

# Publikationen

[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 SAC 2018: Symposium on Applied Computing , Pau, France, April 9-13, 2018 (SAC 2018)*, 2018, ACM, pp. 1893-1901, To appear.

## 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 },
  title = { Cycle-Bounded Model Checking of PLC Software via Dynamic Large-Block Encoding },
  booktitle = { Proceedings of SAC 2018: Symposium on Applied Computing , Pau, France, April 9-13, 2018 (SAC 2018) },
  publisher = { ACM },
  publishedas = { Druck Online },
  language = { eng },
  pages = { 1893--1901 },
  year = { 2018 },
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  illprojectkey = { Arcade },
  note = { To appear },
  for_reporting_period = { 2018 },
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[AMA17]

PDFBIB

Arifraee, 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
},
title = { Sequential Convex Programming MPC for Dynamic Vehicle
Collision Avoidance },
booktitle = { 2017 IEEE Conference on Control Technology and
Applications
(CCTA) },
publisher = { IEEE },
publishedas = { Online },
isbn = { 978-1-5090-2182-6 },
language = { eng },
pages = { 2202--2207 },
year = { 2017 },
timestamp = { 2018.01.04 },
illkey = { Cyber-physical Mobility },
url = {
https://www.researchgate.net/profile/Bassam\_Alrifaae/publication/318280544\_Sequential\_Convex\_Programming\_MPC\_for\_Dynamic\_Vehicle\_Collision\_Avoidance/links/5978b094a6fdcc30bdc31d05/Sequential-Convex-Programming-MPC-for-Dynamic-Vehicle-Collision-Avoidance.pdf },
for_reporting_period = { 2017 },
}

```

[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
},
title = { Case studies on automated verification with slope
boundaries
for block diagrams },
journal = { Computer Languages, Systems & Structures },
year = { 2017 },
volume = { 50 },
pages = { 1--16 },
publisher = { Elsevier },
publishedas = { Online Druck },
issn = { 1477-8424 },
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language = { eng },
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https://ac.els-cdn.com/S1477842417300246/1-s2.0-S1477842417300246-main.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,
  Florian
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  title = { Tauchcomputerunterst{"u}tzung durch vernetzte Smart
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  journal = { caisson },
  year = { 2017 },
  volume = { 32 },
  pages = { 72 },
  publisher = { GT{"U}M },
  publishedas = { Online Druck },
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  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,
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author = { Obster, Mathias and Kowalewski, Stefan },
title = { A Live Static Code Analysis Architecture for PLC Software
},
booktitle = { Proceedings of IEEE International Conference on
Emerging
Technology & Factory Automation },
publisher = { IEEE },
publishedas = { Online },
isbn = { 978-1-5090-6505-9 },
issn = { 1946-0759 },
language = { eng },
pages = { 263--266 },
year = { 2017 },
timestamp = { 2017.11.23 },
illkey = { conference },
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url = { http://ieeexplore.ieee.org/document/8247707/ },
for_reporting_period = { 2017 },
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[FHJ+18]

PDFBIB

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., "Testen vernetzter Industrie 4.0 Systeme", VDI/VDE GMA FA 7.25, 1, 2018.

## Testen vernetzter Industrie 4.0 Systeme

### Bibtex entry :

