [55] Tino Teige, Christian Herde, Martin Fränzle, and Erika Ábrahám. Conflict analysis and restarts in a mixed boolean and non-linear arithmetic constraint solver. Reports of SFB/TR 14 AVACS 34, SFB/TR 14 AVACS, January 2008. ISSN: 1860-9821, <http://www.avacs.org>.
- [56] M. Fränzle, H. Hermanns, and T. Teige. Stochastic Satisfiability Modulo Theory: A Novel Technique for the Analysis of Probabilistic Hybrid Systems. In Alessandro Aldini and Christel Baier, editors, *Pre-Proceedings of the ETAPS 2008 Sixth Workshop on Quantitative Aspects of Programming Languages (QAPL 2008)*, 2008.
- [57] Andreas Eggers, Martin Fränzle, and Christian Herde. SAT modulo ODE: A direct SAT approach to hybrid systems. Reports of SFB/TR 14 AVACS 37, SFB/TR 14 AVACS, April 2008. ISSN: 1860-9821, <http://www.avacs.org>.
- [58] Christian Herde, Andreas Eggers, Martin Fränzle, and Tino Teige. Analysis of hybrid systems using HySAT. In *Proceedings of the Third International Conference on Systems (ICONS 2008)*, pages 196–201. IEEE Computer Society, 2008.
- [59] Martin Fränzle, Holger Hermanns, and Tino Teige. Stochastic satisfiability modulo theory: A novel technique for the analysis of probabilistic hybrid systems. In Magnus Egerstedt and Bud Mishra, editors, *Proceedings of Hybrid Systems: Computation and Control (HSCC'08)*, volume 4981 of *Lecture Notes in Computer Science*, pages 172–186. Springer Verlag, 2008.
- [60] T. Teige and M. Fränzle. Stochastic Satisfiability modulo Theories for Non-linear Arithmetic. In L. Perron and M. A. Trick, editors, *Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems, 5th International Conference, CPAIOR 2008*, volume 5015 of *Lecture Notes in Computer Science*, pages 248–262. Springer, 2008.
- [61] Stefan Kupferschmid, Tino Teige, Bernd Becker, and Martin Fränzle. Proofs of unsatisfiability for mixed boolean and non-linear arithmetic constraint formulae. Reports of SFB/TR 14 AVACS 40, SFB/TR 14 AVACS, June 2008. ISSN: 1860-9821, <http://www.avacs.org>.
- [62] Mani Swaminathan, Martin Fränzle, and Joost-Pieter Katoen. The surprising robustness of (closed) timed automata against clock-drift. In Giorgio Ausiello, Juhani Karhumäki, Giancarlo Mauri, and C.-H. Luke Ong, editors, *Fifth IFIP International Conference on Theoretical Computer Science*, volume 273 of *IFIP International Federation for Information Processing*, pages 537–553. Springer, 2008. ISBN: 978-0-387-09679-7.
- [63] Andreas Eggers, Martin Fränzle, and Christian Herde. SAT modulo ODE: A direct SAT approach to hybrid systems. In Sungdeok (Steve) Cha, Jin-Young Choi, Moonzoo Kim, Insup Lee, and Mahesh Viswanathan, editors, *Proceedings of the 6th International Symposium on Automated Technology for Verification and Analysis (ATVA'08)*, volume 5311 of *Lecture Notes in Computer Science*, pages 171–185. Springer, 2008. ISBN: 978-3-540-88386-9.
- [64] Martin Fränzle and Michael R. Hansen. Efficient model checking for duration calculus based on branching-time approximations. In Antonio Cerone and Stefan Gruner, editors, *Proceedings of the 6th IEEE International Conference on Software Engineering and Formal Methods (SEFM 08)*, pages 63–72. IEEE Computer Society Press, 2008.
- [65] Martin Fränzle. Engineering constraint solvers for the analysis of hybrid systems. In *20th Nordic Workshop on Programming Theory, NWPT '08*, page 9. Institute of Cybernetics, Tallinn Technical University, 2008.
- [66] Stefan Kupferschmid, Tino Teige, Bernd Becker, and Martin Fränzle. Proofs of unsatisfiability for mixed boolean and non-linear arithmetic constraint formulae. In Carsten Gremzow and Nico Moser, editors, *Proceedings of the 12th Workshop “Methoden und Beschreibungssprachen zur Modellierung und Verifikation von Schaltungen und Systemen” (MBMV 2009)*, pages 27–36. Universitätsverlag TU Berlin, 2009.

