

Publikationen

[AM18]

[PDFBIB](#)

Alrifaae, B. and Maczijekowski, J., "Real-time Trajectory Optimization for Autonomous Vehicle Racing using Sequential Linearization", in *Proc. 2018 IEEE Intelligent Vehicles Symposium (IV)*, 2018, IEEE, pp. 476-483.

Real-time Trajectory Optimization for Autonomous Vehicle Racing using Sequential Linearization

Bibtex entry :

```
@inproceedings { AM18,
  author = { Alrifaae, B. and Maczijekowski, J. },
  title = { Real-time Trajectory Optimization for Autonomous Vehicle
    Racing using Sequential Linearization },
  booktitle = { 2018 IEEE Intelligent Vehicles Symposium (IV) },
  publisher = { IEEE },
  publishedas = { Online },
  issn = { 1931-0587 },
  language = { eng },
  pages = { 476--483 },
  year = { 2018 },
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https://www.researchgate.net/publication/328451443\_Real-time\_Trajectory\_optimization\_for\_Autonomous\_Vehicle\_Racing\_using\_Sequential\_Linearization },
  for_reporting_period = { 2018 },
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[Mar18]

[PDFBIB](#)

Marco Grochowski Martin Schweigler, B. A. S. K., "A GPS-aided Inertial Navigation System for Vehicular Navigation using a Smartphone", *CESCIT*, p. 6, 2018

A GPS-aided Inertial Navigation System for Vehicular Navigation using a Smartphone

Bibtex entry :

```
@article { Mar18,
  author = { Marco Grochowski, Martin Schweigler, Bassam Alrifaae,
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Stefan

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    Kowalewski },
    title = { A GPS-aided Inertial Navigation System for Vehicular
      Navigation using a Smartphone },
    journal = { CESCIT },
    year = { 2018 },
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https://app.peer.us/invitation.html#/048541ee7fa4e742dc2433beff1f4e3b?_
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    for_reporting_period = { 2018 },
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[WSA+18]

[PDFBIB](#)

Winter, A., Stäubert, S., Ammon, D., Aiche, S., Beyan, O., Bischoff, V., Daumke, P., Decker, S., Funkat, G., Gewehr, J. E., de Greiff, A., Haferkamp, S., Hahn, U., Henkel, A., Kirsten, T., Thomas, K., Lippert, J., Löbe, M., Lowitsch, V., Maassen, O., Maschmann, J., Meister, S., Mikolajczyk, R., Nüchter, M., Pletz, M. W., Rahm, E., Riedel, M., Saleh, K., Schuppert, A., Smers, S., Stollenwerk, A., Uhlig, S., Wendt, T., Zenker, S., Fleig, W., Marx, G., Scherag, A., and Löffler, M., "Smart Medical Information Technology for Healthcare (SMITH)", *Methods of information in medicine*, vol. 57, p. e92-e105, 2018

Smart Medical Information Technology for Healthcare (SMITH)

Bibtex entry :

```

@article { WSA+18,
  doi = { 10.3414/ME18-02-0004 },
  author = { Winter, Alfred and St{"a"}ubert, Sebastian and Ammon,
  Danny
    and Aiche, Stephan and Beyan, Oya and Bischoff, Verena and
    Daumke, Philipp and Decker, Stefan and Funkat, Gert and
    Gewehr, Jan E and de Greiff, Armin and Haferkamp, Silke and
    Hahn, Udo and Henkel, Andreas and Kirsten, Toralf and
    Kl{"o"}ss; Thomas and Lippert, J{"o"}rg and L{"o"}be,
    Matthias and Lowitsch, Volker and Maassen, Oliver and
    Maschmann, Jens and Meister, Sven and Mikolajczyk, Rafael
    and N{"u"}chter, Matthias and Pletz, Mathias W and Rahm,
    Erhard and Riedel, Morris and Saleh, Kutaiba and Schuppert,
    Andreas and Smers, Stefan and Stollenwerk, Andr\{e} and
    Uhlig, Stefan and Wendt, Thomas and Zenker, Sven and Fleig,
    Wolfgang and Marx, Gernot and Scherag, Andr\{e} and
    L{"o"}ffler, Markus },

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    title = { Smart Medical Information Technology for Healthcare
(SMITH) },
    journal = { Methods of information in medicine },
    year = { 2018 },
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https://www.thieme-connect.com/products/ejournals/pdf/10.3414/ME18-02-0004.pdf },
    timestamp = { 2018.08.17 },
    for_reporting_period = { 2018 },
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```

[TSNK16]

[PDFBIB](#)

Thönnessen, D., Schweigler, M., Ney, O., and Kugelmeier, M., "Conveying system with an automatic tethering function", Ford Global Technologies LLC, US20180081372A1, 2016.

Conveying system with an automatic tethering function

Bibtex entry :

```

@techreport { TSNK16,
    author = { Th{"o}nnessen, David and Schweigler, Martin and Ney,
Oliver
        and Kugelmeier, Mirko },
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    pages = { 1--7 },
    institution = { Ford Global Technologies LLC },
    year = { 2016 },
    number = { US20180081372A1 },
    month = { 09 },
    url = {
https://patentimages.storage.googleapis.com/db/18/5e/e189deb2551632/US20180081372A1.pdf },
    timestamp = { 2018.08.10 },
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[KSK+18]

[PDFBIB](#)

Kühn, J., Stollenwerk, A., Kowalewski, S., Fabry, G., Grzanna, T., Doorschodt, B., Tolba, R. H., Rossaint, R., and Bleilevens, C., "A long-term setup for kidney perfusion", in *Proc. 52nd Annual Conference of the German Society for Biomedical Engineering*, 2018, To appear.

A long-term setup for kidney perfusion

Bibtex entry :

```
@conference { KSK+18,
  author = { K{"u}hn, Jan and Stollenwerk, Andr\{'e} and Kowalewski,
    Stefan and Fabry, Gregor and Grzanna, Tim and Doorschodt,
    Benedict and Tolba, Ren\{'e} H. and Rossaint, Rolf and
    Bleilevens, Christian },
  title = { A long-term setup for kidney perfusion },
  booktitle = { 52nd Annual Conference of the German Society for
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  year = { 2018 },
  timestamp = { 2018.07.11 },
  language = { eng },
  illprojectkey = { AutoMock },
  note = { To appear },
  for_reporting_period = { 2018 },
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```

[SBK18]

[PDFBIB](#)

Stollenwerk, A., Buglowski, M., and Kühn, J., "Mock loop for bubble generation in a centrifugal blood pump for fault simulation", in *Proc. Current Directions in Biomedical Engineering*, 2018 in 4, deGruyter, pp. 33-36.

Mock loop for bubble generation in a centrifugal blood pump for fault simulation

Bibtex entry :

```
@inproceedings { SBK18,
  doi = { 10.1515/cdbme-2018-0009 },
  author = { Stollenwerk, Andr\{'e} and Buglowski, Mateusz and
  K{"u}hn,
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  editor = { D{"o}ssel, Olaf },
  title = { Mock loop for bubble generation in a centrifugal blood
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  booktitle = { Current Directions in Biomedical Engineering },
  series = { 4 },
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for_reporting_period = { 2018 },
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[BK18a]

PDFBIB

Bohlender, D. and Kowalewski, S., "Design and Verification of Restart-robust Industrial Control Software", in *Proc. Integrated Formal Methods - 14th International Conference, IFM 2018, Maynooth, Ireland, September 5-7, 2018*, 2018, Springer, pp. 47-68.

Design and Verification of Restart-robust Industrial Control Software

Bibtex entry :

```
@inproceedings { BK18a,
  author = { Bohlender, Dimitri and Kowalewski, Stefan },
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  booktitle = { Integrated Formal Methods - 14th International
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  timestamp = { 2018.06.18 },
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  for_reporting_period = { 2018 },
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```

[CMW+18]

PDFBIB

Chomicz, P., Müller-Lerwe, A., Wegner, G., Busch, R., and Kowalewski, S., "Controlled Natural Languages for Hazard Analysis and Risk Assessment", in *Proc. CNL 2018: Sixth International Workshop on Controlled Natural Language*, 2018, IOS Press, pp. 41-51, Best student paper award.

Controlled Natural Languages for Hazard Analysis and Risk Assessment

Bibtex entry :

```
@inproceedings { CMW+18,
  author = { Chomicz, Paul and M{"u}ller-Lerwe, Armin and Wegner,
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  title = { Controlled Natural Languages for Hazard Analysis and Risk
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http://ebooks.iospress.nl/volume/controlled-natural-language-proceeding
s-of-the-sixth-international-workshop-cnl-2018-maynooth-co-kildare-
ireland-august-27-28-2018 },
  note = { Best student paper award },
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```

[SHS+18]

PDFBIB

Smieschek, M., Hinrichs, T., Stollenwerk, A., Kowalewski, S., and Preuß, R., "A New Condition Indicator for Slow-Rotating Roller Chains Based on the Angle and Torque of the Driving Motor", in *Proc. 14th IEEE International Conference on Automation Science and Engineering (CASE)*, 2018, IEEE, pp. 642-644.

A New Condition Indicator for Slow-Rotating Roller Chains Based on the Angle and Torque of the Driving Motor

Bibtex entry :

```
@inproceedings { SHS+18,
  author = { Smieschek, Manfred and Hinrichs, Timo and Stollenwerk,
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  title = { A New Condition Indicator for Slow-Rotating Roller Chains
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  booktitle = { 14th IEEE International Conference on Automation
Science and
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  publisher = { IEEE },
  publishedas = { Druck },
  language = { eng },
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pages = { 642--644 },
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[STK18]

[PDFBIB](#)

Simon, H., Triefenbach, L., and Kowalewski, S., "Structural Concolic Testing for Sequential Function Chart", in *Proc. 14th International Workshop on Discrete Event Systems, WODES 2018, Sorrento Coast, Italy, May 30 - June 1, 2018*, 2018, vol. 51, Elsevier, pp. 422-427.

Structural Concolic Testing for Sequential Function Chart

Bibtex entry :

```
@inproceedings { STK18,
  author = { Simon, Hendrik and Triefenbach, Lucas and Kowalewski, Stefan },
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  booktitle = { 14th International Workshop on Discrete Event Systems, WODES 2018, Sorrento Coast, Italy, May 30 - June 1, 2018 },
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https://www.sciencedirect.com/journal/ifac-papersonline/vol/51/issue/7
},
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[KBS+19]

[PDFBIB](#)

Kühn, J., Buglowski, M., Stollenwerk, A., Kowalewski, S., Walter, M., Leonhardt, S., Petran, J., Kopp, R., Rossaint, R., and Janisch, T., "Fault Identification in a Blood Pump Using Neural Networks", *IFMBE Proceedings*, vol. 68/2, pp. 27-32, 2019

Fault Identification in a Blood Pump Using Neural Networks

Bibtex entry :

```
@article { KBS+19,
  author = { K{"u}hn, Jan and Buglowski, Mateusz and Stollenwerk,
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  title = { Fault Identification in a Blood Pump Using Neural
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  language = { eng },
  url = { https://www.publications.embedded.rwth-aachen.de/file/7b },
  timestamp = { 2018.06.05 },
  for_reporting_period = { 2018 },
}
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[TRR+18a]

PDFBIB

Thönnessen, D., Reinker, N., Rakel, S., Svetlakov, A., and Kowalewski, S., "Correctness Properties and Exemplified Applicability of a Signal Matching Algorithm with Multidimensional Tolerance Specifications", in *Proc. 14th IEEE International Conference on Automation Science and Engineering (CASE)*, 2018, IEEE, pp. 1-6, To appear.

Correctness Properties and Exemplified Applicability of a Signal Matching Algorithm with Multidimensional Tolerance Specifications

Bibtex entry :

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@inproceedings { TRR+18a,
  author = { Th{"o}nnessen, David and Reinker, Niklas and Rakel,
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Science and
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note = { To appear },
for_reporting_period = { 2018 },
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[TK18a]

[PDFBIB](#)

Thönnessen, D. and Kowalewski, S., "Agiles Testen von cyber-physischen Produktionssystemen", *atp edition - Automatisierungstechnische Praxis*, vol. 3, pp. 46-55, 2018

Agiles Testen von cyber-physischen Produktionssystemen

Bibtex entry :

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@article { TK18a,
  author = { Th{"o}nnessen, David and Kowalewski, Stefan },
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  year = { 2018 },
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  pages = { 46--55 },
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https://www.vulkan-shop.de/agiles-testen-von-cyberphysischen-produktionssystemen-2018-04-17 },
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[TRRK18]

[PDFBIB](#)

Thönnessen, D., Rakel, S., Reinker, N., and Kowalewski, S., "Matching Discrete Signals for Hardware-in-the-Loop-Testing of PLCs", in *Proc. 3rd IFAC Conference on Embedded Systems, Computational Intelligence and Telematics in Control (CESCIT)*, 2018, vol. 51, IFAC, pp. 229-234.

Matching Discrete Signals for Hardware-in-the-Loop-Testing of PLCs

Bibtex entry :

```
@inproceedings { TRRK18,  
  author = { Th{\"}nnessen, David and Rakel, Stefan and Reinker,  
Niklas  
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main.pdf },  
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[TK18]

[PDFBIB](#)

Thönnessen, D. and Kowalewski, S., "Using PLC Programming Languages for Test-Case Specification of Hardware-in-the-loop Tests", in *Proc. Modellbasierte Entwicklung Eingebetteter Systeme (MBEES)*, 2018, fortiss Technischer Bericht, pp. 41-50.

Using PLC Programming Languages for Test-Case Specification of Hardware-in-the-loop Tests

Bibtex entry :

```
@inproceedings { TK18,  
  author = { Th{\"}nnessen, David and Kowalewski, Stefan },  
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  booktitle = { Modellbasierte Entwicklung Eingebetteter Systeme
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http://download.fortiss.org/public/mbees/mbees2018_proceedings.pdf },
  for_reporting_period = { 2018 },
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[BK18]

PDFBIB

Bohlender, D. and Kowalewski, S., "Compositional Verification of PLC Software using Horn Clauses and Mode Abstraction", in *Proc. 14th International Workshop on Discrete Event Systems, WODES 2018, Sorrento Coast, Italy, May 30 - June 1, 2018*, 2018, IFAC, pp. 428-433.

Compositional Verification of PLC Software using Horn Clauses and Mode Abstraction

Bibtex entry :

```
@inproceedings { BK18,
  author = { Bohlender, Dimitri and Kowalewski, Stefan },
  title = { Compositional Verification of PLC Software using Horn
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  booktitle = { 14th International Workshop on Discrete Event
Systems, WODES
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```

[BHK18]

PDFBIB

Bohlender, D., Hamm, D., and Kowalewski, S., "Cycle-Bounded Model Checking of PLC Software via Dynamic Large-Block Encoding", in *Proc. Proceedings of the 33rd Annual ACM Symposium on Applied Computing, SAC 2018, Pau, France, April 09-13, 2018*, 2018, ACM, pp. 1891-1898.

Cycle-Bounded Model Checking of PLC Software via Dynamic Large-Block Encoding

Bibtex entry :

```
@inproceedings { BHK18,  
  author = { Bohlender, Dimitri and Hamm, Daniel and Kowalewski,  
Stefan },  
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  booktitle = { Proceedings of the 33rd Annual ACM Symposium on  
Applied  
Computing, SAC 2018, Pau, France, April 09-13, 2018 },  
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[AMA17]

[PDFBIB](#)

Alrifaae, B., Maczijekowski, J., and Abel, D., "Sequential Convex Programming MPC for Dynamic Vehicle Collision Avoidance", in *Proc. 2017 IEEE Conference on Control Technology and Applications (CCTA)*, 2017, IEEE, pp. 2202-2207.

Sequential Convex Programming MPC for Dynamic Vehicle Collision Avoidance

Bibtex entry :

```
@inproceedings { AMA17,  
  author = { Alrifaae, Bassam and Maczijekowski, Janis and Abel, Dirk  
},  
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  booktitle = { 2017 IEEE Conference on Control Technology and  
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  publisher = { IEEE },  
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https://www.researchgate.net/profile/Bassam_Alrifae/publication/318280
544_Sequential_Convex_Programming_MPC_for_Dynamic_Vehicle_Collision_Avo
idance/links/5978b094a6fdcc30bdc31d05/Sequential-Convex-Programming-
MPC-for-Dynamic-Vehicle-Collision-Avoidance.pdf },
    for_reporting_period = { 2017 },
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```

[CJS17]

[PDFBIB](#)

Dernehl, C., Kühn, J., and Kowalewski, S., "Case studies on automated verification with slope boundaries for block diagrams", *Computer Languages, Systems & Structures*, vol. 50, pp. 1-16, 2017

Case studies on automated verification with slope boundaries for block diagrams

Bibtex entry :

```

@article { CJS17,
  author = { Christian Dernehl and Jan K{"u}hn and Stefan Kowalewski
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  year = { 2017 },
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  pages = { 1--16 },
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pdf?_tid=244b7aee-d6a8-11e7-
a411-00000aacb362&acdnat=1512140511_2c74ca6eeaf15786cf46856d997df927 },
  timestamp = { 2017.12.01 },
  for_reporting_period = { 2017 },
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[SKSJ17]

[PDFBIB](#)

Stollenwerk, A., Kopp, R., Sehl, F., and Janisch, T., "Tauchcomputerunterstützung durch vernetzte Smart Wearables", *caisson*, vol. 32, iss. 4, p. 72, 2017

Tauchcomputerunterstützung durch vernetzte Smart Wearables

Bibtex entry :

```
@article { SKSJ17,
  number = { 4 },
  author = { Stollenwerk, André and Kopp, R{"u}dger and Sehl,
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  title = { Tauchcomputerunterst{"u}tzung durch vernetzte Smart
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  journal = { caisson },
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  url = { https://www.publications.embedded.rwth-aachen.de/file/79 },
  timestamp = { 2017.11.24 },
  for_reporting_period = { 2018 },
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[OK17]

[PDFBIB](#)

Obster, M. and Kowalewski, S., "A Live Static Code Analysis Architecture for PLC Software", in *Proc. Proceedings of IEEE International Conference on Emerging Technology & Factory Automation*, 2017, IEEE, pp. 263-266.