```

@techreport { FHJ+18,
author = { Facchi, Christian and Heidepriem, Sebastian and
J{"a"}hnert,
J{"u"}rger and Jung, Tobias and K{"o"}llner, Christian and
Kraas, Alexander and Krause, Jan and Kr{"u"}ning, Kai and
Kugler, Alexander and Maschler, Benjamin and Schleicher,
Christian and Siegrist, Daniel and Simon, Hendrik and
St{"o"}rmer, Christoph and Th{"o"}nnessen, David and
Wassermann, Erik and Weyrich, Michael and Wimmer, Thomas and
Zeller, Andreas },
title = { Testen vernetzter Industrie 4.0 Systeme },
pages = { 1--17 },
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year = { 2018 },
number = { 1 },
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for_reporting_period = { 2018 },
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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 :

```
@inproceedings { UVS+17,
  author = { Ulewicz, Sebastian and Vogel-Heuser, Birgit and Simon,
            Hendrik and Bohlender, Dimitri and Obster, Mathias and
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  title = { A Priori Test Coverage Estimation for Automated
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  booktitle = { 2017 22nd IEEE International Conference on Emerging
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  for_reporting_period = { 2017 },
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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,
  author = { Schweigler, Martin and Grochowski, Marco and Tamrakar,
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Sujan
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Models
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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,
Alexander
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    title = { Model-in-the-Loop and Software-in-the-Loop Testing of
Closed-Loop Automotive Software with Arttest },
    booktitle = { INFORMATIK 2017 },
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    language = { eng },
    pages = { 1537--1549 },
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}
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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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  Th{"o}nnessen, David },  
  title = { Echtzeiterweiterung f{"u}r Android: SPS inside },  
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  pages = { 58--61 },  
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http://www.iee-online.de/wp-content/uploads/sites/9/2015/01/IEE_02_2015  
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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

### Bibtex entry :

```
@inproceedings { SPDZ17,  
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  title = { Watch out! User-centered Feedback Design for a  
V2X-Smartphone App },  
  booktitle = { Digital Human Modeling. Applications in Health,  
Safety,  
  Ergonomics, and Risk Management: Health and Safety },  
  series = { 8th International Conference, DHM 2017, Held as Part of  
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Proceedings, Part II },
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illkey = { conference, CERM, eNav },
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url = { https://www.publications.embedded.rwth-aachen.de/file/77 },
for_reporting_period = { 2017 },
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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 :

```
@inproceedings { DNS+17,
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  booktitle = { AGIT Journal für Angewandte Geoinformatik },
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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 :

```
@inproceedings { DWS+17,  
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  booktitle = { International Conference on Intelligent Transport  
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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 :

```
@inproceedings { TRRK17,  
  author = { Th{"o}nnessen, David and Reinker, Niklas and Rakel,  
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  title = { A Concept for PLC Hardware-in-the-loop Testing Using an  
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  booktitle = { 22nd IEEE International Conference on Emerging  
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for_reporting_period = { 2017 },
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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 :

```
@inproceedings { KKR+17,
  author = { Kugler, Christopher and Kowalewski, Stefan and
    Richenhagen,
      Johannes and Maquet, Ralf and Schlo{\ss}er, Axel },
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      embedded software },
  booktitle = { 17. Internationales Stuttgarter Symposium },
  publisher = { Springer },
  publishedas = { Druck Online },
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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,  
  author = { Nowack, Jan and Kugler, Christopher and Maquet, Ralf and  
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  for_reporting_period = { 2017 },  
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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,  
  author = { G{"o}be, Florian and Aydin, Selin and Kowalewski,  
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  booktitle = { Proceedings of IEEE International Conference on  
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    Technology & Factory Automation },  
  publisher = { IEEE },  
  publishedas = { Online },  
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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,  
  author = { Wiechowski, Norbert and Rambow, Thomas and Busch, Rainer  
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  title = { Arttest - a New Test Environment for Model-Based Software  
Development },  
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  publisher = { SAE International },  
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  for_reporting_period = { 2017 },  
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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,  
  author = { Jens Dankert and Christian Dernehl and Evgeny Kusmenko  
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language = { ger },
for_reporting_period = { 2017 },
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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,
  author = { Brendle, C. and M{"u}lders, T. and K{"u}hn, J. and
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    A. and Kowalewski, S. and Misgeld, B. and Leonhardt, S. and
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  journal = { Biomedical Engineering / Biomedizinische Technik },
  year = { 2017 },
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  note = { To appear },
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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,
  author = { K{"u}hn, J. and Brendle, C. and Stollenwerk, A. and
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  title = { Decentralized safety concept for closed-loop controlled
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journal = { Biomedical Engineering / Biomedizinische Technik },
year = { 2017 },
volume = { 62 },
pages = { 213--223 },
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language = { eng },
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for_reporting_period = { 2017 },
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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 :

```

@inproceedings { CMW+17,
  author = { Chomicz, Paul and Müller-Lerwe, Armin and Wegner, G{\o}tz-Philipp and Busch, Rainer and Kowalewski, Stefan },
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  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,  
  doi = { 10.1109/BSN.2017.7936034 },  
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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 :