- [67] Martin Fränzle, Andreas Eggers, Christian Herde, and Tino Teige. Hybrid discrete-continuous systems. In *Modern Computational Science 09*, pages 363–378. BIS-Verlag der Carl von Ossietzky Universität Oldenburg, 2009.
- [68] Martin Fränzle and Mani Swaminathan. Revisiting decidability and optimum reachability for multi-priced timed automata. In J. Ouaknine and F. Vaandrager, editors, *The 7th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS 2009)*. Springer Verlag, September 2009.
- [69] Tino Teige and Martin Fränzle. Constraint-based analysis of probabilistic hybrid systems. In A. Giua, C. Mahulea, M. Silva, and J. Zaytoon, editors, *Proceedings of the 3rd IFAC Conference on Analysis and Design of Hybrid Systems (ADHS 2009)*, pages 162–167. IFAC, 2009.
- [70] Andreas Eggers, Martin Fränzle, and Christian Herde. Application of constraint solving and ode-enclosure methods to the analysis of hybrid systems. In Theodore E. Simos, George Psihogios, and Ch. Tsitouras, editors, *NUMERICAL ANALYSIS AND APPLIED MATHEMATICS: International Conference on Numerical Analysis and Applied Mathematics 2009*, volume 1168 of *AIP Conference Proceedings*, pages 1326–1330, Melville, New York, 2009. American Institute of Physics. ©American Institute of Physics.
- [71] Gerald Sauter, Henning Dierks, Martin Fränzle, and Michael R. Hansen. Light-weight hybrid model checking facilitating online prediction of temporal properties. In *Proceedings of the 21st Nordic Workshop on Programming Theory, NWPT '09*, pages 20–22, Kgs. Lyngby, Denmark, 2009. DTU Informatics, Danmarks Tekniske Universitet.
- [72] Gerald Sauter, Henning Dierks, Martin Fränzle, and Michael R. Hansen. Light-weight hybrid model checking facilitating online prediction of temporal properties. Imost technical report, Carl von Ossietzky Universität Oldenburg, 2009. <http://imost.informatik.uni-oldenburg.de>.
- [73] William Pihl Heise, Michael R. Hansen, and Martin Fränzle. A prototype of a model checker for duration calculus. In *Proceedings of the 21st Nordic Workshop on Programming Theory, NWPT '09*, pages 26–28, Kgs. Lyngby, Denmark, 2009. DTU Informatics, Danmarks Tekniske Universitet.
- [74] Martin Fränzle and Michael R. Hansen. Efficient model checking for duration calculus. *International Journal of Software and Informatics*, 3(2–3):171–196, 2009.
- [75] Jan Gacnic, Henning Jost, Frank Köster, Jürgen Rataj, Karsten Lemmer, Werner Damm, Martin Fränzle, and Eckehard Schnieder. DeSCAS – formale ontologien zur verwebung von interdisziplinären entwicklungsprozessen. In *AUTOMATION 2009 – Der Automatisierungskongress in Deutschland*, number 2067 in VDI-Berichte/VDI-Tagungsbände, pages 449–453, Düsseldorf, 6 2009. VDI Verlag. Umfang der beigeif. CD-ROM Version: 12 Seiten.
- [76] Tino Teige and Martin Fränzle. Resolution for stochastic Boolean satisfiability. In Christian Fermüller and Andrei Voronkov, editors, *Logic for Programming, Artificial Intelligence, and Reasoning, 17th International Conference (LPAR-17)*, volume 6397 of *Lecture Notes in Computer Science*, pages 625–639. Springer, 2010.
- [77] Martin Fränzle, Tino Teige, and Andreas Eggers. Satisfaction meets expectations: Computing expected values of probabilistic hybrid systems with smt. In Dominique Méry and Stephan Merz, editors, *Integrated Formal Methods 2010*, volume 6396 of *Lecture Notes in Computer Science*, pages 168–182. Springer, 2010.
- [78] Martin Fränzle, Tino Teige, and Andreas Eggers. Engineering constraint solvers for automatic analysis of probabilistic hybrid automata. *Journal of Logic and Algebraic Programming*, 79:436–466, 2010.