A Live Static Code Analysis Architecture for PLC Software

Bibtex entry :

```
@inproceedings { OK17,
  author = { Obster, Mathias and Kowalewski, Stefan },
  title = { A Live Static Code Analysis Architecture for PLC Software
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[BFH+18]

[PDFBIB](#)

Bordasch, M., Facchi, C., Heidepriem, S., Jähnert, J., Jung, T., Köllner, C., Kraas, A., Krause, J., Krüning, K., Kugler, A., Maschler, B., Schleicher, C., Siegrist, D., Simon, H., Störmer, C., Thönnessen, D., Wassermann, E., Weyrich, M., Wimmer, T., and Zeller, A., "VDI Status Report Testing of Networked Systems for Industrie 4.0", VDI/VDE GMA FA 7.25, 1, 2018.

VDI Status Report Testing of Networked Systems for Industrie 4.0

Bibtex entry :

```

@techreport { BFH+18,
  author = { Bordasch, Manuel and Facchi, Christian and Heidepriem,
    Sebastian and J{"a}hnert, J{"u}rger and Jung, Tobias and
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[UVS+17]

[PDFBIB](#)

Ulewicz, S., Vogel-Heuser, B., Simon, H., Bohlender, D., Obster, M., and Kowalewski, S., "A Priori

Test Coverage Estimation for Automated Production Systems", in *Proc. 2017 22nd IEEE International Conference on Emerging Technologies and Factory Automation (ETFA)*, 2017, IEEE, pp. 1-4.

A Priori Test Coverage Estimation for Automated Production Systems

Bibtex entry :

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@inproceedings { UVS+17,  
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[SGTK17]

PDFBIB

Schweigler, M., Grochowski, M., Tamrakar, S., and Kowalewski, S., "Ground Surface Pattern Recognition with Hidden Markov Models for Low Cost Positioning Improvement", in *Proc. tba*, 2017, To appear.

Ground Surface Pattern Recognition with Hidden Markov Models for Low Cost Positioning Improvement

Bibtex entry :

```
@conference { SGTK17,  
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[HWK+17]

[PDFBIB](#)

Hansen, N., Wiechowski, N., Kugler, A., Kowalewski, S., Rambow, T., and Busch, R., "Model-in-the-Loop and Software-in-the-Loop Testing of Closed-Loop Automotive Software with Arttest", in *Proc. INFORMATIK 2017*, 2017, Maximilian Eibl, Martin Gaedke, pp. 1537-1549.

Model-in-the-Loop and Software-in-the-Loop Testing of Closed-Loop Automotive Software with Arttest

Bibtex entry :

```
@inproceedings { HWK+17,
  author = { Hansen, Norman and Wiechowski, Norbert and Kugler,
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```

[KKOT15]

[PDFBIB](#)

Kowalewski, S., Kalkov, I., Obster, M., and Thönnessen, D., "Echtzeiterweiterung für Android: SPS inside", *IEE - Elektrische Automatisierung + Antriebstechnik*, pp. 58-61, 2015

Echtzeiterweiterung für Android: SPS inside

Bibtex entry :

```
@article { KKOT15,  
  author = { Kowalewski, Stefan and Kalkov, Igor and Obster, Mathias  
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[SPDZ17]

[PDFBIB](#)

Schmidt, T., Philipsen, R., Dzafic, D., and Ziefle, M., "Watch out! User-centered Feedback Design for a V2X-Smartphone App", in *Proc. Digital Human Modeling. Applications in Health, Safety, Ergonomics, and Risk Management: Health and Safety*, 2017 in 8th International Conference, DHM 2017, Held as Part of HCI International 2017, Vancouver, BC, Canada, July 9-14, 2017, Proceedings, Part II, Springer, Cham, pp. 365-383.

Watch out! User-centered Feedback Design for a V2X-Smartphone App

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@inproceedings { SPDZ17,  
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```

[DNS+17]

[PDFBIB](#)

Dzafic, D., Nicolas, W., Schoonbrood, P., Franke, D., and Kowalewski, S., "Multimodales Dynamisches Routen mit eNav", in *Proc. AGIT Journal für Angewandte Geoinformatik*, 2017, vol. 3-2017, Herbert Wichmann Verlag, VDE VERLAG GMBH, Berlin/Offenbach., pp. 278-287.

Multimodales Dynamisches Routen mit eNav

Bibtex entry :

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@inproceedings { DNS+17,
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[DWS+17]

[PDFBIB](#)

Dzafic, D., Wagener, N., Schoonbrood, P., Dominik, F., and Kowalewski, S., "Multimodal Dynamic Routing for Wheelchairs and Pedestrians", in *Proc. International Conference on Intelligent Transport Systems in Theory and Practice, mobil.TUM 2017*, 2017, Elsevier B.V., pp. 1-10.

Multimodal Dynamic Routing for Wheelchairs and Pedestrians

Bibtex entry :

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@inproceedings { DWS+17,
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[TRRK17]

[PDFBIB](#)

Thönnessen, D., Reinker, N., Rakel, S., and Kowalewski, S., "A Concept for PLC Hardware-in-the-loop Testing Using an Extension of Structured Text", in *Proc. 22nd IEEE International Conference on Emerging Technologies and Factory Automation (ETFA)*, 2017, IEEE, pp. 66-74.

A Concept for PLC Hardware-in-the-loop Testing Using an Extension of Structured Text

Bibtex entry :

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@inproceedings { TRRK17,
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[KKR+17]

[PDFBIB](#)

Kugler, C., Kowalewski, S., Richenhagen, J., Maquet, R., and Schloßer, A., "Metrics-based strategies for quality assurance of automotive embedded software", in *Proc. 17. Internationales Stuttgarter Symposium, 2017*, Springer, pp. 711-730.

Metrics-based strategies for quality assurance of automotive embedded software

Bibtex entry :

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@inproceedings { KKR+17,
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[NKM+17]

[PDFBIB](#)

Nowack, J., Kugler, C., Maquet, R., Richenhagen, J., and Remelhe, F., "Continuous process for the validation of transmission controls", in *Proc. 16. CTI Symposium, 2017*, To appear.

Continuous process for the validation of transmission controls

Bibtex entry :

```
@inproceedings { NKM+17,  
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[GAK17]

[PDFBIB](#)

Göbe, F., Aydin, S., and Kowalewski, S., "Applicability of Supervisory Control Theory for the Supervision of PLC Programs", in *Proc. Proceedings of IEEE International Conference on Emerging Technology & Factory Automation*, 2017, IEEE, pp. 81-88.

Applicability of Supervisory Control Theory for the Supervision of PLC Programs

Bibtex entry :

```
@inproceedings { GAK17,  
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[WRB+17]

PDFBIB

Wiechowski, N., Rambow, T., Busch, R., Kugler, A., Hansen, N., and Kowalewski, S., "Arttest - a New Test Environment for Model-Based Software Development", in *Proc. SAE Technical Paper*, 2017, SAE International, p. 11.

Arttest - a New Test Environment for Model-Based Software Development

Bibtex entry :

```
@inproceedings { WRB+17,
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```

[JCE+17]

PDFBIB

Dankert, J., Dernehl, C., Kusmenko, E., Eckstein, L., Kowalewski, S., and Rumpe, B., "RapidCoop - Robuste Architektur durch geeignete Paradigmen für Kooperativ Interagierende Automobile", in *Proc. AAET 2017 - Automatisiertes und Vernetztes Fahren*, 2017.

RapidCoop - Robuste Architektur durch geeignete Paradigmen für Kooperativ Interagierende Automobile

Bibtex entry :

```
@conference { JCE+17,
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[BMK+17]

PDFBIB

Brendle, C., Mülders, T., Kühn, J., Janisch, T., Kopp, R., Rossaint, R., Stollenwerk, A., Kowalewski, S., Misgeld, B., Leonhardt, S., and Walter, M., "Physiological closed-loop control of mechanical ventilation and extracorporeal membrane oxygenation", *Biomedical Engineering / Biomedizinische Technik*, 2017, To appear

Physiological closed-loop control of mechanical ventilation and extracorporeal membrane oxygenation"

Bibtex entry :

```
@article { BMK+17,
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[KBS+17]

PDFBIB

Kühn, J., Brendle, C., Stollenwerk, A., Schweigler, M., Kowalewski, S., Janisch, T., Rossaint, R., Leonhardt, S., Walter, M., and Kopp, R., "Decentralized safety concept for closed-loop controlled intensive care", *Biomedical Engineering / Biomedizinische Technik*, vol. 62, pp. 213-223, 2017

Decentralized safety concept for closed-loop controlled intensive care

Bibtex entry :

```
@article { KBS+17,
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[CMW+17]

PDFBIB

Chomicz, P., Müller-Lerwe, A., Wegner, G., Busch, R., and Kowalewski, S., "Towards the Use of Controlled Natural Languages in Hazard Analysis and Risk Assessment", in *Proc. Automotive - Safety & Security 2017*, 2017, vol. P-269 in Lecture Notes in Informatics, Gesellschaft für Informatik, pp. 163-174.

Towards the Use of Controlled Natural Languages in Hazard Analysis and Risk Assessment

Bibtex entry :

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@inproceedings { CMW+17,
author = { Chomicz, Paul and M{"u}ller-Lerwe, Armin and Wegner,
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Analysis and Risk Assessment },
booktitle = { Automotive - Safety & Security 2017 },
series = { Lecture Notes in Informatics },
volume = { P-269 },
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[SSM+17]

[PDFBIB](#)

Stollenwerk, A., Sehl, F., Marx, G., Kowalewski, S., and Janisch, T., "Enrichment of a diving computer with body sensor network data", in *Proc. 14th International Conference on Wearable and Implantable Body Sensor Networks*, 2017, IEEE, pp. 169-172.

Enrichment of a diving computer with body sensor network data

Bibtex entry :

```
@inproceedings { SSM+17,
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[INS17]

[PDFBIB](#)

Makhlouf, I. B., Hansen, N., and Kowalewski, S., "HyReach: A Reachability Tool for Linear Hybrid Systems Based on Support Functions", in *Proc. ARCH16. 3rd International Workshop on Applied Verification for Continuous and Hybrid Systems*, 2017, vol. 43 in EPiC Series in Computing, EasyChair, pp. 68-79.

HyReach: A Reachability Tool for Linear Hybrid Systems Based on Support Functions

Bibtex entry :

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@inproceedings { INS17,
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[BHK+17a]

[PDFBIB](#)

Brendle, C., Hackmack, K.-F., Kühn, J., Wardeh, M. N., Janisch, T., Kopp, R., Rossaint, R., Stollenwerk, A., Kowalewski, S., Leonhardt, S., Walter, M., and Misgeld, B., "Closed-loop control of extracorporeal oxygen and carbon dioxide gas transfer", *Control Engineering Practice*, vol. 59, pp. 173-182, 2017, To appear

Closed-loop control of extracorporeal oxygen and carbon dioxide gas transfer

Bibtex entry :

```

@article { BHK+17a,
author = { Brendle, C. and Hackmack, K.-F. and Kühn, J. and
Wardeh,
M.N. and Janisch, T. and Kopp, R. and Rossaint, R. and
Stollenwerk, A. and Kowalewski, S. and Leonhardt, S. and
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title = { Closed-loop control of extracorporeal oxygen and carbon
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[KSM15]

[PDFBIB](#)

Kühnel, M., Smieschek, M., and Meyer, U., "Fast Identification of Obfuscation and Mobile Advertising in Mobile Malware", in *Proc. Trustcom/BigDataSE/ISPA*, 2015, vol. 1, IEEE, pp. 214-221.

Fast Identification of Obfuscation and Mobile Advertising in Mobile Malware

Bibtex entry :

```
@inproceedings { KSM15,
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[SSK+17]

[PDFBIB](#)

Smieschek, M., Stollenwerk, A., Kowalewski, S., Orlikowsky, T., and Schoberer, M., "Unterstützte Handerkennung in Thermographiebildern zur Validierung der hygienischen Händedesinfektion", *Informatik Aktuell*, pp. 147-152, 2017

Unterstützte Handerkennung in Thermographiebildern zur Validierung der hygienischen Händedesinfektion

Bibtex entry :

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@article { SSK+17,
  author = { Smieschek, Manfred and Stollenwerk, André and
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Kowalewski,
  Stefan and Orlikowsky, Thorsten and Schoberer, Mark },
  title = { Unterst{\u}tzte Handerkennung in Thermographiebildern
zur
  Validierung der hygienischen H{\a}ndedesinfektion },
  journal = { Informatik Aktuell },
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[GMD+10]

PDFBIB

Grunewald, M., Makhlof, I., Diab, H., Mut, V., Kowalewski, S., and Abel, D., "Control and Safety Analysis of a Group of Point Mass Vehicles Using Energy Methods", *AT-Automatisierungstechnik*, vol. 58.4, pp. 227-235, 2010

Control and Safety Analysis of a Group of Point Mass Vehicles Using Energy Methods

Bibtex entry :

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@article { GMD+10,
  author = { Grunewald, M. and Makhlof, I. and Diab, H. and Mut, V.
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[PBD+10]

PDFBIB

Pleuss, A., Botterweck, G., Dhungana, D., Polzer, A., and Kowalewski, S., "Featureoriented modelling of product line evolution", Technical Report Lero-TR-2010-05, 1, 2010.

Featureoriented modelling of product line evolution

Bibtex entry :

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@techreport { PBD+10,  
  author = { Pleuss, A. and Botterweck, G. and Dhungana, D. and  
    Polzer,  
      A. and Kowalewski, S. },  
  title = { Featureoriented modelling of product line evolution },  
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[SLA+10]

PDFBIB

Sasnauskas, R., Landsiedel, O., Alizai, M., Weise, C., Kowalewski, S., and Wehrle, K., "KleeNet: discovering insidious interaction bugs in wireless sensor networks before deployment", in *Proc. Proceedings of the 9th ACM/IEEE International Conference on Information Processing in Sensor Networks*, 2010, ACM, pp. 186-196.

KleeNet: discovering insidious interaction bugs in wireless sensor networks before deployment

Bibtex entry :

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@inproceedings { SLA+10,  
  author = { Sasnauskas, R. and Landsiedel, O. and Alizai, M. and  
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[BBD+11]

PDFBIB

Beckschulze, E. and Boymanns, D. and Duelks, R. and Gatterdam, T. and Kowalewski, S. and Lang, M. and Salewski, F. and Siegbert, T., , s.o., Ed., *Zuverlaessigkeit von automotive embedded Systems*, FAT-Schriftenreihe, 2011.

Zuverlaessigkeit von automotive embedded Systems,

Bibtex entry :

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@proceedings { BBD+11,  
  author = { Beckschulze, E. and Boymanns, D. and Duelks, R. and  
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    F. and Siegbert, T. },  
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[KPB13]

PDFBIB

Kowalewski, S., Philippou, A., and Brauer, J., "Model checking and abstract interpretation as building blocks of advanced program analysis techniques", *International Journal on Software Tools for Technology Transfer*, vol. 15.4, pp. 287-289, 2013

Model checking and abstract interpretation as building blocks of advanced program analysis techniques

Bibtex entry :

```
@article { KPB13,  
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for_reporting_period = { 2013 },
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[RDK+12]

PDFBIB

Reuter, S., Diab, H., Kowalewski, K., Hauck, E., and Jeschke, S., "Design and implementation of a vehicle dynamics control system by means of torque vectoring for an autonomous vehicle", in *Proc. Robotics and Biomimetics (ROBIO), 2012 IEEE International Conference on*, 2012, IEEE, pp. 1691-1696.

Design and implementation of a vehicle dynamics control system by means of torque vectoring for an autonomous vehicle

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@inproceedings { RDK+12,
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[Bia16]

PDFBIB

Biallas, S., "Verification of Programmable Logic Controller Code using Model Checking and Static Analysis," PhD Thesis , 2016.

{Verification of Programmable Logic Controller Code using Model Checking and Static Analysis}

Bibtex entry :

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@phdthesis { Bia16,
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author = { Biallas, Sebastian },
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pdf },
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[DHK16a]

[PDFBIB](#)

Dernehl, C., Hansen, N., and Kowalewski, S., "Abstract Interpretation of MATLAB Code with Interval Sets", in *Proc. "Critical Systems: Formal Methods and Automated Verification: Joint 21st International Workshop on Formal Methods for Industrial Critical Systems and 16th International Workshop on Automated Verification of Critical Systems, FMICS-AVoCS 2016, Pisa, Italy, September 26-28, 2016, Proceedings, 2016*, Springer International Publishing, pp. 25-38.

Abstract Interpretation of MATLAB Code with Interval Sets

Bibtex entry :

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@inproceedings { DHK16a,
  author = { Dernehl, Christian and Hansen, Norman and Kowalewski,
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[SK16]

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Simon, H. and Kowalewski, S., "Static Analysis of Sequential Function Charts using Abstract Interpretation", in *Proc. Emerging Technologies and Factory Automation 2016*, 2016, IEEE, pp. 1-4.

Static Analysis of Sequential Function Charts using Abstract Interpretation

Bibtex entry :

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@inproceedings { SK16,
  author = { Simon, Hendrik and Kowalewski, Stefan },
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[BHK+17]

PDFBIB

Brendle, C., Hackmack, K. -F., Kühn, J., Wardeh, M. N., Janisch, T., Kopp, R., Rossaint, R., Stollenwerk, A., Kowalewski, S., Misgeld, B., Leonhardt, S., and and Walter, M., "Continuous gas transfer monitoring during extracorporeal membrane oxygenation", *Biomedical Signal Processing and Control*, vol. 31, pp. 321-330, 2017, To appear

Continuous gas transfer monitoring during extracorporeal membrane oxygenation

Bibtex entry :

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@article { BHK+17,
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[KSB+16]

[PDFBIB](#)

Kühn, J., Stollenwerk, A., Brendle, C., Janisch, T., Walter, M., Rossaint, R., Leonhardt, S., Kowalewski, S., and Kopp, R., "Sensor Supervision and Control Value Limitations in Networked Intensive Care", in *Proc. Fail Safety in Medical Cyber-Physical Systems*, 2016, vol. 1559 in Gemeinsamer Tagungsband der Workshops der Tagung Software Engineering 2016 (SE 2016), CEUR Workshop Proceedings, pp. 187-194.

Sensor Supervision and Control Value Limitations in Networked Intensive Care

Bibtex entry :

```
@inproceedings { KSB+16,
  author = { K{"u}hn, Jan and Stollenwerk, Andr{'e} and Brendle,
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[KVS+16]

PDFBIB

Kühn, J., Vaitl, L., Stollenwerk, A., Brendle, C., Walter, M., Janisch, T., Leonhardt, S., Kowalewski, S., Rossaint, R., and Kopp, R., "Eingebettete Rezirkulationsmessung für eine ECLA-Therapie", in *Proc. AUTOMED Workshop*, 2016, To appear.