```
@inproceedings { INS17,  
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Based
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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 B., M., "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
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url = { http://dx.doi.org/10.1016/j.conengprac.2016.09.016 },
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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,
  author = { K{"u}hnel, Marian and Smieschek, Manfred and Meyer,
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in
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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 :

```
@article { SSK+17,
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http://link.springer.com/chapter/10.1007/978-3-662-54345-0_35 },
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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 :

```

@article { GMD+10,
author = { Grunewald, M. and Makhlof, I. and Diab, H. and Mut, V.
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title = { Control and Safety Analysis of a Group of Point Mass
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journal = { AT-Automatisierungstechnik },
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for_reporting_period = { 2010 },
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```

[PBD+10]

PDFBIB

Plauss, 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 :

```
@techreport { PBD+10,  
  author = { Pleuss, A. and Botterweck, G. and Dhungana, D. and  
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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 :

```
@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 :

```
@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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  publisher = { FAT-Schriftenreihe },
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  for_reporting_period = { 2011 },
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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,
  author = { Kowalewski, S. and Philippou, A. and Brauer, J. },
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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

**Bibtex entry :**

```
@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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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 :

```

@inproceedings { DHK16a,
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[SK16]

PDFBIB

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,
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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 :

```
@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,
Christian and Janisch, Thorsten and Walter, Marian and
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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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```

[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 :**

```
@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 :**

```
@inproceedings { DHK16,
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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.

## Concolic Test Generation for PLC Programs using Coverage Metrics

### Bibtex entry :

```

@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 :

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

[PDFBIB](#)

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## Das Barrierenerkennungssystem von eNav

### Bibtex entry :

```
@inproceedings { DLS+16,
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[DSFK17]

[PDFBIB](#)

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### Bibtex entry :

```
@inproceedings { DSFK17,
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```

[GNK16]

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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 :

```
@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,
  author = { Banila, Madalina and Kowalewski, Stefan },
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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

### Bibtex entry :

```
@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.



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## Bibtex entry :

```
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[GK16]

[PDFBIB](#)

Gerlitz, T. and Kowalewski, S., "Flow Sensitive Slicing for MATLAB/Simulink Models", in *Proc. 13th Working IEEE/IFIP Conference on Software Architecture (WICSA)*, 2016, IEEE, pp. 81-90.

# Flow Sensitive Slicing for MATLAB/Simulink Models

## Bibtex entry :

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@inproceedings { GK16,
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for_reporting_period = { 2016 },
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[GK16a]

[PDFBIB](#)

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## Architectural Analysis of MATLAB/Simulink Models with artshop

### Bibtex entry :

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@inproceedings { GK16a,
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[BSK16]

[PDFBIB](#)

Bohlender, D., Simon, H., and Kowalewski, S., "Symbolic Verification of PLC Safety-Applications based on PLCopen Automata", in *Proc. 19th GI/ITG/GMM Workshop Methoden und Beschreibungssprachen zur Modellierung und Verifikation von Schaltungen und Systemen, MBMV 2016, Freiburg im Breisgau, Germany, March 1-2, 2016.*, 2016, Albert-Ludwigs-Universität Freiburg, pp. 33-45.

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### Bibtex entry :

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@inproceedings { BSK16,
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zur Modellierung und Verifikation von Schaltungen und
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[SSS16]

[PDFBIB](#)

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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### Bibtex entry :

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@inproceedings { SSS16,
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[BK15]

[PDFBIB](#)

Ben Makhoulf, I. and Kowalewski, S., "Networked Cooperative Platoon of Vehicles for Testing Methods and Verification Tools", in *Proc. ARCH14-15. 1st and 2nd International Workshop on Applied verification for Continuous and Hybrid Systems*, 2015, vol. 34 in EPiC Series in Computing, EasyChair, pp. 37-42.