- [79] Stefan Puch, Gerald Sauter, and Martin Fränzle. HLA-basierte Kosimulation domänentypischer Simulatoren. Technical report, Carl von Ossietzky Universität Oldenburg, 2010.
- [80] Jan Gacnik, Henning Jost, Frank Köster, and Martin Fränzle. The DeSCAS Methodology and Lessons Learned on Applying Formal Reasoning to Safety Domain Knowledge. In Eckehard Schnieder and Géza Tarnai, editors, *Proceedings of the 8th Symposium on Formal Methods for Automation and Safety in Railway and Automotive Systems (FORMS/FORMAT 2010)*, 2010.
- [81] Martin Fränzle, Tayfun Gezgin, Hardi Hungar, Stefan Puch, and Gerald Sauter. Using guided simulation to assess driver assistance systems. In E. Schnieder and G. Tarnai, editors, *Proc. FORMS/FORMAT 2010*, 2010.
- [82] Tino Teige and Martin Fränzle. Generalized Craig interpolation for stochastic Boolean satisfiability problems. Reports of SFB/TR 14 AVACS 67, SFB/TR 14 AVACS, March 2011. ISSN: 1860-9821, <http://www.avacs.org>.
- [83] Erika Ábrahám, Tobias Schubert, Bernd Becker, Martin Fränzle, and Christian Herde. Parallel SAT solving in bounded model checking. *Journal of Logic and Computation*, 21:5–21, 2011.
- [84] Stefan Kupferschmid, Bernd Becker, Tino Teige, and Martin Fränzle. Proof certificates and non-linear arithmetic constraints. In *Proceedings of the 14th IEEE Symposium on Design and Diagnostics of Electronic Circuits and Systems (DDECS 2011)*. IEEE, 2011.
- [85] Tino Teige and Martin Fränzle. Generalized Craig interpolation for stochastic Boolean satisfiability problems. In Parosh Aziz Abdulla and K. Rustan M. Leino, editors, *Proceedings of the Seventeenth International Conference on Tools and Algorithms for the Construction and Analysis of Systems*, volume 6605 of *Lecture Notes in Computer Science*, pages 158–172. Springer, 2011.
- [86] Tino Teige, Andreas Eggers, and Martin Fränzle. Constraint-based analysis of concurrent probabilistic hybrid systems: An application to networked automation systems. *Nonlinear Analysis: Hybrid Systems*, 5(2):343–366, May 2011.
- [87] Martin Fränzle, Tayfun Gezgin, Hardi Hungar, Stefan Puch, and Gerald Sauter. Predicting the effect of driver assistance via simulation. In P.C. Cacciabue, M. Hjäldahl, A. Lüdtke, and C. Riccioli, editors, *Human Modelling in Assisted Transportation*, pages 299–306. Springer, 2011.
- [88] Nam Thang Dinh, Martin Fränzle, and Andreas Eggers. AVACS H1/2 8-year benchmark: Analyzing traffic models with iSAT. Reports of SFB/TR 14 AVACS 81, SFB/TR 14 AVACS, July 2011. ISSN: 1860-9821, <http://www.avacs.org>.
- [89] Andreas Eggers, Nacim Ramdani, Nedialko S. Nedialkov, and Martin Fränzle. Improving SAT modulo ODE for hybrid systems analysis by combining different enclosure methods. In *Proceedings of the Ninth International Conference on Software Engineering and Formal Methods (SEFM)*, volume 7041 of *Lecture Notes in Computer Science*, pages 172–187. Springer, 2011.
- [90] J.-D. Quesel, M. Fränzle, and W. Damm. Crossing the bridge between similar games. In Stavros Tripakis and Uli Fahrenberg, editors, *Formal Modeling and Analysis of Timed Systems - 9th International Conference (FORMATS), Aalborg, Denmark, 21-23 September, 2011. Proceedings*, volume 6919 of *LNCS*, pages 160–176. Springer, Sep. 2011.
- [91] Martin Fränzle and Christian Lengauer. Semantic independence. In David Padua et al., editors, *Encyclopedia of Parallel Computing*, pages 1803–1810. Springer-Verlag, sep 2011.
- [92] Martin Fränzle, Ernst Moritz Hahn, Holger Hermanns, Nicolás Wolovick, and Lijun Zhang. Measurability and safety verification for stochastic hybrid systems. In *Proceedings of the 14th international conference on Hybrid systems: computation and control, HSCC ’11*, pages 43–52, New York, NY, USA, 2011. ACM.