Eingebettete Rezirkulationsmessung für eine ECLA-Therapie

Bibtex entry :

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@conference { KVS+16,
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Thorsten and Leonhardt, Steffen and Kowalewski, Stefan and
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[WBK+16]

PDFBIB

Walter, M., Brendle, C., Kühn, J., Janisch, T., Kopp, R., Stollenwerk, A., and Leonhardt, S., "Assistive Control of Extracorporeal Oxygenation Systems", in *Proc. 12th German Russian Conference on Biomedical Engineering*, 2016.

Assistive Control of Extracorporeal Oxygenation Systems

Bibtex entry :

```
@conference { WBK+16,
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[BSKH16]

PDFBIB

Bohlender, D., Simon, H., Kowalewski, S., and Hauck-Stattelmann, S., "Symbolische Ausführung zum Testen von SPS-Programmen", in *Proc. Automation 2016, 07.06.2016-08.06.2016, Baden-Baden, Germany*, 2016, VDI Verlag GmbH, pp. 77-88.

Symbolische Ausführung zum Testen von SPS-Programmen

Bibtex entry :

```
@inproceedings { BSKH16,
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[Der16]

[PDFBIB](#)

Dernehl, C., "Automatic Invariant Checking for discrete Block Diagrams using Lyapunov Functions with Sat Modulo Theory Solvers", in *Proc. European Control Conference 2016*, 2016, IEEE, pp. 441-446.

Automatic Invariant Checking for discrete Block Diagrams using Lyapunov Functions with Sat Modulo Theory Solvers

Bibtex entry :

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@inproceedings { Der16,
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[DHK16]

[PDFBIB](#)

Dernehl, C., Hansen, N., and Kowalewski, S., "Combining Abstract Interpretation with Symbolic Execution for a Static Value Range Analysis of Block Diagrams", in *Proc. Software Engineering and Formal Methods: 14th International Conference, SEFM 2016, Held as Part of STAF 2016, Vienna, Austria, July 4-8, 2016, Proceedings*, 2016, Springer International Publishing, pp. 137-152.

Combining Abstract Interpretation with Symbolic Execution for a Static Value Range Analysis of Block Diagrams

Bibtex entry :

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@inproceedings { DHK16,
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author = { Dernehl, Christian and Hansen, Norman and Kowalewski,
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Conference, SEFM 2016, Held as Part of STAF 2016, Vienna,
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[BSF+16]

PDFBIB

Bohlender, D., Simon, H., Friedrich, N., Kowalewski, S., and Hauck-Stattelmann, S., "Concolic Test Generation for PLC Programs using Coverage Metrics", in *Proc. 13th International Workshop on Discrete Event Systems, WODES 2016, Xi'an, China, May 30 - June 1, 2016*, 2016, IEEE, pp. 432-437.

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Bibtex entry :

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@inproceedings { BSF+16,
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[DKS+16]

[PDFBIB](#)

Dzafic, D., Klein-Ridder, D., Schoonbrood, P., Franke, D., and Kowalewski, S., "Der Bodenbelag-Detektor des eNav-Systems", in *Proc. AGIT Journal für Angewandte Geoinformatik*, 2016, vol. 2-2016, Wichmann Verlag, pp. 318-327.

Der Bodenbelag-Detektor des eNav-Systems

Bibtex entry :

```
@inproceedings { DKS+16,
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[DLS+16]

[PDFBIB](#)

Dzafic, D., Lahr, F., Schoonbrood, P., Franke, D., and Kowalewski, S., "Das Barrierenerkennungssystem von eNav", in *Proc. AGIT Journal für Angewandte Geoinformatik*, 2016, vol. 2-2016, Wichmann Verlag, pp. 298-307.

Das Barrierenerkennungssystem von eNav

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@inproceedings { DLS+16,
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[DSFK17]

[PDFBIB](#)

Dzafic, D., Schoonbrood, P., Dominik, F., and Kowalewski, S., "ENav: A Suitable Navigation System for the Disabled", in *Proc. Ambient Assisted Living*, 2017, Springer International Publishing AG2017, pp. 133-150.

eNav: A Suitable Navigation System for the Disabled

Bibtex entry :

```
@inproceedings { DSFK17,
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[GNK16]

[PDFSlidesBIB](#)

Göbe, F., Ney, O., and Kowalewski, S., "Reusability and Modularity of Safety Specifications for Supervisory Control", in *Proc. of the IEEE International Conference on Emerging Technology & Factory Automation*, 2016, IEEE, pp. 1-8.

Reusability and Modularity of Safety Specifications for Supervisory Control

Bibtex entry :

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@inproceedings { GNK16,
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[BK16]

PDFBIB

Banila, M. and Kowalewski, S., "Ein Ansatz zur automatisierten normgerechten Testplanung für sicherheitskritische eingebettete Software im Automobilbereich", in *Proc. 14. Fachtagung Entwurf komplexer Automatisierungssysteme (EKA)*, 2016, vol. 14, Institut für Automation und Kommunikation e.V. Magdeburg, pp. 1-10.

Ein Ansatz zur automatisierten normgerechten Testplanung für sicherheitskritische eingebettete Software im Automobilbereich

Bibtex entry :

```
@inproceedings { BK16,
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[GHDK16]

[PDFBIB](#)

Gerlitz, T., Hansen Norman, Dernehl, C., and Kowalewski, S., "Artshop: A Continuous Integration and Quality Assessment Framework for Model-Based Software Artifacts", in *Proc. 12. Dagstuhl-Workshop Modelbasierte Entwicklung eingebetteter Systeme (MBEES)*, 2016, fortiss Technischer Bericht, pp. 13-22.

artshop: A Continuous Integration and Quality Assessment Framework for Model-Based Software Artifacts

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@inproceedings { GHDK16,
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[GTNK16]

[PDFBIB](#)

Göbe, F., Timmermanns, T., Ney, O., and Kowalewski, S., "Synthesis Tool for Automation Controller Supervision", in *Proc. of the 13th International Workshop on Discrete Event Systems*, 2016, IEEE, pp. 424-431.

Synthesis Tool for Automation Controller Supervision

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[GK16]

[PDFBIB](#)

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Flow Sensitive Slicing for MATLAB/Simulink Models

Bibtex entry :

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@inproceedings { GK16,
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[GK16a]

[PDFBIB](#)

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Architectural Analysis of MATLAB/Simulink Models with artshop

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@inproceedings { GK16a,  
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[BSK16]

[PDFBIB](#)

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Symbolic Verification of PLC Safety-Applications based on PLCopen Automata

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@inproceedings { BSK16,
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author = { Bohlender, Dimitri and Simon, Hendrik and Kowalewski,
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[SSS16]

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Schlaefer, A., Schupp, S., and Stollenwerk, A., "2nd Workshop on Fail Safety in Medical Cyber-Physical Systems (FS-MCPS)", in *Proc. Software Engineering 2016*, 2016, vol. P-252 in Lecture Notes in Informatics, Gesellschaft für Informatik, pp. 127-128.

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@inproceedings { SSS16,
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[BK15]

[PDFBIB](#)

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Bibtex entry :

```
@inproceedings { BK15,
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[BK15a]

[PDFBIB](#)

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[JGN14a]

PDFBIB

Jansen, C., Göbe, F., and Noll, T., "Generating inductive predicates for symbolic execution of pointer-manipulating programs", in *Proc. of the 7th international conference on graph transformation*, 2014, Springer, pp. 65-80.

Generating inductive predicates for symbolic execution of pointer-manipulating programs

Bibtex entry :

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@inproceedings { JGN14a,
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[JGN14b]

[PDFBIB](#)

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[DKK16]

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[SSJ+16]

PDFBIB

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Bibtex entry :

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@inproceedings { SSJ+16,
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[Ben16]

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Comparative evaluation and improvement of computational approaches to reachability analysis of linear hybrid systems = Methoden zur Erreichbarkeitsanalyse hybrider Systeme

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[BGK15]

[PDFBIB](#)

Ben Makhlof, I., Gan, J., and Kowalewski, S., "A Study on Solving Guard and Invariant Set Intersection in Zonotope-based Reachability of Linear Hybrid Systems", *IFAC-PapersOnLine*, vol. 48, pp. 13-20, 2015, Analysis and Design of Hybrid Systems ADHS Atlanta, GA, USA, Oct. 14-16, 2015

A Study on Solving Guard and Invariant Set Intersection in Zonotope-based Reachability of Linear Hybrid Systems

Bibtex entry :

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[SAC+15]

[PDFBIB](#)

Schupp, S., Abraham, E., Chen, X., Ben Makhlof, I., Frehse, G., Sankaranarayanan, S., and Kowalewski, S., "Current Challenges in the Verification of Hybrid Systems", in *Proc. Cyber Physical Systems. Design, Modeling, and Evaluation - 5th International Workshop, CyPhy 2015, Amsterdam, The Netherlands, October 8, 2015, Proceedings, 2015*, vol. 9361 in Lecture Notes in Computer Science, Springer, pp. 8-24.

Current Challenges in the Verification of Hybrid Systems**Bibtex entry :**

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@inproceedings { SAC+15,
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[DBFK14]

[PDFBIB](#)

Dzafic, D., Baumeister, D., Franke, D., and Kowalewski, S., "Integration von Bodenbelagsinformationen zum energieeffizienten Routen von Elektrorollstühlen", in *Proc. Angewandte Geoinformatik 2014 (Agit)*, 2014, vol. 26 in Beiträge zum AGIT-Symposium Salzburg, Wichmann, pp. 451-460.

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Bibtex entry :

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@inproceedings { DBFK14,
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[KBS+15]

[PDFBIB](#)

Kühn, J., Brendle, C., Stollenwerk, A., Walter, M., Wardeh, N., Rossaint, R., Leonhardt, S., Kowalewski, S., and Kopp, R., "Pulsatile Ansteuerung einer Diagonalblutpumpe", *atp edition - Automatisierungstechnische Praxis*, vol. 10, pp. 52-59, 2015

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Bibtex entry :

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[KBS+15a]

[PDFBIB](#)

Kopp, R., Bensberg, R., Stollenwerk, A., Arens, J., Grottko, O., Walter, M., and Rossaint, R., "Automatic Control of veno-venous Extracorporeal Lung Assist", *Artificial Organs*, 2015, To appear

Automatic Control of veno-venous Extracorporeal Lung Assist

Bibtex entry :

```
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[DHGK15]

[PDFBIB](#)

Dernehl, C., Hansen, N., Gerlitz, T., and Kowalewski, S., "Static Value Range Analysis for Matlab/Simulink-Models", in *Proc. INFORMATIK 2015*, 2015, Douglas W. Cunningham, Petra Hofstedt, Klaus Meer, Ingo Schmitt, pp. 1649-1660.

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Bibtex entry :

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@inproceedings { DHGK15,
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[KGK15]

[PDFBIB](#)

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Bibtex entry :

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@inproceedings { KGK15,
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[GMD15]

[PDFBIB](#)

Gerlitz, T., Minh Tran, Q., and Dziobek, C., "Detection and Handling of Model Smells for MATLAB/Simulink Models", in *Proc. Proceedings of the International Workshop on Modelling in Automotive Software Engineering*, 2015, CEUR, pp. 13-22.

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[BFSK15]

[PDFBIB](#)

Biallas, S., Friedrich, N., Simon, H., and Kowalewski, S., "Automatic Error Cause Localization of Faulty PLC Programs", *IFAC-PapersOnLine*, vol. 48, pp. 79-84, 2015

Automatic Error Cause Localization of Faulty PLC Programs

Bibtex entry :

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@article { BFSK15,
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[SFB+15]

[PDFBIB](#)

Simon, H., Friedrich, N., Biallas, S., Hauck-Stattelmann, S., Schlich, B., and Kowalewski, S., "Automatic Test Case Generation for PLC Programs using Coverage Metrics", in *Proc. International Conference on Emerging Technologies and Factory Automation (ETFA)*, 2015, IEEE, pp. 1-4.

Automatic Test Case Generation for PLC Programs using Coverage Metrics

Bibtex entry :

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@inproceedings { SFB+15,  
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[DLB+14]

[PDFBIB](#)

Dzafic, D., Link, {J. A. B. }, Baumeister, D., Kowalewski, S., and Wehrle, K., "Towards an Indoor Traffic Report - Requirements for Dynamic Route Planning for Wheelchair Users", in *Proc. International Conference on Indoor Positioning and Indoor Navigation*, 2014, IEEE, pp. 1-5.

Towards an Indoor Traffic Report - Requirements for Dynamic Route Planning for Wheelchair Users

Bibtex entry :

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@inproceedings { DLB+14,  
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[BSK+15]

[PDFBIB](#)

Biallas, S., Simon, H., Kowalewski, S., Hauck-Stattelmann, S., and Schlich, B., "Automatische Testfallgenerierung für SPS-Programme mittels Zeilenüberdeckung", in *Proc. AUTOMATION 2015*, 2015, VDI, pp. 100-111.

Automatische Testfallgenerierung für SPS-Programme mittels Zeilenüberdeckung

Bibtex entry :

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@inproceedings { BSK+15,
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[SDK+11]

[PDFBIB](#)

Sasnauskas, R., Dustmann, O. S., Kaminski, B. L., Wehrle, K., Weise, C., and Kowalewski, S., "Scalable symbolic execution of distributed systems", in *Proc. 31st International Conference on Distributed Computing Systems (ICDCS)*, 2011, pp. 333-342.

Scalable symbolic execution of distributed systems

Bibtex entry :

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@inproceedings { SDK+11,
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    Kaminski, Benjamin Lucien and Wehrle, Klaus and Weise,
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```

[HBS+15]

[PDFBIB](#)

Hauck-Stattelmann, S., Biallas, S., Schlich, B., Kowalewski, S., and Jetley, R., "Analyzing the Restart Behavior of Industrial Control Applications", in *Proc. FM 2015: Formal Methods*, 2015, vol. 9109 in Lecture Notes in Computer Science, Springer International Publishing, pp. 585-588.

Analyzing the Restart Behavior of Industrial Control Applications

Bibtex entry :

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@inproceedings { HBS+15,
    keywords = { Static Analysis; Abstract Interpretation; Programmable
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[Gue14]

[PDFBIB](#)

Gückel, D., "Synthesis of State Space Generators for Model Checking Microcontroller Code," PhD Thesis , RWTH Aachen, 2014.

Synthesis of State Space Generators for Model Checking Microcontroller Code

Bibtex entry :

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@phdthesis { Gue14,
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[BHK+15]

[PDFBIB](#)

Brendle, C., Hackmack, K., Kühn, J., Wardeh, M. N., Kopp, R., Rossaint, R., Stollenwerk, A., Kowalewski, S., Misgeld, B., Leonhardt, S., and Walter, M., "In silico evaluation of gas transfer estimation during extracorporeal membrane oxygenation", in *Proc. 9th IFAC Symposium on Biological and Medical Systems*, 2015, vol. 48, IFAC-PapersOnLine, pp. 499-504.

In silico evaluation of gas transfer estimation during extracorporeal membrane oxygenation

Bibtex entry :

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@inproceedings { BHK+15,
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K{"u}hn,
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http://www.sciencedirect.com/science/article/pii/S2405896315020819 },
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[GSK15]

[PDFBIB](#)

Gerlitz, T., Schake, S., and Kowalewski, S., "Duplikatserkennung und Refactoring in Matlab/Simulink-Modellen", in *Proc. 11. Dagstuhl-Workshop Modelbasierte Entwicklung eingebetteter Systeme (MBEES)*, 2015, pp. 17-27.

Duplikatserkennung und Refactoring in Matlab/Simulink-Modellen

Bibtex entry :

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@inproceedings { GSK15,
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[KWS+15]

[PDFBIB](#)

Kühn, J., Wübbels, N., Stollenwerk, A., Walter, M., Brendle, C., Wardeh, N., Rossaint, R., Leonhardt, S., Kowalewski, S., and Kopp, R., "Pulsatile Ansteuerung einer Diagonalblutpumpe", in *Proc. Automation 2015*, 2015, VDI Verlag, pp. 325-339.

Pulsatile Ansteuerung einer Diagonalblutpumpe

Bibtex entry :

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@inproceedings { KWS+15,
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[PBD+12]

[PDFBIB](#)

Pleuss, A., Botterweck, G., Dhungana, D., Polzer, A., and Kowalewski, S., "Model-driven support for product line evolution on feature level", *Journal of Systems and Software*, vol. 85, pp. 2261-2274, 2012

Model-driven support for product line evolution on feature level

Bibtex entry :

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Deepak
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[KSS+15]

[PDFBIB](#)

Kühn, J., Schoonbrood, P., Stollenwerk, A., Walter, M., Brendle, C., Wardeh, N., Rossaint, R., Leonhardt, S., Kowalewski, S., and Kopp, R., "Safety Conflict Analysis in Medical Cyber-Physical Systems using an SMT-Solver", in *Proc. Fail Safety in Medical Cyber-Physical Systems*, 2015, vol. 1337, CEUR Workshop Proceedings, pp. 19-23.

Safety Conflict Analysis in Medical Cyber-Physical Systems using an SMT-Solver

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@inproceedings { KSS+15,
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[SKW+15]

[PDFBIB](#)

Stollenwerk, A., Kühn, J., Walter, M., Brendle, C., Wardeh, N., Rossaint, R., Leonhardt, S., Kowalewski, S., and Kopp, R., "Software-based Prediction of Cannula Occlusion during Extracorporeal Blood Circulation through Networked Medical Data", in *Proc. Fail Safety in Medical Cyber-Physical Systems*, 2015, vol. 1337, CEUR Workshop Proceedings, pp. 1-6.

Software-based Prediction of Cannula Occlusion during Extracorporeal Blood Circulation through Networked Medical Data

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[CSB+15]

PDFBIB

Chen, X., Schupp, S., Ben Makhlof, I., Abraham, E., Frehse, G., and Kowalewski, S., "A benchmark suite for hybrid systems reachability analysis", in *Proc. {NASA} Formal Methods - 7th International Symposium, {NFM} 2015, Pasadena, CA, USA, April 27-29, 2015, Proceedings*, 2015, vol. 9058 in Lecture Notes in Computer Science, Springer, pp. 408-414.

A benchmark suite for hybrid systems reachability analysis

Bibtex entry :

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@inproceedings { CSB+15,
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[FAKK14]

PDFBIB

Förster, M., Auerswald, M., Keldenich, P., and Kowalewski, S., "Semantic interfaces for automotive software components: exemplary development & validation of a practical specification language", RWTH, ESL-TR-2014-AK-02, 2014.

Semantic interfaces for automotive software

components: exemplary development & validation of a practical specification language

Bibtex entry :

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@techreport { FAKK14,
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[FOR14]

[PDFBIB](#)

Förster, M., "Evaluating embedded-software specifications", in *Proc. ISSRE*, 2014.

Evaluating embedded-software specifications

Bibtex entry :

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[Fra15]

[PDFBIB](#)

Franke, D., "Testing life cycle-related properties of mobile applications = Testen von Lebenszykluseigenschaften mobiler Anwendungen," PhD Thesis , 2015.

Testing life cycle-related properties of mobile applications = Testen von Lebenszykluseigenschaften mobiler Anwendungen

Bibtex entry :

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[Pol15]

PDFBIB

Polzer, A., "Ansatz zur variantenreichen und modellbasierten Entwicklung von eingebetteten Systemen unter Berücksichtigung regelungs- und softwaretechnischer Anforderungen = Model-based product-line development of embedded systems considering requirements form control- and software engineering," PhD Thesis , 2015.

Ansatz zur variantenreichen und modellbasierten Entwicklung von eingebetteten Systemen unter Berücksichtigung regelungs- und softwaretechnischer Anforderungen = Model-based product-line development of embedded systems considering requirements form control- and software engineering

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[KGK14]

PDFBIB

Kalkov, I., Gurchian, A., and Kowalewski, S., "Predictable Broadcasting of Parallel Intents in Real-Time Android", in *Proc. 12th International Workshop on Java Technologies for Real-time and Embedded Systems (JTRES)*, 2014, ACM, pp. 57-66.

Predictable Broadcasting of Parallel Intents in Real-Time Android

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@inproceedings { KGK14,
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[RFB14]

PDFBIB

Reinbacher, T., Fuegger, M., and Brauer, J., "Runtime verification of embedded real-time systems", *Formal methods in system design*, vol. 44, pp. 203-239, 2014

Runtime verification of embedded real-time systems

Bibtex entry :

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@article { RFB14,
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[OKK14]

[PDFBIB](#)

Obster, M., Kalkov, I., and Kowalewski, S., "Development and Execution of PLC Programs on Real-Time Capable Mobile Devices", in *Proc. 19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA)*, 2014, IEEE.

Development and Execution of PLC Programs on Real-Time Capable Mobile Devices

Bibtex entry :

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[SBSK14]

[PDFBIB](#)

Stattelmann, S., Biallas, S., Schlich, B., and Kowalewski, S., "Applying Static Code Analysis on Industrial Controller Code", in *Proc. 19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA)*, 2014, IEEE, Work in Progress Best Paper Award.

Applying Static Code Analysis on Industrial Controller

Code

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@inproceedings { SBSK14,
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[DKFK15]

[PDFBIB](#)

Dzafic, D., Klug, S., Franke, D., and Kowalewski, S., "Routing über Flächen mit SpiderWebGraph", in *Proc. Journal für angewandte Geoinformatik 1-2015*, 2015, Wichmann Verlag, pp. 516-525.

Routing über Flächen mit SpiderWebGraph

Bibtex entry :