- [93] Tino Teige and Martin Fränzle. Generalized Craig interpolation for stochastic Boolean satisfiability problems with applications to probabilistic state reachability and region stability. *Logical Methods in Computer Science*, 8(2):1–32, 2012.
- [94] Andreas Eggers, Nacim Ramdani, Nedialko S. Nedialkov, and Martin Fränzle. Set-membership estimation of hybrid systems via SAT modulo ODE. In Michel Kinnaert, editor, *Proceedings of the 16th IFAC Symposium on System Identification*, pages 440–445. The International Federation of Automatic Control (IFAC), 2012.
- [95] Stefan Puch, Martin Fränzle, Jan-Patrick Osterloh, and Christoph Läsche. Rapid virtual-human-in-the-loop simulation with the high level architecture. In A. Bruzzone, editor, *Proceedings of Summer Computer Simulation Conference 2012 (SCSC 2012)*, volume 44, pages 44–50, Genua, 07 2012. The Society for Modeling & Simulation International (SCS), Curran Associates, Inc.
- [96] Christian Ellen, Martin Fränzle, Sebastian Gerwinn, and Nils Müllner. Modeling TCL via DTMC. In *Joint Workshop on Compositional Modelling and Analysis of Quantitative Systems*. Scottish Informatics & Computer Science Alliance, 09 2012.
- [97] Christian Ellen, Sebastian Gerwinn, and Martin Fränzle. Confidence bounds for statistical model checking of probabilistic hybrid systems. In Marcin Jurdziński and Dejan Nickovic, editors, *Proceedings of the 10th International Conference on Formal Modeling and Analysis of Timed Systems (FORMATS)*, volume 7595 of *LNCS*, pages 123–138. Springer, 2012.
- [98] Sönke Eilers, Sebastian Gerwinn, Martin Fränzle, Christian Kuka, Sören Schweiger, and Tobe Toben. An autonomous vehicle design for safe operation in heterogeneous environments. In John Fitzgerald, Terrence Mak, Alexander Romanovsky, and Alex Yakovlev, editors, *Proceedings of The CONCUR '12 Workshop on Trustworthy Cyber-Physical Systems*, Technical Report Series, pages 31 – 37, 2012.
- [99] Stefan Puch, Bertram Wortelen, Martin Fränzle, and Thomas Peikenkamp. Using guided simulation to improve a model-based design process of complex human machine systems. In M. Klumpp, editor, *ESM2012 - The 2012 European Simulation And Modelling Conference*, pages 159–164, Essen, 10 2012. EUROSIS-ETI.
- [100] Martin Fränzle. An introduction to interval methods. In Reinhard Leidl and Alexander Hartmann, editors, *Modern Computational Science*. Oldenburger Universitätsverlag, 2012.
- [101] Andreas Eggers, Nacim Ramdani, Nedialko S. Nedialkov, and Martin Fränzle. Improving the SAT modulo ODE approach to hybrid systems analysis by combining different enclosure methods. *Software and Systems Modeling*, 2012.
- [102] Nils Müllner, Oliver Theel, and Martin Fränzle. Combining decomposition and reduction for state space analysis of a self-stabilizing system. In *Proceedings of the 2012 IEEE 26th International Conference on Advanced Information Networking and Applications*, pages 936 – 943. IEEE Computer Society, March 2012.
- [103] Stefan Puch, Bertram Wortelen, Martin Fränzle, and Thomas Peikenkamp. Evaluation of drivers interaction with assistant systems using criticality driven guided simulation. In *HCI International 2013 Conference Proceedings*, 2013.
- [104] Sönke Eilers, Jürgen Boger, and Martin Fränzle. A path planning framework for autonomous vehicles. In *9th International Workshop on Robot Motion and Control*. IEEE, 2013.
- [105] Maher Fakih, Kim Grüttner, Martin Fränzle, and Achim Rettberg. Exploiting segregation in bus-based MPSoCs to improve scalability of model-checking-based performance analysis for SDFAs. In *International Embedded Systems Symposium (IESS)*, 2013.