```
@inproceedings { DKFK15,
  author = { Dzafic, Dzenan and Klug, Stefan and Franke, Dominik and
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  booktitle = { Journal f{\u}r angewandte Geoinformatik 1-2015 },
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[SKB+14]

[PDFBIB](#)

Stollenwerk, A., Kühn, J., Brendle, C., Walter, M., Arens, J., Wardeh, M. N., Kowalewski, S., and Kopp, R., "Model-based supervision of a blood pump", in *Proc. 19th World Congress of the International Federation of Automatic Control*, 2014, pp. 6593-6598.

Model-based supervision of a blood pump

Bibtex entry :

```
@inproceedings { SKB+14,
  pages = { 6593-6598 },
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```

[FK14]

[PDFBIB](#)

Franke, D. and Kowalewski, S., "Concept and Experiences on Using a Wiki-Based System for Software-Related Seminar Papers", in *Proc. Information Technology and Open Source: Applications for Education, Innovation, and Sustainability*, 2014, vol. 7991 in Lecture Notes in Computer Science, Springer Berlin Heidelberg, pp. 140-146.

Concept and Experiences on Using a Wiki-Based System for Software-Related Seminar Papers

Bibtex entry :

```
@inproceedings { FK14,
  author = { Franke, Dominik and Kowalewski, Stefan },
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Sara
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Software-Related Seminar Papers },
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for
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series = { Lecture Notes in Computer Science },
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```

[DF14]

[PDFBIB](#)

Dzafic, D. and Franke, D., "Integration von Informationen über die Bodenbeschaffenheit in das eNav-System", in *Proc. Gesellschaft für Informatik Seminars, Informatiktage, 2014*, Gesellschaft für Informatik e.V., pp. 123-126.

Integration von Informationen über die Bodenbeschaffenheit in das eNav-System

Bibtex entry :

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@inproceedings { DF14,
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[RBH+14]

[PDFBIB](#)

Reinbacher, T., Brauer, J., Horauer, M., Steininger, A., and Kowalewski, S., "Runtime verification of microcontroller binary code", in *Proc. Science of computer programming, 2014*, vol. 80, Elsevier, pp. 109-129.

Runtime verification of microcontroller binary code

Bibtex entry :

```
@inproceedings { RBH+14,  
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  booktitle = { Science of computer programming },  
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```

[BKSS14]

PDFBIB

Biallas, S., Kowalewski, S., Stattelmann, S., and Schlich, B., "Efficient Handling of States in Abstract Interpretation of Industrial Programmable Logic Controller Code", in *Proc. Proceedings of the 12th International Workshop on Discrete Event Systems*, Cachan, France, 2014, IFAC, pp. 400-405.

Efficient Handling of States in Abstract Interpretation of Industrial Programmable Logic Controller Code

Bibtex entry :

```
@inproceedings { BKSS14,  
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[Bra13]

[PDFBIB](#)

Brauer, J., "Automatic Abstraction for Bit-Vectors using Decision Procedures," PhD Thesis , 2013.

Automatic Abstraction for Bit-Vectors using Decision Procedures

Bibtex entry :

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@phdthesis { Bra13,
  author = { Brauer, J{\\"o}rg },
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[PMS+13]

[PDFBIB](#)

Pomprapa, A., Misgeld, B., Sorgato, V., Stollenwerk, A., Walter, M., and Leonhardt, S., "Robust Control of End-Tidal CO₂ using the H_∞ Loop-Shaping Approach", *Acta Polytechnica*, vol. 53, pp. 895-900, 2013

Robust Control of End-Tidal CO₂ using the H_∞ Loop-Shaping Approach

Bibtex entry :

```
@article { PMS+13,
  author = { Pomprapa, Anake and Misgeld, Berno and Sorgato,
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    and Stollenwerk, Andr{'e} and Walter, Marian and Leonhardt,
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[SDK13]

[PDFBIB](#)

Schellen, J., Dernehl, C., and Kowalewski, S., "Optimizing Image Processing on OMAP3 with driver-level frame buffering and color space conversion", in *Proc. International Micro Air Vehicle Conference and Flight Competition (IMAV)*, 2013, IMAV, pp. 1-8.

Optimizing Image Processing on OMAP3 with driver-level frame buffering and color space conversion

Bibtex entry :

```
@inproceedings { SDK13,
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    for_reporting_period = { 2013 },
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```

[WSB+13]

[PDFBIB](#)

Walter, M., Stollenwerk, A., Bensberg, R., Kopp, R., and Leonhardt, S., "Smart ECLA—closed loop control of O2 and CO2 for management of extracorporeal lung assist", *Journal of Critical Care*, vol. 28, p. e41-e42, 2013

Smart ECLA—closed loop control of O2 and CO2 for management of extracorporeal lung assist

Bibtex entry :

```
@article { WSB+13,
  author = { Walter, Marian and Stollenwerk, Andre and Bensberg, Ralf
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  year = { 2013 },
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[Dia14]

[PDFBIB](#)

Diab, H., "Experimental validation and mathematical analysis of cooperative vehicles in a platoon," PhD Thesis , 2014.

Experimental validation and mathematical analysis of cooperative vehicles in a platoon

Bibtex entry :

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@phdthesis { Dia14,
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for_reporting_period = { 2014 },
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[MER14]

[PDFBIB](#)

Merschen, D., "Integration und Analyse von Artefakten in der modellbasierten Entwicklung eingebetteter Software," PhD Thesis , 2014.

Integration und Analyse von Artefakten in der modellbasierten Entwicklung eingebetteter Software

Bibtex entry :

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@phdthesis { MER14,
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[AFKK13]

[PDFBIB](#)

Armoush, A., Franke, D., Kalkov, I., and Kowalewski, S., "An Approach for Using Mobile Devices In Industrial Safety-Critical Embedded Systems", in *Proc. 5th International Conference on Mobile Computing, Applications and Services (MobiCASE)*, 2013, Springer, p. 4.

An Approach for Using Mobile Devices In Industrial Safety-Critical Embedded Systems

Bibtex entry :

```
@inproceedings { AFKK13,
author = { Armoush, Ashraf and Franke, Dominik and Kalkov, Igor and
Kowalewski, Stefan },
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title = { An Approach for Using Mobile Devices In Industrial
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publisher = { Springer },
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url = { http://publications.embedded.rwth-aachen.de/file/56 },
for_reporting_period = { 2013 },
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```

[FOR12]

[PDFBIB](#)

Förster, M., "Dependable reuse & guarded integration of automotive software components - approaches to conditional specification & assurance", RWTH, ESL-2012/FAT-P, 2012.

Dependable reuse & guarded integration of automotive software components - approaches to conditional specification & assurance

Bibtex entry :

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@techreport { FOR12,
  author = { F{"o}rster, Marc },
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  pages = { 1--78 },
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              reasoning,
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[For13]

PDFBIB

Förster, M., "Conditional software specification & assurance - a practical assessment of contract-based approaches", in *Proc. ISSRE 2013*, 2013, Invited talk.

Conditional software specification & assurance - a practical assessment of contract-based approaches

Bibtex entry :

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@conference { For13,
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  for_reporting_period = { 2013 },
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[GKS+13]

PDFBIB

Gerlitz, T., Kalkov, I., Schommer, J., Franke, D., and Kowalewski, S., "Non-Blocking Garbage Collection for Real-Time Android", in *Proc. 11th International Workshop on Java Technologies for Real-time and Embedded Systems (JTRES)*, 2013, ACM, pp. 108-117.

Non-Blocking Garbage Collection for Real-Time Android

Bibtex entry :

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@inproceedings { GKS+13,
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Franke, Dominik and Kowalewski, Stefan },
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  booktitle = { 11th International Workshop on Java Technologies for
Real-time and Embedded Systems (JTRES) },
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}

[SGK13]

[PDFBIB](#)

Schommer, J., Gerlitz, T., and Kowalewski, S., "Load and Quality Cooperation for Distributed Embedded Systems Using Different Modes of Operation", in *Proc. 7th Junior Researcher Workshop on Real-Time Computing*, 2013, (ACM), pp. 45-48.

Load and Quality Cooperation for Distributed Embedded Systems Using Different Modes of Operation

Bibtex entry :

```
@inproceedings { SGK13,
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[WGMK13]

[PDFBIB](#)

Wiechowski, N., Gerlitz, T., Merschen, D., and Kowalewski, S., "Ein Ansatz zum merkmalsbasierten Konsistenzmanagement in der Produktlinienentwicklung", in *Proc. INFORMATIK 2013 - Informatik angepasst an Mensch, Organisation und Umwelt*, 2013, vol. P-220 in Lecture Notes in Informatics (LNI), Köllen Druck+Verlag GmbH, Bonn, pp. 2502-2516.

Ein Ansatz zum merkmalsbasierten Konsistenzmanagement in der Produktlinienentwicklung

Bibtex entry :

```
@inproceedings { WGMK13,
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der
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booktitle = { INFORMATIK 2013 - Informatik angepasst an Mensch,
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series = { Lecture Notes in Informatics (LNI) },
volume = { P-220 },
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[BOCH13]

[PDFBIB](#)

Biallas, S., Olesen, M. C., Cassez, F., and Huuck, R., "PtrTracker: Pragmatic Pointer Analysis", in *Proc. 13th IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM 2013)*, 2013, IEEE, pp. 69-73.

PtrTracker: Pragmatic Pointer Analysis

Bibtex entry :

```

@inproceedings { BOCH13,
    doi = { 10.1109/SCAM.2013.6648186 },
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    booktitle = { 13th IEEE International Working Conference on Source
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[BKK13]

PDFBIB

Brauer, J., King, A., and Kowalewski, S., "Abstract interpretation of microcontroller code: Intervals meet congruences", *Science of Computer Programming. Methods of Software Design: Techniques and Applications*, vol. 78, issue 7, pp. 862-883, 2013

Abstract interpretation of microcontroller code: Intervals meet congruences

Bibtex entry :

```
@article { BKK13,
  author = { Brauer, J{"o}rg and King, Andy and Kowalewski, Stefan
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  journal = { Science of Computer Programming. Methods of Software
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[BGK13]

PDFBIB

Biallas, S., Giacobbe, M., and Kowalewski, S., "Predicate Abstraction for Programmable Logic Controllers", in *Proc. 18th International Workshop on Formal Methods for Industrial Critical Systems (FMICS 2013)*, 2013, vol. 8187 in Lecture Notes in Computer Science, Springer Berlin Heidelberg, pp. 123-138.

Predicate Abstraction for Programmable Logic Controllers

Bibtex entry :

```
@inproceedings { BGK13,
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[BBK13]

PDFBIB

Biallas, S., Bohlender, D., and Kowalewski, S., "Boolean and Modular Abstractions for Programmable Logic Controllers", in *Proc. Dependable Control of Discrete Systems (DCDS'13)*, 2013, IEEE, pp. 97-102.

Boolean and Modular Abstractions for Programmable Logic Controllers

Bibtex entry :

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@inproceedings { BBK13,
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[DFBK13]

[PDFBIB](#)

Dzafic, D., Franke, D., Baumeister, D., and Kowalewski, S., "Modifikation des A*-Algorithmus für energieeffizientes 3D-Routing", in *Proc. Angewandte Geoinformatik 2013 - Beiträge zum 25. AGIT-Symposium (AGIT)*, 2013, Wichmann Verlag, pp. 414-423.

Modifikation des A*-Algorithmus für energieeffizientes 3D-Routing

Bibtex entry :

```
@inproceedings { DFBK13,  
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[DF13]

[PDFBIB](#)

Dzafic, D. and Franke, D., "Entwicklung und Evaluation eines Navigationssystems für Elektrorollstühle", in *Proc. Gesellschaft für Informatik Seminars, Informatiktage*, 2013, Gesellschaft für Informatik e.V., pp. 185-188.

Entwicklung und Evaluation eines Navigationssystems für Elektrorollstühle

Bibtex entry :

```
@inproceedings { DF13,  
  author = { Dzafic, Dzenan and Franke, Dominik },  
  title = { Entwicklung und Evaluation eines Navigationssystems  
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    Elektrorollst{\u}hle },
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```

[FHK13]

PDFBIB

Franke, D., Hempel, S., and Kowalewski, S., "Specifying Life Cycle Requirements in a Natural-like Language and ptLTL", in *Proc. 8th Testing: Academic and Industrial Conference - Practice and Research Techniques (TAIC PART)*, 2013, IEEE Computer Society, pp. 120-121.

Specifying Life Cycle Requirements in a Natural-like Language and ptLTL

Bibtex entry :

```

@inproceedings { FHK13,
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Stefan },
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Practice
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    timestamp = { 2013.05.06 },
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[HF13]

PDFBIB

Hansen, N. and Franke, D., "Reverse Engineering des Windows Phone Process Execution Models", in *Proc. Gesellschaft für Informatik Seminars, Informatiktage*, 2013, Gesellschaft für Informatik e.V., pp. 83-86.

Reverse Engineering des Windows Phone Process Execution Models

Bibtex entry :

```
@inproceedings { HF13,
  author = { Hansen, Norman and Franke, Dominik },
  title = { Reverse Engineering des Windows Phone Process Execution
    Models },
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```

[BDK13]

PDFBIB

Ben Makhlof, I., Diab, H., and Kowalewski, S., "Reachability Analysis for Managing Platoons at Intersections", in *Proc. 21st Mediterranean Conference on Control & Automation (MED) Plataniias-Chania, Crete, Greece, June 25-28,, 2013*, IEEE, pp. 1141-1147.

Reachability Analysis for Managing Platoons at Intersections

Bibtex entry :

```
@inproceedings { BDK13,
  author = { Ben Makhlof, Ibtissem and Diab, Hilal and Kowalewski,
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Intersections },
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(MED)
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for_reporting_period = { 2013 },  
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```

[BHK13]

PDFBIB

Ben Makhlof, I., Hänsch, P., and Kowalewski, S., "Comparison of Reachability Methods for Uncertain Linear Time-Invariant Systems", in *Proc. ECC13: European Control Conference*, Zurich, Switzerland July 17-19,, 2013, EUCA, pp. 1101-1106.

Comparison of Reachability Methods for Uncertain Linear Time-Invariant Systems

Bibtex entry :

```
@inproceedings { BHK13,  
  author = { Ben Makhlof, Ibtissem and Hänsch, Paul and  
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```

[BKK+13]

PDFBIB

Biallas, S., Kamin, V., Kowalewski, S., Schlich, B., Sehestedt, S., and Stattelmann, S., "Verifikation von sicherheitsgerichteten SPS-Programmen mit Hilfe von Safety-Automaten", in *Proc. Automation 2013*, 2013 in VDI Berichte, VDI-Verlag, pp. 75-79, Langfassung auf CD-ROM.

Verifikation von sicherheitsgerichteten SPS-Programmen mit Hilfe von Safety-Automaten

Bibtex entry :

```
@inproceedings { BKK+13,  
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  editor = { VDI Wissensforum },
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title = { Verifikation von sicherheitsgerichteten SPS-Programmen
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```

[WBB+11]

[PDFBIB](#)

Walter, M., Brendle, C., Bensberg, R., Kopp, R., Arens, J., Stollenwerk, A., and Leonhardt, S., "Closed loop physiological ECMO control", in *Proc. 5th European Conference of the International Federation for Medical and Biological Engineering*, Heidelberg, 2011, vol. 37 in IFMBE Proceedings, Springer, pp. 319-322.

Closed loop physiological ECMO control

Bibtex entry :

```

@inproceedings { WBB+11,
  location = { Budapest },
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  author = { Walter, Marian and Brendle, Christian and Bensberg, Ralf
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and Leonhardt, Steffen },
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  title = { Closed loop physiological ECMO control },
  booktitle = { 5th European Conference of the International
Federation for
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  series = { IFMBE Proceedings },
  publisher = { Springer },
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[PAL13]

[PDFBIB](#)

Palczynski, J., "Time-Continuous Behaviour Comparison Based on Abstract Models," PhD Thesis , 2013.

Time-Continuous Behaviour Comparison Based on Abstract Models

Bibtex entry :

```
@phdthesis { PAL13,
  author = { Palczynski, Jacob },
  title = { Time-Continuous Behaviour Comparison Based on Abstract
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  note = { AIB-2013-20 },
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[REK13]

[PDFBIB](#)

Reke, M., "Modellbasierte Entwicklung automobiler Steuerungssysteme in kleinen und mittelständischen Unternehmen = Model-based development of automotive control systems in small and medium enterprises," PhD Thesis , 2013.

Modellbasierte Entwicklung automobiler Steuerungssysteme in kleinen und mittelständischen Unternehmen = Model-based development of automotive control systems in small and medium enterprises

Bibtex entry :

```
@phdthesis { REK13,
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author = { Reke, Michael },
title = { Modellbasierte Entwicklung automobiler Steuerungssysteme
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type = { Dissertation },
year = { 2013 },
issn = { 0935-3232 },
illkey = { thesis },
for_reporting_period = { 2014 },
}
```

[Sto13]

[PDFBIB](#)

Stollenwerk, A., "Ein modellbasiertes Sicherheitskonzept für die extrakorporale Lungenunterstützung," PhD Thesis , 2013.

Ein modellbasiertes Sicherheitskonzept für die extrakorporale Lungenunterstützung

Bibtex entry :

```
@phdthesis { Sto13,
  isbn = { 978-3-8440-2239-1 },
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```

[BBK12c]

[PDFBIB](#)

Beckschulze, E., Biallas, S., and Kowalewski, S., "Static Analysis of Lockless Microcontroller C Programs", in *Proc. Proceedings Seventh Conference on Systems Software Verification (SSV 2012)*, 2012 in EPTCS, EPTCS, pp. 103-114.

Static Analysis of Lockless Microcontroller C Programs

Bibtex entry :

```
@inproceedings { BBK12c,  
  location = { Sydney, Australia },  
  author = { Beckschulze, Eva and Biallas, Sebastian and Kowalewski,  
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  booktitle = { Proceedings Seventh Conference on Systems Software  
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  for_reporting_period = { 2013 },  
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[HK12]

[PDFBIB](#)

Hänsch, P. and Kowalewski, S., "Invariants for LTI Systems with Uncertain Input", in *Proc. Reachability Problems*, 2012, Springer, pp. 137-148.

Invariants for LTI Systems with Uncertain Input

Bibtex entry :

```
@inproceedings { HK12,  
  author = { H{"a"}nsch, Paul and Kowalewski, Stefan },  
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  for_reporting_period = { 2012 },  
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```

[MDHK12]

[PDFBIB](#)

Merschen, D., Duhr, Y., Hedenetz, B., and Kowalewski, S., "Evolutionsunterstützung für komplexe, modellbasierte Software-Produktlinien", in *Proc. Embedded-Software-Engineering-Kongress (ESE)*, 2012, ELEKTRONIKPRAXIS und MicroConsult, pp. 65-71.

Evolutionsunterstützung für komplexe, modellbasierte Software-Produktlinien

Bibtex entry :

```
@inproceedings { MDHK12,
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modellbasierte
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```

[BK12]

[PDFBIB](#)

Barakat, K. and Kowalewski, S., "Modeling and Verification of Network Protocol Specs using Timed Pi-Calculus", in *Proc. The 4th International Workshop on Mobile Computing and Networking Technologies 2012 (WMCNT-2012)*, Saint-Petersburg, Russia, 2012, IEEE Press, pp. 735-742.

Modeling and Verification of Network Protocol Specs using Timed {Pi-Calculus}

Bibtex entry :

```
@inproceedings { BK12,
  address = { Saint-Petersburg, Russia },
  doi = { 10.1109/ICUMT.2012.6459786 },
  author = { Barakat, Kamal and Kowalewski, Stefan },
  title = { Modeling and Verification of Network Protocol Specs using
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  booktitle = { The 4th International Workshop on Mobile Computing
and
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for_reporting_period = { 2012 },
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[BBK12b]

[PDFBIB](#)

Biallas, S., Brauer, J., and Kowalewski, S., "Arcade.PLC: A Verification Platform for Programmable Logic Controllers", in *Proc. Proceedings of the 27th IEEE/ACM International Conference on Automated Software Engineering*, 2012 in ASE 2012, ACM, pp. 338-341.

{Arcade.PLC}: A Verification Platform for Programmable Logic Controllers

Bibtex entry :

```
@inproceedings { BBK12b,
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Logic
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Conference on
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```

[FRK12]

[PDFBIB](#)

Franke, D., Royé, T., and Kowalewski, S., "AndroLIFT: A Tool for Android Application Life Cycles", in *Proc. 4th International Conference on Advances in System Testing and Validation Lifecycle (VALID)*, 2012, Xpert, pp. 28-33.

AndroLIFT: A Tool for Android Application Life Cycles

Bibtex entry :

```
@inproceedings { FRK12,
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Stefan },
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  booktitle = { 4th International Conference on Advances in System
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[MGPK12]

PDFBIB

Merschen, D., Gleis, R., Pott, J., and Kowalewski, S., "Analysis of Simulink Models Using Databases and Model Transformations", in *Proc. 8th International Workshop on Model-based Methodologies for Pervasive and Embedded Software (MOMPES '12)*, 2012 in *Lecture Notes in Computer Science*, Springer Berlin Heidelberg, pp. 69-84.

Analysis of Simulink Models Using Databases and Model Transformations

Bibtex entry :

```
@inproceedings { MGPK12,
  location = { Essen, Germany },
  author = { Merschen, Daniel and Gleis, Robert and Pott, Julian and
Kowalewski, Stefan },
  editor = { Machando, Ricardo J. and Maciel, Rita Suzana P. and
Rubin,
Julia and Botterweck, Goetz },
  title = { Analysis of Simulink Models Using Databases and Model
Transformations },
  booktitle = { 8th International Workshop on Model-based
Methodologies for
Pervasive and Embedded Software (MOMPES '12) },
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series = { Lecture Notes in Computer Science },
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[KFSK12]

[PDFBIB](#)

Kalkov, I., Franke, D., Schommer, J. F., and Kowalewski, S., "A Real-time Extension to the Android Platform", in *Proc. 10th International Workshop on Java Technologies for Real-time and Embedded Systems (JTRES)*, 2012, ACM, pp. 105-114.

A Real-time Extension to the Android Platform

Bibtex entry :

```
@inproceedings { KFSK12,
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  booktitle = { 10th International Workshop on Java Technologies for
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  publisher = { ACM },
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  for_reporting_period = { 2012 },
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```

[BKS12c]

[PDFBIB](#)

Biallas, S., Kowalewski, S., and Schlich, B., "Automatische Wertebereichsanalyse -- Formale Verifikation für SPS-Programme", *Automatisierungstechnische Praxis (atp EDITION)*, 54. Jahrgang, 7-8/2012, pp. 68-75, 2012

Automatische Wertebereichsanalyse -- Formale Verifikation für SPS-Programme

Bibtex entry :

```
@article { BKS12c,  
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  for_reporting_period = { 2012 },  
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[DBK12]

PDFBIB

Diab, H., Ben Makhlof, I., and Kowalewski, S., "A Platoon of Vehicles Approaching an Intersection: A Testing Platform for Safe Intersections", in *Proc. 15th IEEE Intelligent Transportation Systems Conference*, 2012, IEEE, pp. 1918-1923.

A Platoon of Vehicles Approaching an Intersection: A Testing Platform for Safe Intersections

Bibtex entry :

```
@inproceedings { DBK12,  
  doi = { 10.1109/ITSC.2012.6338822 },  
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  title = { A Platoon of Vehicles Approaching an Intersection: A  
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            Platform for Safe Intersections },  
  booktitle = { 15th IEEE Intelligent Transportation Systems  
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year = { 2012 },
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[BBK12a]

[PDFBIB](#)

Beckschulze, E., Brauer, J., and Kowalewski, S., "Access-Based Localization for Octagons", *Electronic Notes in Theoretical Computer Science*, pp. 29-40, 2012, Proceedings of the Fourth International Workshop on Numerical and Symbolic Abstract Domains, NSAD 2012

Access-Based Localization for Octagons

Bibtex entry :

```
@article { BBK12a,
  booktitle = { The Fourth International Workshop on Numerical and
Symbolic
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Stefan },
  title = { Access-Based Localization for Octagons },
  journal = { Electronic Notes in Theoretical Computer Science },
  year = { 2012 },
  pages = { 29--40 },
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http://www.sciencedirect.com/science/article/pii/S1571066112000564 },
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```

[FEK12]

[PDFBIB](#)

Franke, D., Elsemann, C., and Kowalewski, S., "Reverse Engineering and Testing Service Life Cycles of Mobile Platforms", in *Proc. 2nd DEXA Workshop on Information Systems for Situation Awareness and Situation Management (ISSASiM)*, 2012, IEEE Computer Society, pp. 16-20.

Reverse Engineering and Testing Service Life Cycles of Mobile Platforms

Bibtex entry :

```
@inproceedings { FEK12,
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Stefan },
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  for_reporting_period = { 2012 },
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[BKN12]

PDFBIB

Barakat, K., Kowalewski, S., and Noll, T., "A Native Approach to Modeling Timed Behavior in the Pi-Calculus", in *Proc. 6th International Symposium on Theoretical Aspects of Software Engineering*, 2012, IEEE Computer Society, pp. 253-256.

A Native Approach to Modeling Timed Behavior in the Pi-Calculus

Bibtex entry :

```
@inproceedings { BKN12,
  author = { Barakat, Kamal and Kowalewski, Stefan and Noll, Thomas
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Pi-Calculus },
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  for_reporting_period = { 2012 },
}
```

[FDBK12]

[PDFBIB](#)

Franke, D., Dzafic, D., Baumeister, D., and Kowalewski, S., "Energieeffizientes Routing für Elektrorollstühle", in *Proc. 13. Aachener Kolloquium Mobilität und Stadt (AMUS/ACMOTÉ)*, 2012, RWTH Aachen, pp. 65-68.

Energieeffizientes Routing für Elektrorollstühle

Bibtex entry :

```
@inproceedings { FDBK12,
  author = { Franke, Dominik and Dzafic, Dzenan and Baumeister, Danni
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  title = { Energieeffizientes Routing f{"u}r Elektrorollst{"u}hle
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  booktitle = { 13. Aachener Kolloquium Mobilit{"a}t und Stadt
(AMUS/ACMOTÉ) },
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[FSK12]

[PDFBIB](#)

Franke, D., Schommer, J., and Kowalewski, S., "Softwarequalität in der Mobilen Welt: Testen von Lebenszyklen Mobiler Applikationen", in *Proc. Embedded Software Engineering Kongress (ESE)*, 2012, ELEKTRONIKPRAXIS, pp. 478-482.

Softwarequalität in der Mobilen Welt: Testen von Lebenszyklen Mobiler Applikationen

Bibtex entry :

```
@inproceedings { FSK12,
  author = { Franke, Dominik and Schommer, John and Kowalewski,
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[WBS+12]

[PDFBIB](#)

Walter, M., Brendle, C., Stollenwerk, A., Kopp, R., Arens, J., Bensberg, R., and Leonhardt, S., "Patient oriented closed loop control of extracorporeal lung assist", in *Proc. Journal of Critical Care*, 2012, vol. 28, Elsevier, p. e8-e9.

Patient oriented closed loop control of extracorporeal lung assist

Bibtex entry :

```
@inproceedings { WBS+12,
  doi = { 10.1016/j.jcrc.2012.10.032 },
  author = { Walter, Marian and Brendle, Christian and Stollenwerk,
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[KRS12]

[PDFBIB](#)

Kowalewski, S., Rumpe, B., and Stollenwerk, A., "Cyber-Physical Systems - eine Herausforderung an die Automatisierungstechnik?", in *Proc. Automation 2012*, 2012 in VDI Berichte, VDI-Verlag, pp. 113-116, Langfassung auf CD-Rom.

Cyber-Physical Systems - eine Herausforderung an die Automatisierungstechnik?

Bibtex entry :

```
@inproceedings { KRS12,  
  author = { Kowalewski, Stefan and Rumpe, Bernhard and Stollenwerk,  
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[BKS12b]

[PDFBIB](#)

Biallas, S., Kowalewski, S., and Schlich, B., "Range and Value-Set Analysis for Programmable Logic Controllers", in *Proc. Proceedings of the 11th International Workshop on Discrete Event Systems*, Guadalajara, Mexico, 2012, IFAC, pp. 378-383.

Range and Value-Set Analysis for Programmable Logic Controllers

Bibtex entry :

```
@inproceedings { BKS12b,  
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[FKW12]

PDFBIB

Franke, D., Kowalewski, S., and Weise, C., "A Mobile Software Quality Model", in *Proc. 12th International Conference on Quality Software (QSIC)*, 2012, IEEE Computer Society, pp. 154-157.

A Mobile Software Quality Model

Bibtex entry :

```
@inproceedings { FKW12,
  author = { Franke, Dominik and Kowalewski, Stefan and Weise, Carsten },
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  booktitle = { 12th International Conference on Quality Software (QSIC) },
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[GDFK12]

PDFBIB

Gathmann, F., Dernehl, C., Franke, D., and Kowalewski, S., "An integrated vision aided GPS/INS Navigation System for ultra-low-cost MAVs", in *Proc. International Micro Air Vehicle Conference (IMAV)*, 2012, IMAV, pp. 1-8.

An integrated vision aided GPS/INS Navigation System for ultra-low-cost MAVs

Bibtex entry :

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@inproceedings { GDFK12,
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[BBKK12]

PDFBIB

Biallas, S., Brauer, J., King, A., and Kowalewski, S., "Loop Leaping with Closures", in *Proc. 19th Static Analysis Symposium, 2012* in Lecture Notes in Computer Science, Springer Berlin Heidelberg, pp. 214-230.

Loop Leaping with Closures

Bibtex entry :

```
@inproceedings { BBKK12,
  author = { Biallas, Sebastian and Brauer, J{"o}rg and King, Andy
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[MPK12]

PDFBIB

Merschen, D., Pott, J., and Kowalewski, S., "Integration and Analysis of Design Artefacts in Embedded Software Development", in *Proc. The 1st IEEE International Workshop on Tools in Embedded Systems Design Process (TIP '12), Izmir, Turkey, 2012*, IEEE, pp. 503-508.

Integration and Analysis of Design Artefacts in Embedded Software Development

Bibtex entry :

```
@inproceedings { MPK12,
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[SFLK12]

PDFBIB

Schommer, J. F., Franke, D., Lange, T., and Kowalewski, S., "Load Balancing for Cross Layer Communication", in *Proc. 36th Computer Software and Applications Conference Workshops (COMPSACW)*, 2012, IEEE Computer Society, pp. 476-481.

Load Balancing for Cross Layer Communication

Bibtex entry :

```
@inproceedings { SFLK12,
  author = { Schommer, John F. and Franke, Dominik and Lange, Tim and Kowalewski, Stefan },
  title = { Load Balancing for Cross Layer Communication },
  booktitle = { 36th Computer Software and Applications Conference Workshops (COMPSACW) },
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}

[BKS12a]

PDFBIB

Biallas, S., Kowalewski, S., and Schlich, B., "Automatische Wertebereichsanalyse von SPS-Programmen", in *Proc. AUTOMATION 2012, Baden-Baden, Germany*, Düsseldorf, 2012 in VDI-Berichte, VDI-Verlag, pp. 79-83, Long version (12 pages) on CD-ROM.