- [106] Maher Fakih, Kim Grüttner, Martin Fränzle, and Achim Rettberg. Towards performance analysis of sdfgs mapped to shared–bus architectures using model–checking. In *Proceedings of the Conference on Design, Automation and Test in Europe (DATE) 2013*, Leuven, Belgium, 2013. European Design and Automation Association.
- [107] Nils Müllner, Oliver Theel, and Martin Fränzle. Combining decomposition and reduction for the state space analysis of self-stabilizing systems. *Journal of Computer and System Sciences (JCSS)*, 79:1113–1125, 2013.
- [108] Martin Fränzle and Antonios Tsourdos, editors. *Proceedings of the first workshop on Hybrid Autonomous Systems*, volume 297 of *Electronic Notes in Theoretical Computer Science*. Elsevier Science B.V., 2013.
- [109] Martin Fränzle and Antonios Tsourdos. Preface. In *Proceedings of the first workshop on Hybrid Autonomous Systems* [108], pages 1–2.
- [110] Maryam Kamgarpour, Christian Ellen, Sadegh Esmaeil Zadeh Soudjani, Sebastian Gerwinn, Johanna L. Mathieu, Nils Müllner, Alessandro Abate, Duncan S. Callaway, Martin Fränzle, and John Lygeros. Modeling options for demand side participation of thermostatically controlled loads. In *2013 IREP Symposium-Bulk Power System Dynamics and Control — IX*, Rethymnon, Greece, 2013. IEEE.
- [111] Liang Zou, Naijun Zhan, Shuling Wang, Martin Fränzle, and Shengchao Qin. Verifying Simulink diagrams via a hybrid Hoare logic prover. In Rolf Ernst and Oleg Sokolsky, editors, *Proceedings of the 13th International Conference on Embedded Software (EMSOFT)*. ACM, 2013.
- [112] Maher Fakih, Kim Grüttner, Martin Fränzle, and Achim Rettberg. Multicore performance analysis of a multi-phase electrical motor controller. In *Proceedings of the Embedded Real Time Software and Systems Congress (ERTS²)*, 2014.
- [113] Mohamed Abdelaal, Yang Gao, Martin Fränzle, and Oliver Theel. Eavs: Energy aware virtual sensing for wireless sensor networks. In *ISSNIP 2014 - Symposium on Sensor Networks*, pages 1–6. IEEE, 2014.
- [114] Martin Fränzle and John Lygeros, editors. *Proceedings of the 17th International Conference on Hybrid Systems: Computation and Control*. ACM, April 2014.
- [115] Ahmed Mahdi, Bernd Westphal, and Martin Fränzle. Transformations for compositional verification of assumption-commitment properties. In Joel Ouaknine and James Worrell, editors, *Proceedings of the 8th International Workshop on Reachability Problems, RP 2014*, volume 8762 of *Lecture Notes in Computer Science*. Springer-Verlag, 2014.
- [116] Ahmed Mahdi and Martin Fränzle. Generalized Craig interpolation for stochastic satisfiability modulo theory problems. In Joel Ouaknine and James Worrell, editors, *Proceedings of the 8th International Workshop on Reachability Problems, RP 2014*, volume 8762 of *Lecture Notes in Computer Science*, pages 203–215. Springer-Verlag, 2014.
- [117] Nils Müllner, Oliver Theel, and Martin Fränzle. Composing thermostatically controlled loads to determine the reliability against blackouts. In *Proceedings of the 10th International Symposium on Frontiers of Information Systems and Network Applications (FINA2014)*, pages 334–341, May 2014.
- [118] Nils Müllner, Oliver Theel, and Martin Fränzle. Combining decomposition and lumping to evaluate semi-hierarchical systems. In *Proceedings of the 28th IEEE International Conference on Advanced Information Networking and Applications (AINA2014)*, pages 1049–1056, May 2014.