Automatische Wertebereichsanalyse von SPS-Programmen

Bibtex entry :

```
@inproceedings { BKS12a,
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[BDK12]

PDFBIB

Ben Makhlof, I., Diab, H., and Kowalewski, S., "Safety Verification of a Controlled Cooperative Platoon Under Loss of Communication Using Zonotopes", in *Proc. ADHS 2012, Eindhoven, NL*, 2012, Inproceeding of the 4th IFAC Conference on Analysis and Design of Hybrid Systems (ADHS 12), pp. 333-338.

Safety Verification of a Controlled Cooperative Platoon Under Loss of Communication Using Zonotopes

Bibtex entry :

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@inproceedings { BDK12,
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[HDBK11]

[PDFBIB](#)

Hänsch, P., Diab, H., Ben Makhlouf, I., and Kowalewski, S., "Reachability Analysis of Linear Systems with Stepwise Constant Inputs", in *Proc. Electronic Notes in Theoretical Computer Science*, 2011, vol. 297, Elsevier, pp. 61-74, Proceedings of the first workshop on Hybrid Autonomous System (HAS2011).

Reachability Analysis of Linear Systems with Stepwise Constant Inputs

Bibtex entry :

```

@inproceedings { HDBK11,
    author = { H{"a}nsch, Paul and Diab, Hilal and Ben Makhlouf,
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System (HAS2011) },
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```

[BS12]

PDFBIB

Brauer, J. and Simon, A., "Inferring Definite Counterexamples Through Under-Approximation", in *Proc. NASA Formal Methods*, 2012, vol. 7226 in Lecture Notes in Computer Science, Springer, pp. 54-69.

Inferring Definite Counterexamples Through Under-Approximation

Bibtex entry :

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@inproceedings { BS12,
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[MWK10]

PDFBIB

Mitsching, R., Weise, C., and Kowalewski, S., "Design Patterns for Integrating Variability in Timed Automata", in *Proc. 4th IEEE International Conference on Secure Software Integration and Reliability*, 2010, IEEE Computer Society, pp. 38-45.

Design Patterns for Integrating Variability in Timed Automata

Bibtex entry :

```
@inproceedings { MWK10,
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title = { Design Patterns for Integrating Variability in Timed Automata },
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```

[MHRK08]

PDFBIB

Michailidis, A., Hedenetz, B., Ringler, T., and Kowalewski, S., "Virtuelle Integration von vernetzten Funktionen in frühen Entwicklungsphasen", in *Proc. 28. Tagung Elektronik im Kraftfahrzeug*, 2008, EXPERT-VERLAG, pp. 151-167.

Virtuelle Integration von vernetzten Funktionen in frühen Entwicklungsphasen

Bibtex entry :

```
@inproceedings { MHRK08,
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[MRHK10]

PDFBIB

Michailidis, A., Ringler, T., Hedenetz, B., and Kowalewski, S., "Virtuelle Integration modellbasierter Fahrzeugfunktionen unter AUTOSAR", *ATZelektronik*, vol. 1, pp. 32-37, 2010

Virtuelle Integration modellbasierter Fahrzeugfunktionen unter AUTOSAR

Bibtex entry :

```
@article { MRHK10,  
  author = { Michailidis, Alexander and Ringler, Thomas and Hedenetz,  
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[MSH+10]

PDFBIB

Michailidis, A., Spieth, U., Hedenetz, B., Ringler, T., and Kowalewski, S., "Test Front Loading in Early Stages of Automotive Software Development Based on AUTOSAR", in *Proc. Design, Automation and Test in Europe (DATE) Conference, 2010*, European Design and Automation Association, pp. 435-440.

Test Front Loading in Early Stages of Automotive Software Development Based on AUTOSAR

Bibtex entry :

```
@inproceedings { MSH+10,  
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[FKWP12]

[PDFBIB](#)

Franke, D., Kowalewski, S., Weise, C., and Prakobkosol, N., "Testing Conformance of Lifecycle-Dependent Properties of Mobile Applications", in *Proc. 5th International Conference on Software Testing, Verification and Validation (ICST)*, 2012, IEEE Computer Society, pp. 241-250.

Testing Conformance of Lifecycle-Dependent Properties of Mobile Applications

Bibtex entry :

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@inproceedings { FKWP12,
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  for_reporting_period = { 2012 },
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[Mic12]

[PDFBIB](#)

Michailidis, A., "Konzepte für eine virtuelle Integration von AUTOSAR-konformer Fahrzeug-Software in frühen Entwicklungsphasen," PhD Thesis , 2012.

Konzepte für eine virtuelle Integration von AUTOSAR-konformer Fahrzeug-Software in frühen Entwicklungsphasen

Bibtex entry :

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@phdthesis { Mic12,
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[Mit12]

PDFBIB

Mitsching, R., "Applied timed testing: Testautomatisierung in industriellen Testprozessen von eingebetteten Systemen," PhD Thesis , 2012.

Applied timed testing: Testautomatisierung in industriellen Testprozessen von eingebetteten Systemen

Bibtex entry :

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@phdthesis { Mit12,
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[MDR+12]

PDFBIB

Merschen, D., Duhr, Y., Ringler, T., Hedenetz, B., and Kowalewski, S., "Model-Based Analysis of Design Artefacts Applying an Annotation Concept", in *Proc. Software Engineering 2012 (SE 2012)*, 2012, Gesellschaft für Informatik e.V. (GI), pp. 169-180.

Model-Based Analysis of Design Artefacts Applying an Annotation Concept

Bibtex entry :

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@inproceedings { MDR+12,
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author = { Merschen, Daniel and Duhr, Yves and Ringler, Thomas and
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[BRT11]

[PDFBIB](#)

Brauer, J., Roveri, M., and Tews, H., Eds., *Proceedings of the 6th International Workshop on Systems Software Verification (SSV 2011)* TU Dresden (published as technical report), 2011.

Proceedings of the 6th International Workshop on Systems Software Verification (SSV 2011)

Bibtex entry :

```

@proceedings { BRT11,
  editor = { Brauer, J{o}rg and Roveri, Marco and Tews, Hendrik },
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```

[RBS+11]

[PDFSlidesBIB](#)

Reinbacher, T., Brauer, J., Schachinger, D., Steininger, A., and Kowalewski, S., "Automated Test-Trace Inspection for Microcontroller Binary Code", in *Proc. RV*, 2011, Springer, pp. 239-244.

Automated Test-Trace Inspection for Microcontroller Binary Code

Bibtex entry :

```
@inproceedings { RBS+11,  
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f },  
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[MDAK11]

PDFBIB

Maschuw, J. P., Diab, H., Abel, D., and Kowalewski, S., "Control Design for Generalized Platoon Problems", *at - Automatisierungstechnik*, vol. 59, iss. 12, pp. 721-729, 2011

Control Design for Generalized Platoon Problems

Bibtex entry :

```
@article { MDAK11,  
  owner = { diab },  
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  author = { Maschuw, Jan Philipp and Diab, Hilal and Abel, Dirk and  
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  title = { Control Design for Generalized Platoon Problems },  
  journal = { at - Automatisierungstechnik },  
  year = { 2011 },  
  volume = { 59 },  
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[GKKK11]

[PDFBIB](#)

Grobosch, S., Kamin, V., Krirkkawin, K., and Kowalewski, S., "Using Timed Automata in Requirements Analysis for Engine Control Units", in *Proc. 18th World Congress of the International Federation of Automatic Control (IFAC)*, 2011, IFAC, pp. 12503-12508.

Using Timed Automata in Requirements Analysis for Engine Control Units

Bibtex entry :

```
@inproceedings { GKKK11,
  author = { Grobosch, Sebastian and Kamin, Volker and Krirkkawin,
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  timestamp = { 2011.10.18 },
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[Bar11]

[PDFBIB](#)

Barakat, K., "Introducing Timers to Pi-Calculus", RWTH Aachen, AIB-2011-18, 2011.

Introducing Timers to Pi-Calculus

Bibtex entry :

```
@techreport { Bar11,
  author = { Barakat, Kamal },
  title = { Introducing Timers to Pi-Calculus },
  pages = { 31 },
  institution = { RWTH Aachen },
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keywords = { formal models, domain specific languages, congruence
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[KBW+11]

[PDFBIB](#)

Kopp, R., Bensberg, R., Walter, M., Stollenwerk, A., Arens, J., and Rossaint, R., "Automation of extracorporeal membrane oxygenation using a combined safety and control concept", in *Proc. Intensive Care Medicine*, 2011, vol. 37, Springer, p. 230.

Automation of extracorporeal membrane oxygenation using a combined safety and control concept

Bibtex entry :

```

@inproceedings { KBW+11,
    volume = { 37 },
    location = { Berlin },
    month = { October },
    organization = { ECSIM },
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    author = { Kopp, R{"u}dger and Bensberg, Ralf and Walter, Marian
and
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    booktitle = { Intensive Care Medicine },
    number = { Supplement 2 },
    publisher = { Springer },
    publishedas = { Druck Online },
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```

[PMB+11]

[PDFBIB](#)

Polzer, A., Merschen, D., Botterweck, G., Pleuss, A., Thomas, J., Hedenetz, B., and Kowalewski, S., "Managing Complexity and Variability of a Model-based Embedded Software Product Line", *Innovations in Systems and Software Engineering (ISSE)*, vol. 8, pp. 35-49, 2011

Managing Complexity and Variability of a Model-based Embedded Software Product Line

Bibtex entry :

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@article { PMB+11,
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[WBA+11]

[PDFBIB](#)

Walter, M., Brendle, C., Arens, J., Stollenwerk, A., Kopp, R., Bensberg, R., and Leonhardt, S., "Physiological target control in long term extracorporeal oxygenation", in *Proc. 38. Congress of the European Society for Artificial Organs(ESAO 2011) and 4. Biennial Congress of the International Federation on Artificial Organs (IFAO 2011) - (The International Journal of Artificial Organs)*, 2011, vol. 34 in 2011, Wichtig Editore, p. 625.

Physiological target control in long term extracorporeal oxygenation

Bibtex entry :

```
@inproceedings { WBA+11,
  month = { August },
  organization = { European Society for Artificial Organs (ESAO) },
  doi = { DOI 10.5301/IJAO.2011.8701 },
}
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location = { Porto },
author = { Walter, Marian and Brendle, Christian and Arens, Jutta
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editor = { Rui L. Reis },
title = { Physiological target control in long term extracorporeal
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booktitle = { 38. Congress of the European Society for Artificial
    Organs(ESAO 2011) and 4. Biennial Congress of the
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series = { 2011 },
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publisher = { Wichtig Editore },
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issn = { 0391-3988 },
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for_reporting_period = { 2011 },
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[FEWK11]

PDFBIB

Franke, D., Elsemann, C., Weise, C., and Kowalewski, S., "Reverse Engineering of Mobile Application Lifecycles", in *Proc. 18th Working Conference on Reverse Engineering (WCRE)*, 2011, IEEE Computer Society, pp. 283-292.

Reverse Engineering of Mobile Application Lifecycles

Bibtex entry :

```

@inproceedings { FEWK11,
    location = { Lero, Limerick, Ireland },
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for_reporting_period = { 2011 },
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[HSK11]

PDFBIB

Hänsch, P., Schommer, J. F., and Kowalewski, S., "Self-balancing Controllable Robots in Education: A Practical Course for Bachelor Students", in *Proc. Intelligent Robotics and Applications (ICIRA 2011)*, 2011, Springer, pp. 297-306.

Self-balancing Controllable Robots in Education: A Practical Course for Bachelor Students

Bibtex entry :

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@inproceedings { HSK11,
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  for_reporting_period = { 2011 },
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[DFDK11]

PDFBIB

Dernehl, C., Franke, D., Diab, H., and Kowalewski, S., "An Architecture with Integrated Image Processing for Autonomous Micro Aerial Vehicles", in *Proc. International Micro Air Vehicle Conference (IMAV)*, 2011, IMAV, pp. 138-145.

An Architecture with Integrated Image Processing for Autonomous Micro Aerial Vehicles

Bibtex entry :

```
@inproceedings { DFDK11,
  location = { 't Harde, Netherlands },
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    Kowalewski, Stefan },
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    for_reporting_period = { 2011 },
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[GK11]

PDFBIB

Gückel, D. and Kowalewski, S., "Automatic Derivation of Abstract Semantics From Instruction Set Descriptions", in *Proc. Proceedings of the 6th International Workshop on Systems Software Verification (SSV 2011)*, 2011, TU Dresden, pp. 18-32.

Automatic Derivation of Abstract Semantics From Instruction Set Descriptions

Bibtex entry :

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@inproceedings { GK11,
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  author = { G{"u"}ckel, Dominique and Kowalewski, Stefan },
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[RB11]

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Reinbacher, T. and Brauer, J., "Precise Control Flow Reconstruction Using Boolean Logic", in *Proc. International Conference on Embedded Software (EMSOFT 2011)*, 2011, ACM, pp. 117-126.

Precise Control Flow Reconstruction Using Boolean Logic

Bibtex entry :

```
@inproceedings { RB11,  
  author = { Reinbacher, Thomas and Brauer, J{\\"o}rg },  
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Sanjoy  
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},  
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[BHK+12]

[PDFBIB](#)

Brauer, J., Hansen, R. R., Kowalewski, S., Larsen, K. G., and Olesen, M. C., "Adaptable Value-Set Analysis for Low-Level Code", in *Proc. 6th International Workshop on Systems Software Verification (SSV 2011)*, 2012, Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, pp. 32-43.

Adaptable Value-Set Analysis for Low-Level Code

Bibtex entry :

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@inproceedings { BHK+12,  
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for_reporting_period = { 2011 },
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[BBS+11]

[PDFBIB](#)

Brendle, C., Bensberg, R., Stollenwerk, A., Arens, J., and Walter, M., "Patient Orientated Automation of the Therapy with the Extracorporeal Membrane Oxygenation (ECMO)", in *Proc. 45. Jahrestagung der Deutschen Gesellschaft für Biomedizinische Technik*, 2011, DGBMT.

Patient Orientated Automation of the Therapy with the Extracorporeal Membrane Oxygenation (ECMO)

Bibtex entry :

```
@inproceedings { BBS+11,
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[SGA+11]

[PDFBIB](#)

Stollenwerk, A., Gathmann, F., Arens, J., Bensberg, R., Walter, M., Kopp, R., and Kowalewski, S., "Safety Aware Pump-Control for a Rotary ECMO Blood Pump", in *Proc. 38. Congress of the European Society for Artificial Organs (ESAO 2011) and 4. Biennial Congress of the International Federation on Artificial Organs (IFAO 2011) - (The International Journal of Artificial Organs)*, 2011, vol. 34 in 2011, Wichtig Editore, p. 617.

Safety Aware Pump-Control for a Rotary ECMO Blood Pump

Bibtex entry :

```

@inproceedings { SGA+11,
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Jutta
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  booktitle = { 38. Congress of the European Society for Artificial
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```

[RGHK11]

[PDFBIB](#)

Reinbacher, T., Gückel, D., Horauer, M., and Kowalewski, S., "Testing Microcontroller Software Simulators", in *Proc. Informatik 2011*, 2011, Gesellschaft für Informatik, p. 333.

Testing Microcontroller Software Simulators**Bibtex entry :**

```

@inproceedings { RGHK11,
  owner = { gueckel },
  author = { Reinbacher, Thomas and G{"u}ckel, Dominique and
Horauer,
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[SGB+11]

[PDFBIB](#)

Stollenwerk, A., Gathmann, F., Bensberg, R., Walter, M., Arens, J., Kopp, R., and Kowalewski, S., "A Model-Based Safety Concept for a Rotary Blood Pump", in *Proc. 45. Jahrestagung der Deutschen Gesellschaft für Biomedizinische Technik*, 2011, DGBMT.

A Model-Based Safety Concept for a Rotary Blood Pump

Bibtex entry :

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@inproceedings { SGB+11,
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[KS11]

[PDFBIB](#)

Kowalewski, S. and Stollenwerk, A., "Supporting Evolving Requirements in CPS by Abstraction Layers in the Architecture", in *Proc. Workshop on Architectures for Cyber-Physical Systems, Chicago, IL, USA, 2011*, Invited Talk.

Supporting Evolving Requirements in CPS by Abstraction Layers in the Architecture

Bibtex entry :

```
@conference { KS11,
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[RBH+11]

[PDFSlidesBIB](#)

Reinbacher, T., Brauer, J., Horauer, M., Steininger, A., and Kowalewski, S., "Past Time LTL Runtime Verification for Microcontroller Binary Code", in *Proc. 16th International Workshop on Formal Methods for Industrial Critical Systems (FMICS 2011)*, 2011, vol. 6959 in Lecture Notes in Computer Science, Springer, pp. 37-51, European Association of Software Science and Technology (EASST) Award for the best paper.