- [119] Christian Ellen, Sebastian Gerwinn, and Martin Fränzle. Statistical model checking for stochastic hybrid systems involving nondeterminism over continuous domains. *International Journal on Software Tools for Technology Transfer*, pages 1–20, 2014.
- [120] Maher Fakih, Kim Grüttner, Martin Fränzle, and Achim Rettberg. State-based real-time analysis of SDF applications on multi-cores. In *1st International Workshop on Investigating Dataflow in Embedded computing Architecture (IDEA)*, January 2015.
- [121] Nils Müllner, Martin Fränzle, and Sibylle Fröschle. Estimating the probability of a timely traffic-hazard warning via simulation. In *Proceedings of the 48th Annual Symposium on Simulation (AnSS2015)*, Washington DC, USA, April 2015. IEEE Computer Society Press.
- [122] Alessandro Abate, Martin Fränzle, Ian Hiskens, and Martin Strelec, editors. *Report from Dagstuhl Seminar 14441 Modeling, Verification, and Control of Complex Systems for Energy Networks*, Dagstuhl Reports. Dagstuhl Research Online Publication Server, February 2015.
- [123] Liang Zou, Martin Fränzle, Naijun Zhan, and Peter Nazier Mosaad. Automatic stability and safety verification for delay differential equations. In Daniel Kroening and Corina Pasareanu, editors, *Proc. of the 27th International Conference on Computer Aided Verification (CAV 2015)*, LNCS. Springer Verlag, to appear July 2015.
- [124] Saifullah Khan and Martin Fränzle. Robust mid-range communication in urban VANETs. In *Proc. of the International Conference on Advanced Communication Technology*, Seoul, Korea, to appear July 2015.
- [125] Mohamed-Hédi Amri, Yasmina Becis, Didier Aubry, Nacim Ramdani, and Martin Fränzle. Robust indoor location tracking of multiple inhabitants using only binary sensors. In *Proc. of the IEEE International Conference on Automation Science and Engineering (IEEE CASE 2015)*, Gothenburg, Sweden, to appear August 2015. IEEE.
- [126] Martin Fränzle, Michael R. Hansen, and Heinrich Ody. No need knowing numerous neighbours — towards a realizable interpretation of MLSL. In Roland Meyer, André Platzer, and Heike Wehrheim, editors, *Correct System Design*, Lecture Notes in Computer Science. Springer-Verlag, to appear September 2015.
- [127] Yang Gao and Martin Fränzle. A solving procedure for stochastic satisfiability modulo theories with continuous domain. In Javier Campos and Boudeijn Haverkort, editors, *Proc. of the 12th International Conference on Quantitative Evaluation of SysTems*, Lecture Notes in Computer Science. Springer-Verlag, to appear September 2015.

By category

Technical reports:

- [1, 2, 5, 6, 7, 10, 11, 13, 14, 15, 16, 26, 34, 35, 49, 55, 57, 61, 72, 79, 82, 88]

Peer-reviewed contributions to the proceedings of international conferences and symposia:

- [3, 4, 8, 9, 17, 18, 20, 21, 22, 23, 24, 27, 29, 30, 32, 36, 37, 38, 39, 40, 41, 42, 43, 44, 46, 47, 48, 50, 51, 54, 56, 58, 59, 60, 62, 63, 64, 65, 66, 68, 69, 70, 71, 73, 75, 76, 77, 80, 81, 84, 85, 87, 89, 90, 92, 94, 95, 98, 99, 96, 97, 102, 103, 104, 105, 106, 110, 111, 112, 113, 115, 116, 117, 118, 120, 121, 123, 124, 125, 126, 127]

Articles in peer-reviewed international journals:

[12, 28, 31, 33, 45, 52, 53, 74, 78, 83, 86, 93, 101, 107, 119]

Ph.D. thesis:

[19]

Editorship for conference/workshop proceedings and special issues of journals:

[108, 114, 122]

Book chapters:

[25, 67, 91, 100]