Past Time LTL Runtime Verification for Microcontroller Binary Code

Bibtex entry :

```
@inproceedings { RBH+11,
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  booktitle = { 16th International Workshop on Formal Methods for
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[FDWK11a]

[PDFBIB](#)

Franke, D., Dzafic, D., Weise, C., and Kowalewski, S., "Konzept eines Mobilen OSM-Navigationssystems für Elektrofahrzeuge", in *Proc. Angewandte Geoinformatik 2011 - Beiträge zum 23. AGIT-Symposium (AGIT)*, 2011, Wichmann Verlag, pp. 148-157.

Konzept eines Mobilen OSM-Navigationssystems für Elektrofahrzeuge

Bibtex entry :

```
@inproceedings { FDWK11a,
  location = { Salzburg, Austria },
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and
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  booktitle = { Angewandte Geoinformatik 2011 - Beitr{"a}ge zum 23.
  AGIT-Symposium (AGIT) },
  publisher = { Wichmann Verlag },
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}
```

[MWF+11]

[PDFBIB](#)

Mitsching, R., Weise, C., Franke, D., Gerlitz, T., and Kowalewski, S., "Coping with Complexity of Testing Models for Real-Time Embedded Systems", in *Proc. 3rd Workshop on Model-Based Verification and Validation (MVV)*, 2011, IEEE Press, pp. 128-135.

Coping with Complexity of Testing Models for Real-Time

Embedded Systems

Bibtex entry :

```
@inproceedings { MWF+11,
  location = { Jeju Island, Korea },
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and
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Embedded Systems },
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[RSM+11]

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Reinbacher, T., Steininger, A., Müller, T., Horauer, M., Brauer, J., and Kowalewski, S., "Hardware Support for Efficient Testing of Embedded Software", in *Proc. 7th ASME/IEEE Conference on Mechatronics and Embedded Systems and Applications (MESA 2011)*, 2011, ASME, pp. 3-12.

Hardware Support for Efficient Testing of Embedded Software

Bibtex entry :

```
@inproceedings { RSM+11,
  author = { Reinbacher, Thomas and Steininger, Andreas and
M{"u"}ller,
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  title = { Hardware Support for Efficient Testing of Embedded
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  booktitle = { 7th ASME/IEEE Conference on Mechatronics and Embedded
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for_reporting_period = { 2011 },
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[BKS11]

PDFBIB

Biallas, S., Kowalewski, S., and Schlich, B., "Leistungsfähige Verifikation von industriellen SPS-Programmen mittels Model-Checking und statischer Analyse", in *Proc. AUTOMATION 2011, Baden-Baden, Germany*, Düsseldorf, 2011 in VDI-Berichte, VDI-Verlag, pp. 67-72.

Leistungsfähige Verifikation von industriellen SPS-Programmen mittels Model-Checking und statischer Analyse

Bibtex entry :

```
@inproceedings { BKS11,
  address = { D{"u}seldorf },
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  title = { Leistungsf{"a}hige Verifikation von industriellen
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[BKK11a]

PDFSlidesBIB

Brauer, J., King, A., and Kriener, J., "Existential Quantification as Incremental SAT", in *Proc. Computer Aided Verification (CAV 2011)*, 2011, vol. 6806 in Lecture Notes in Computer Science, Springer, pp. 191-207.

Existential Quantification as Incremental SAT

Bibtex entry :

```
@inproceedings { BKK11a,
  author = { Brauer, J{"o}rg and King, Andy and Kriener, Jael },
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[ADM+10]

[PDFBIB](#)

Arens, J., De Brouwer, P., Mager, I., Kopp, R., Walter, M., Stollenwerk, A., Schmitz-Rode, T., and Steinseifer, U., "A Dynamic Study on the Hemolytic Effect of Negative Pressure on Blood", *ASAI0 journal*, vol. 56, iss. 2, pp. 96-96, 2010

A Dynamic Study on the Hemolytic Effect of Negative Pressure on Blood

Bibtex entry :

```
@article { ADM+10,
  number = { 2 },
  address = { Hagerstown, Md. },
  doi = { 10.1097/01.mat.0000369377.65122.a3 },
  author = { Arens, Jutta and De Brouwer, Petra and Mager, Ilona and
  Kopp, R{"u}dger and Walter, Marian and Stollenwerk, Andre
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  title = { A Dynamic Study on the Hemolytic Effect of Negative
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volume = { 56 },
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timestamp = { 2011.03.18 },
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}
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[BBK11]

[PDFBIB](#)

Biallas, S., Brauer, J., and Kowalewski, S., "SAT-Based Abstraction Refinement for Programmable Logic Controllers", in *Proc. Dependable Control of Discrete Systems (DCDS'11)*, 2011, IEEE, pp. 96-101.

SAT-Based Abstraction Refinement for Programmable Logic Controllers

Bibtex entry :

```
@inproceedings { BBK11,
  author = { Biallas, Sebastian and Brauer, J{"o}rg and Kowalewski,
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[FDWK11]

[PDFBIB](#)

Franke, D., Dzafic, D., Weise, C., and Kowalewski, S., "Entwicklung eines mobilen Navigationssystems für Elektrofahrzeuge auf Basis von OpenStreetMap-Daten", in *Proc. Konferenz für Freie und Open Source Software für Geoinformationssysteme (FOSSGIS)*, 2011,

FOSSGIS e.V., pp. 92-99.

Entwicklung eines mobilen Navigationssystems für Elektrofahrzeuge auf Basis von OpenStreetMap-Daten

Bibtex entry :

```
@inproceedings { FDWK11,
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```

[SGW+11]

[PDFBIB](#)

Stollenwerk, A., Göbe, F., Walter, M., Kopp, R., Arens, J., and Kowalewski, S., "Smart Data Provisioning for Model-Based Generated Code in an Intensive Care Application", in *Proc. High Confidence Medical Devices, Software, and Systems and Medical Device Plug-and-Play Interoperability (HCMDSS/MDPnP 2011)*, Chicago, USA, 2011, Upenn, p. 8.

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Bibtex entry :

```
@inproceedings { SGW+11,
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booktitle = { High Confidence Medical Devices, Software, and
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```

[BMH+11]

[PDFBIB](#)

Ben Makhlof, I., Maschuw, J. P., Hänsch, P., Diab, H., Kowalewski, S., and Abel, D., "Safety Verification of a Cooperative Vehicle Platoon with Uncertain Inputs Using Zonotopes", in *Proc. 18th IFAC World Congress, 2011, Milano, Italy, 2011*, IFAC, pp. 9769-9774.

Safety Verification of a Cooperative Vehicle Platoon with Uncertain Inputs Using Zonotopes

Bibtex entry :

```

@inproceedings { BMH+11,
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[BK11b]

[PDFSlidesBIB](#)

Brauer, J. and King, A., "Approximate Quantifier Elimination for Propositional Boolean Formulae", in *Proc. NASA Formal Methods Symposium (NFM 2011)*, 2011, vol. 6617 in Lecture Notes in

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Bibtex entry :

```
@inproceedings { BK11b,  
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[PWKU11]

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Palczynski, J., Weise, C., Kowalewski, S., and Ulmer, D., "Estimation of Clock Drift in HiL Testing by Property-Based Conformance Check", in *Proc. Fourth International Conference on Software Testing, Verification and Validation Workshops (ICSTW, TAIC PART) 2011*, 2011, IEEE Computer Society, pp. 590-595.

Estimation of Clock Drift in HiL Testing by Property-Based Conformance Check

Bibtex entry :

```
@inproceedings { PWKU11,  
  author = { Jacob Palczynski and Carsten Weise and Stefan Kowalewski  
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booktitle = { Fourth International Conference on Software Testing,  
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[MFB+11]

[PDFBIB](#)

Mitsching, R., Weise, C., Bohnenkamp, H., Fiedler, F., and Kowalewski, S., "TripleT: Improving Test Responsiveness for High Performance Embedded Systems", in *Proc. 4th IEEE International Conference on Software Testing, Verification, and Validation, 2011*, IEEE, pp. 67-74.

TripleT: Improving Test Responsiveness for High Performance Embedded Systems

Bibtex entry :

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@inproceedings { MFB+11,  
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[MPBK11]

[PDFBIB](#)

Merschen, D., Polzer, A., Botterweck, G., and Kowalewski, S., "Experiences of Applying Model-based Analysis to Support the Development of Automotive Software Product Lines", in *Proc.*

Fifth International Workshop on Variability Modelling of Software-intensive Systems (VAMOS 2011), 2011, ACM, pp. 141-150.

Experiences of Applying Model-based Analysis to Support the Development of Automotive Software Product Lines

Bibtex entry :

```
@inproceedings { MPBK11,
  month = { January },
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Heymans,
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[PWMK11]

PDFBIB

Palczynski, J., Weise, C., Moj, S., and Kowalewski, S., "Comparing Continuous Behaviour in Model-based Development of Embedded Software", in *Proc. Dagstuhl-Workshop MBEES: Modellbasierte Entwicklung eingebetteter Systeme VII (MBEES 2011)*, 2011, fortiss GmbH, pp. 61-70.

Comparing Continuous Behaviour in Model-based Development of Embedded Software

Bibtex entry :

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@inproceedings { PWMK11,
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[BPD+10]

PDFBIB

Botterweck, G., Pleuss, A., Dhungana, D., Polzer, A., and Kowalewski, S., "EvoFM: Feature-driven Planning of Product-line Evolution", in *Proc. Proceedings of the 2010 ICSE Workshop on Product Line Approaches in Software Engineering (PLEASE '10)*, 2010, ACM, pp. 24-31.

EvoFM: Feature-driven Planning of Product-line Evolution

Bibtex entry :

```
@inproceedings { BPD+10,
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Deepak
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Approaches in Software Engineering (PLEASE '10) },
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[FW11]

[PDFBIB](#)

Franke, D. and Weise, C., "Providing a Software Quality Framework for Testing of Mobile Applications", in *Proc. 4th International Conference on Software Testing Verification and Validation (ICST)*, 2011, IEEE Computer Society, pp. 431-434.

Providing a Software Quality Framework for Testing of Mobile Applications

Bibtex entry :

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@inproceedings { FW11,  
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[BBSK11]

[PDFBIB](#)

Beckschulze, E., Brauer, J., Stollenwerk, A., and Kowalewski, S., "Analyzing Embedded Systems Code for Mixed-Critical Systems using Hybrid Memory Representations", in *Proc. 2011 14th IEEE International Symposium on Object/Component/Service-Oriented Real-Time Distributed Computing Workshops ISORCW 2011*, 2011, IEEE, pp. 33-40.

Analyzing Embedded Systems Code for Mixed-Critical Systems using Hybrid Memory Representations

Bibtex entry :

```
@inproceedings { BBSK11,  
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author = { Beckschulze, Eva and Brauer, J{"o}rg and Stollenwerk,
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title = { Analyzing Embedded Systems Code for Mixed-Critical
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booktitle = { 2011 14th IEEE International Symposium on
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[BK11a]

[PDFSlidesBIB](#)

Brauer, J. and King, A., "Transfer Function Synthesis without Quantifier Elimination", in *Proc. European Symposium on Programming (ESOP 2011)*, 2011, vol. 6602 in Lecture Notes in Computer Science, Springer, pp. 97-115.

Transfer Function Synthesis without Quantifier Elimination

Bibtex entry :

```

@inproceedings { BK11a,
  author = { Brauer, J{"o}rg and King, Andy },
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Elimination },
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[SBK11]

[PDFBIB](#)

Schlich, B., Brauer, J., and Kowalewski, S., "Application of Static Analyses for State Space Reduction to Microcontroller Binary Code", *Sci. Comput. Program.*, vol. 76, iss. 2, pp. 100-118, 2011

Application of Static Analyses for State Space Reduction to Microcontroller Binary Code

Bibtex entry :

```
@article { SBK11,
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```

[PMT+10]

[PDFBIB](#)

Polzer, A., Merschen, D., Thomas, J., Hedenetz, B., Botterweck, G., and Kowalewski, S., "View-Supported Rollout and Evolution of Model-Based ECU Applications", in *Proc. 7th International Workshop on Model-based Methodologies for Pervasive and Embedded Software (MOMPES 2010) collocated within the 25th IEEE/ACM International Conference on Automated Software Engineering*, 2010, ACM, pp. 37-44.

View-Supported Rollout and Evolution of Model-Based ECU Applications

Bibtex entry :

```
@inproceedings { PMT+10,
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booktitle = { 7th International Workshop on Model-based
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year = { 2010 },
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pages = { 37-44 },
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[KR10]

PDFBIB

Kowalewski, S. and Roveri, M., Eds., *Formal Methods for Industrial Critical Systems. Proc. FMICS 2010*, Springer, 2010.

Formal Methods for Industrial Critical Systems. Proc. FMICS 2010,

Bibtex entry :

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@proceedings { KR10,
  title = { Formal Methods for Industrial Critical Systems. Proc.
FMICS
  2010, },
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number = { 6371 },
series = { LNCS },
publisher = { Springer },
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```

[BPK10]

PDFBIB

Botterweck, G., Polzer, A., and Kowalewski, S., "Variability and Evolution in Model-based Engineering of Embedded Systems", in *Proc. 6. Dagstuhl-Workshop Model-Based Development of Embedded Systems (MBEES 2010)*, Dagstuhl, Germany, 2010, pp. 87-96.

Variability and Evolution in Model-based Engineering of Embedded Systems

Bibtex entry :

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@inproceedings { BPK10,
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[BBGK10]

PDFBIB

Biallas, S., Brauer, J., Gückel, D., and Kowalewski, S., "On-The-Fly Path Reduction", *Electronic Notes in Theoretical Computer Science*, vol. 274C, pp. 3-16, 2011, 4th International Workshop on Harnessing Theories for Tool Support in Software (TTSS 2010)

On-The-Fly Path Reduction

Bibtex entry :

```
@article { BBGK10,
  author = { Biallas, Sebastian and Brauer, J{"o}rg and G{"u}ckel,
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[RBH+10]

PDFBIB

Reinbacher, T., Brauer, J., Horauer, M., Steininger, A., and Kowalewski, S., "Test-Case Generation for Embedded Binary Code Using Abstract Interpretation", in *Proc. Sixth Doctoral Workshop on Mathematical and Engineering Methods in Computer Science (MEMICS 2010), Selected Papers, Mikulov, Czech Republic, 2010*, vol. 16 in OASICS, Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, Germany, pp. 101-108, Best Paper Award.

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Bibtex entry :

```
@inproceedings { RBH+10,
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Martin
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Abstract
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```

[PWK10]

[PDFBIB](#)

Palczynski, J., Weise, C., and Kowalewski, S., "Testing Continuous Systems Conformance Using Cross Correlation", in *Proc. Proceedings of the 22nd IFIP International Conference on Testing Software and Systems: Short Papers*, Montréal, 2010, CRIM, pp. 31-36.

Testing Continuous Systems Conformance Using Cross Correlation

Bibtex entry :

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@inproceedings { PWK10,
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[SDKS10]

[PDFBIB](#)

Stollenwerk, A., Derks, A., Kowalewski, S., and Salewski, F., "A Modular, Robust and Open Source Microcontroller Platform for Broad Educational Usage", in *Proc. Workshop on Embedded Systems Education (WESE10)*, Scottsdale, AZ, USA, 2010, ACM, pp. 48-54.

A Modular, Robust and Open Source Microcontroller Platform for Broad Educational Usage

Bibtex entry :

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@inproceedings { SDKS10,
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```

[BBKS10]

[PDFBIB](#)

Biallas, S., Brauer, J., Kowalewski, S., and Schlich, B., "Automatically Deriving Symbolic Invariants for PLC Programs Written in IL", in *Proc. FORMS/FORMAT 2010*, 2011, Springer Berlin Heidelberg, pp. 237-245.

Automatically Deriving Symbolic Invariants for {PLC} Programs Written in {IL}

Bibtex entry :

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@inproceedings { BBKS10,
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```

[RHS+10]

PDFBIB

Reinbacher, T., Horauer, M., Schlich, B., Brauer, J., and Scheuer, F., "Model Checking Embedded Software of an Industrial Knitting Machine", *International Journal of Information Technology, Communications and Convergence*, pp. 186-205, 2010

Model Checking Embedded Software of an Industrial Knitting Machine

Bibtex entry :

```
@article { RHS+10,  
  author = { Reinbacher, Thomas and Horauer, Martin and Schlich,  
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[BBK10]

PDFBIB

Biallas, S., Brauer, J., and Kowalewski, S., "Counterexample-guided abstraction refinement for PLCs", in *Proc. 5th International Workshop on Systems Software Verification (SSV 2010), Vancouver, Canada, Berkeley, CA, USA, 2010*, USENIX Association, pp. 2-12.

Counterexample-guided abstraction refinement for {PLCs}

Bibtex entry :

```
@inproceedings { BBK10,  
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[BKKN10]

[PDFBIB](#)

Brauer, J., Kamin, V., Kowalewski, S., and Noll, T., "Loop Refinement using Octagons and Satisfiability", in *Proc. Proceedings of the 5th international conference on Systems software verification*, Berkeley, CA, USA, 2010, USENIX Association, pp. 1-9.

Loop Refinement using Octagons and Satisfiability

Bibtex entry :

```

@inproceedings { BKKN10,
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```

[CBD+10a]

PDFSlidesBIB

Chávez Grunewald, M., Ben Makhlouf, I., Diab, H., Abel, D., and Kowalewski, S., "On the Effects of Network Delays on an Energy-based Controller", in *Proc. 2nd IFAC Workshop on Distributed Estimation and Control in Networked Systems(NecSys' 2010)*, 2010, IFAC, pp. 169-174.

On the Effects of Network Delays on an Energy-based Controller

Bibtex entry :

```
@inproceedings { CBD+10a,
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Ibtissem
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[DCB+10]

PDFBIB

Diab, H., Chávez Grunewald, M., Ben Makhlouf, I., Abel, D., and Kowalewski, S., "A Testing Platform for Cooperative Vehicle Platoon Controllers", in *Proc. 13th International IEEE Conference on Intelligent Transportation Systems (ITSC 2010)*, 2010, IEEE, pp. 1718-1723.

A Testing Platform for Cooperative Vehicle Platoon Controllers

Bibtex entry :

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@inproceedings { DCB+10,
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58 },
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[BGL+10]

[PDFBIB](#)

Bollue, K., Gückel, D., Loup, U., Spönemann, J., and Winkler, M., Eds., *Dagstuhl 2010: Proceedings of the Joint Workshop of the German Research Training Groups in Computer Science*. Verlagshaus Mainz, 2010.

Dagstuhl 2010: Proceedings of the Joint Workshop of the German Research Training Groups in Computer Science.

Bibtex entry :

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@proceedings { BGL+10,
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and
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[WWS+10]

[PDFBIB](#)

Walter, M., Weyer, S., Stollenwerk, A., Kopp, R., Arens, J., and Leonhardt, S., "A Physiological Model for Extracorporeal Oxygenation Controller Design", in *Proc. 32nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'10)*, 2010, IEEE, pp. 434-437.

A Physiological Model for Extracorporeal Oxygenation Controller Design

Bibtex entry :

```
@inproceedings { WWS+10,
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```

[BKK10]

[PDFSlidesBIB](#)

Brauer, J., King, A., and Kowalewski, S., "Range Analysis of Microcontroller Code using Bit-Level Congruences", in *Proc. Formal Methods for Industrial Critical Systems (FMICS 2010)*, Antwerp, Belgium, 2010, vol. 6371 in Lecture Notes in Computer Science, Springer, pp. 82-98.

Range Analysis of Microcontroller Code using Bit-Level Congruences

Bibtex entry :

```
@inproceedings { BKK10,
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[GBK10]

[PDFBIB](#)

Gückel, D., Brauer, J., and Kowalewski, S., "A System for Synthesizing Abstraction-Enabled Simulators for Binary Code Verification", in *Proc. Industrial Embedded Systems (SIES 2010)*, Trento, Italy, 2010, IEEE, pp. 118-127.

A System for Synthesizing Abstraction-Enabled Simulators for Binary Code Verification

Bibtex entry :

```
@inproceedings { GBK10,
  author = { G{"u}ckel, Dominique and Brauer, J{"o}rg and
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[SJA+10]

[PDFBIB](#)

Stollenwerk, A., Jörgens, J., Arens, J., Walter, M., Kopp, R., and Kowalewski, S., "Model Based Diagnosis for Extracorporeal Membrane Oxygenation", *The International Journal of Artificial Organs*, vol. 33, iss. 7, p. 447, 2010

Model Based Diagnosis for Extracorporeal Membrane Oxygenation

Bibtex entry :

```
@article { SJA+10,  
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Organs  
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[SJW+10]

[PDFBIB](#)

Stollenwerk, A., Jörgens, J., Walter, M., Arens, J., Kopp, R., and Kowalewski, S., "Modellbasierte Fehlerdiagnose eines Membranoxygenators", in *Proc. Biomedizinische Technik (BMT2010)*, 2010, vol. 55, de Gruyter, pp. 174-177.

Modellbasierte Fehlerdiagnose eines

Membranoxygenators

Bibtex entry :

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@inproceedings { SJW+10,
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Walter,
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[CMD+10]

PDFBIB

Chávez Grunewald, M., Ben Makhlouf, I., Diab, H., Mut, V., Kowalewski, S., and Abel, D., "Regelung und Sicherheitsanalyse einer Gruppe Massenpunktfahrzeuge mit Hilfe energiebasierter Methoden", *at - Automatisierungstechnik*, vol. 58, iss. 4, pp. 227-235, 2010

Regelung und Sicherheitsanalyse einer Gruppe Massenpunktfahrzeuge mit Hilfe energiebasierter Methoden

Bibtex entry :

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@article { CMD+10,
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[BK10]

[PDFSlidesBIB](#)

Brauer, J. and King, A., "Automatic Abstraction for Intervals using Boolean Formulae", in *Proc. Static Analysis Symposium (SAS 2010), Perpignan, France, 2010*, vol. 6337 in Lecture Notes in Computer Science, Springer, pp. 167-183.

Automatic Abstraction for Intervals using Boolean Formulae

Bibtex entry :

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@inproceedings { BK10,
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[BNS10]

[PDFBIB](#)

Brauer, J., Noll, T., and Schlich, B., "Interval Analysis of Microcontroller Code using Abstract Interpretation of Hardware and Software", in *Proc. Proceedings of the 13th International*

Workshop on Software and Compilers for Embedded Systems (SCOPES 2010), 2010, ACM.

Interval Analysis of Microcontroller Code using Abstract Interpretation of Hardware and Software

Bibtex entry :

```
@inproceedings { BNS10,  
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[FK10]

PDFBIB

Franke, D. and Kowalewski, S., "Verifikation der Java-Echtzeitfähigkeit für den Einsatz in zeitkritischen Systemen", in *Proc. Gesellschaft für Informatik Seminars, Informatiktage*, 2010, Gesellschaft für Informatik e.V., pp. 165-168.

Verifikation der Java-Echtzeitfähigkeit für den Einsatz in zeitkritischen Systemen

Bibtex entry :

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@inproceedings { FK10,  
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  booktitle = { Gesellschaft f{"u}r Informatik Seminars,  
Informatiktage },  
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[GSBK10]

[PDFBIB](#)

Gückel, D., Schlich, B., Brauer, J., and Kowalewski, S., "Synthesizing Simulators for Model Checking Microcontroller Binary Code", in *Proc. Proceedings of the 13th IEEE International Symposium on Design and Diagnostics of Electronic Circuits and Systems (DDECS 2010)*, 2010, IEEE, pp. 313-316.

Synthesizing Simulators for Model Checking Microcontroller Binary Code

Bibtex entry :

```
@inproceedings { GSBK10,
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[WWS+09a]

[PDFBIB](#)

Wartzek, T., Walter, M., Schmitz-Rode, T., Kowalewski, S., Rossaint, R., and Leonhardt, S., "In Vivo Validation of an Automatic Controlled Extracorporeal Membrane Oxygenator", in *Proc. World Congress on Medical Physics and Biomedical Engineering*, 2009, vol. 25, Springer Berlin Heidelberg, pp. 118-121.

In Vivo Validation of an Automatic Controlled

Extracorporeal Membrane Oxygenator

Bibtex entry :

```
@inproceedings { WWS+09a,
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Thomas
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[SLW+10]

[PDFBIB](#)

Stollenwerk, A., Lang, M., Walter, M., Arens, J., Kopp, R., and Kowalewski, S.,
 "Sicherheitskonzept für eine intensivmedizinische Anwendung am Beispiel der ECMO", in *Proc.
 Entwurf komplexer Automatisierungssysteme (EKA 2010)*, 2010, vol. 11, pp. 65-74.

Sicherheitskonzept für eine intensivmedizinische Anwendung am Beispiel der ECMO

Bibtex entry :

```
@inproceedings { SLW+10,
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[WSW+10]

[PDFBIB](#)

Walter, M., Stollenwerk, A., Wartzek, T., Arens, J., Kopp, R., and Leonhardt, S., "Automatisierung und Fehlerdiagnose bei der extrakorporalen Membranoxygenierung", *at - Automatisierungstechnik*, vol. 58, iss. 5, pp. 277-285, 2010

Automatisierung und Fehlerdiagnose bei der extrakorporalen Membranoxygenierung

Bibtex entry :

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@article { WSW+10,
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[Arm10]

[PDFBIB](#)

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Bibtex entry :

```
@phdthesis { Arm10,
  author = { Armoush, Ashraf },
  title = { Design Patterns for Safety-Critical Embedded Systems },
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[BFK+10]

[PDFBIB](#)

Biallas, S., Frey, G., Kowalewski, S., Schlich, B., and Soliman, D., "Formale Verifikation von Sicherheits-Funktionsbausteinen der PLCopen auf Modell- und Code-Ebene", in *Proc. Tagungsband Entwicklung und Betrieb komplexer Automatisierungssysteme (EKA 2010)*, 2010, ifak Magdeburg, pp. 49-57.

Formale Verifikation von Sicherheits-Funktionsbausteinen der PLCopen auf Modell- und Code-Ebene

Bibtex entry :

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@inproceedings { BFK+10,
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[MWGK10]

PDFBIB

Mitsching, R., Weise, C., Gatterdam, T., and Kowalewski, S., "Low Effort Evaluation of Real-Time and Reliability Requirements for Embedded Systems", in *Proc. 10th IEEE International Conference on Computer and Information Technology (CIT 2010)*, 2010, IEEE Computer Society, pp. 2433-2440.

Low Effort Evaluation of Real-Time and Reliability Requirements for Embedded Systems

Bibtex entry :

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@inproceedings { MWGK10,
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    illkey = { conference },
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[Sch10]

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Bibtex entry :

```
@article { Sch10,  
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[SL09]

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Embedded Contributions to an Intensive Care Safety Concept

Bibtex entry :

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@conference { SL09,  
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[SZR+09]

[PDFBIB](#)

Schmitz, D., Zhang, M., Rose, T., Jarke, M., Polzer, A., Palczynski, J., Kowalewski, S., and Reke, M., "Mapping Requirements Models to Mathematical Models in Control Systems Development", in *Proc. Model Driven Architecture - Foundations and Applications, 5th European Conference, ECMDA-FA 2009*, Enschede, The Netherlands, 2009, vol. 5562 in Lecture Notes in Computer Science, Springer, pp. 253-264.

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Bibtex entry :

```
@inproceedings { SZR+09,  
  author = { Schmitz, Dominik and Zhang, M. and Rose, Thomas and  
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[SFKW09]

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Schommer, J. F., Franke, D., Kowalewski, S., and Weise, C., "Evaluation of the Real-Time Java Runtime Environment for Deployment in Time-Critical Systems", in *Proc. 7th International Workshop on Java Technologies for Real-Time and Embedded Systems (JTRES)*, 2009, ACM, pp. 51-60.

Evaluation of the Real-Time Java Runtime Environment for Deployment in Time-Critical Systems

Bibtex entry :

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@inproceedings { SFKW09,  
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[KGG+09]

PDFBIB

Kowalewski, S., Garavello, M., Guéguen, H., Herberich, G., Langerak, R., Piccoli, B., Polderman, J. W., and Weise, C., "Handbook of Hybrid Systems Control" Cambridge University Press, 2009, pp. 57-86.

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@inbook { KGG+09,
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pages = { 57-86 },
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[KP09]

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@proceedings { KP09,  
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[SJK09]

[PDFSlidesBIB](#)

Stollenwerk, A., Jongdee, C., and Kowalewski, S., "An Undergraduate Embedded Software Laboratory for the Masses", in *Proc. Workshop on Embedded Systems Education (WESE09), Grenoble, France, New York, NY, USA, 2009, ACM*, pp. 34-41.

An Undergraduate Embedded Software Laboratory for the Masses

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@inproceedings { SJK09,  
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[WWK+09]

[PDFBIB](#)

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@inproceedings { WWK+09,
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[BPK09]

[PDFBIB](#)

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Bibtex entry :

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@inproceedings { BPK09,  
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[BPPK09]

PDFBIB

Botterweck, G., Pleuss, A., Polzer, A., and Kowalewski, S., "Towards Feature-driven Planning of Product-Line Evolution", in *Proc. First Workshop on Feature-Oriented Software Development (FOSD), Workshop at the 12th International Conference on Model Driven Engineering Languages and Systems (MoDELS 2009)*, New York, NY, USA, 2009, ACM, pp. 109-116.

Towards Feature-driven Planning of Product-Line Evolution

Bibtex entry :

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[ABK09]

[PDFBIB](#)

Armoush, A., Beckschulze, E., and Kowalewski, S., "Safety Assessment of Design Patterns for Safety-Critical Embedded Systems", in *Proc. 35th Euromicro Conference on Software Engineering and Advanced Applications (SEAA 2009)*, 2009, IEEE CS, pp. 523-527.

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Bibtex entry :

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[AK09]

[PDFBIB](#)

Armoush, A. and Kowalewski, S., "Safety Recommendations for Safety-Critical Design Patterns", in *Proc. International Workshop on the Design of Dependable Critical Systems "Hardware, Software, and Human Factors in Dependable System Design" (DDCS 2009)*, 2009, Universität Heidelberg, pp. 9-16.

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Bibtex entry :

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[BPK09a]

[PDFBIB](#)

Botterweck, G., Polzer, A., and Kowalewski, S., "Interactive Configuration of Embedded Systems Product Lines", in *Proc. Proceedings of the 1st International Workshop on Model-driven Approaches in Software Product Line Engineering (MAPLE 2009), collocated with the 13th International Software Product Line Conference (SPLC 2009)*, San Francisco, California, USA, 2009, vol. 557, CEUR Workshop Proceedings, pp. 29-35, ISSN 1613-0073.

Interactive Configuration of Embedded Systems Product Lines

Bibtex entry :

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@inproceedings { BPK09a,  
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[KLK09]

[PDFBIB](#)

Kopp, R., Leonhardt, S., and Kowalewski, S., "Extracorporeal Membrane Oxygenation for Cardiac and Pulmonary Indications: How to Increase Patient Safety?", Vincent, J., Ed. Springer Berlin Heidelberg, 2009, vol. 1, pp. 341-349.

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Bibtex entry :

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@inbook { KLK09,
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[LWW+09]

[PDFBIB](#)

Leonhardt, S., Walter, M., Wartzek, T., Kashefi, A., Stollenwerk, A., and Kopp, R., "Regelung des Gasaustauschs für die extrakorporale Oxygenierung", in *Proc. Automation 2009, Baden-Baden, Germany*, 2009, vol. 2067, VDI, pp. 281-284.

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Bibtex entry :

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@inproceedings { LW+09,
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Tobias
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[WWS+09]

[PDFBIB](#)

Wartzek, T., Walter, M., Stollenwerk, A., Kopp, R., Kashefi, A., and Leonhardt, S., "Automatisierung der extrakorporalen Membranoxygenierung", in *Proc. 8. Workshop AUTOMED - Automatisierungstechnische Verfahren für die Medizin, Berlin, Germany*, 2009, vol. 17, VDI-Verlag, pp. 25-26, Best Paper Award.

Automatisierung der extrakorporalen Membranoxygenierung

Bibtex entry :

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@inproceedings { WWS+09,
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Verfahren
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[Mit09]

[PDFBIB](#)

Mitsching, R., "Testing in the Industrial Development Process for Embedded Systems", in *Proc. Doctoral Symposium on Systems Software Verification (DS SSV'09) Real Software, Real Problems, Real Solutions*, 2009, RWTH Aachen University, pp. 23-25.

Testing in the Industrial Development Process for Embedded Systems

Bibtex entry :

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@inproceedings { Mit09,
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[PBWK09]

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Bibtex entry :

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@inproceedings { PBWK09,
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[Guec09]

PDFBIB

Gückel, D., "Retargeting a Hardware-Dependent Model Checker by Using Architecture Description Languages", in *Proc. Doctoral Symposium on Systems Software Verification (DS SSV 2009)*, 2009 in Aachener Informatik-Berichte.

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Bibtex entry :

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@inproceedings { Guec09,
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automotive applications. Recent safety standards set
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opportunity to fulfill these requirements. In this paper we
analyze a safety-critical application example and discuss
two different approaches, an application-specific approach
and a generic approach for implementing functional safety
requirements on a dual-core microcontroller. An
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reveals their differences and at the same time advantages
and disadvantages. Besides effects on safety, effects on
reliability, modifiability and costs are evaluated and
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[KWA+09]

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Machine

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[SBWK09]

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J{"o}rg
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Bari,
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[SK09]

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  author = { Schlich, Bastian and Kowalewski, Stefan },
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[SKW09]

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[SNBB09]

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[SWW+09]

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  author = { Stollenwerk, Andr{'e} and Walter, Marian and Wartzek,
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[MK06]

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  month = { },
  abstract = { The hybrid systems community is still struggling to
provide
  practically applicable verification tools. Recently, two new
tools, PHAVer and Hsolver, were introduced which promise to
be a further step in this direction. We evaluate and compare
both tools with the help of several benchmark examples. The
results show that both have their strengths and weaknesses,
and that there still is no all-purpose reachability analysis
tool for hybrid systems. },
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[Klu08a]

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[KK07]

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  editor = { Prinz, Andreas },
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[KKK08]

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[DHH+08]

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[HNSW08]

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[RKHS08b]

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[Sal08]

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  author = { Salewski, Falk },
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[Sch08]

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[SDH+08a]

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Drews, P., Heßeler, F., Schmitz, D., Polzer, A., Kowalewski, S., and Abel, D., "Entwicklungsprozess für eine Luftpfadregelung am Dieselmotor unter Berücksichtigung nichtfunktionaler Anforderungen", in *Proc. Systeme von morgen - Technische Innovationen und Entwicklungstrends*, 2008, Haus der Technik, pp. 167-179.

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[SDH+08b]

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[SGK08]

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[SK08a]

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[SK08b]

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[SLK08]

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2007),
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  author = { Salewski, Falk and Taylor, Adam },  
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  institution = { RWTH Aachen University },  
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[WK07]

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[CKSS07]

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[SK07a]

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  author = { Salewski, Falk and Kowalewski, Stefan },
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[SK07b]

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  volume = { 4 },
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/proceedings.pdf#page=54 },
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  address = { Braunschweig, Germany },
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[SSK07]

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  author = { Schlich, , Bastian and Salewski, Falk and Kowalewski,  
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  year = { 2006 },
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  volume = { 1: Scientific Contributions },
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[WKK07]

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[MK06a]

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[PSK06]

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[SK06a]

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[SK06b]

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[SRWK06]

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@techreport { SRWK06,
  address = { Aachen, Germany },
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[SWK06]

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[SK05]

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[SK05b]

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[SK05c]

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[SWK05]

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  doi = { http://doi.acm.org/10.1145/1121812.1121825 },  
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},  
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[SK04]
PDFBIB

Schlich, B. and Kowalewski, S., "C Model Checker: Eine Übersicht", Embedded Software Laboratory, RWTH Aachen University, Aachen, Germany, RWTH-I11-2004-1, 2004.

{C Model Checker: Eine Übersicht}

Bibtex entry :

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@techreport { SK04,
  address = { Aachen, Germany },
  author = { Schlich, Bastian and Kowalewski, Stefan },
  institution = { Embedded Software Laboratory, RWTH Aachen
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  number = { RWTH-I11-2004-1 },
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