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### Bibtex entry :

```
@inproceedings { BK15,
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[BK15a]

[PDFBIB](#)

Ben Makhoulf, I. and Kowalewski, S., "Optimizing Safe Control of a Networked Platoon of Trucks Using Reachability", in *Proc. ARCH14-15. 1st and 2nd International Workshop on Applied verification for Continuous and Hybrid Systems*, 2015, vol. 34 in EPiC Series in Computing, EasyChair, pp. 169-179.

# Optimizing Safe Control of a Networked Platoon of Trucks Using Reachability

## Bibtex entry :

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@inproceedings { BK15a,  
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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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[JGN14b]

[PDFBIB](#)

Jansen, C., Göbe, F., and Noll, T., "Generating inductive predicates for symbolic execution of pointer-manipulating programs", RWTH Aachen University, AIB 2014-08, 2014.

## Generating inductive predicates for symbolic execution of pointer-manipulating programs

### Bibtex entry :

```
@techreport { JGN14b,
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[DKK16]

[PDFBIB](#)

Dernehl, C., Kühn, J., and Kowalewski, S., "Abstract Interpretation for Block Diagrams - Two Case Studies", in *Proc. 13th Workshop on Model Design, Verification and Validation*, 2016, CEUR, pp. 20-29.

## Abstract Interpretation for Block Diagrams - Two Case Studies

### Bibtex entry :

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@inproceedings { DKK16,
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[SSJ+16]

PDFBIB

Smieschek, M., Stollenwerk, A., Jüptner, P., Kowalewski, S., Orlikowsky, T., and Schoberer, M., "Evaluating Hand Disinfection with Alcohol-Based Hand Sanitizers Using Thermal Imaging", 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. 174-181.

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### Bibtex entry :

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@inproceedings { SSJ+16,
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[Ben16]

[PDFBIB](#)

Ben Makhlof, I., "Comparative evaluation and improvement of computational approaches to reachability analysis of linear hybrid systems = Methoden zur Erreichbarkeitsanalyse hybrider Systeme," PhD Thesis , 2016.

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**Bibtex entry :**

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@phdthesis { Ben16,
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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

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**Bibtex entry :**

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@article { BGK15,
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http://www.sciencedirect.com/science/article/pii/S2405896315024040 },
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[SAC+15]

[PDFBIB](#)

Schupp, S., Abraham, E., Chen, X., Ben Makhlouf, 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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[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

## Pulsatile Ansteuerung einer Diagonalblutpumpe

### 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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@article { KBS+15a,
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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.

## Static Value Range Analysis for Matlab/Simulink-Models

### Bibtex entry :

```
@inproceedings { DHGK15,
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[KGK15]

[PDFBIB](#)

Kalkov, I., Gurchian, A., and Kowalewski, S., "Priority Inheritance during Remote Procedure Calls in Real-Time Android using Extended Binder Framework", in *Proc. 13th International Workshop on Java Technologies for Real-time and Embedded Systems (JTRES)*, 2015 in JTRES '15, ACM, p. 5:1-5:10.

# Priority Inheritance during Remote Procedure Calls in Real-Time Android using Extended Binder Framework

## Bibtex entry :

```
@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.

## Detection and Handling of Model Smells for MATLAB/Simulink Models

## Bibtex entry :

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@inproceedings { GMD15,
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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 :

```
@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.

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## 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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[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 :

```

@inproceedings { HBS+15,
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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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[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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[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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[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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@article { PBD+12,
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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.

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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.

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@inproceedings { CSB+15,
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[FAKK14]

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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.

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## 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 :

```
@conference { FOR14,
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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 :

```
@phdthesis { Fra15,  
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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

### Bibtex entry :

```
@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 :

```
@article { RFB14,
  author = { Reinbacher, Thomas and Fuegger, Matthias and Brauer,
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for_reporting_period = { 2014 },
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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 :

```
@inproceedings { OKK14,
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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

### Bibtex entry :

```
@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,
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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,
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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,
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Sara
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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 :

```
@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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[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 :

```
@phdthesis { Bra13,
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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 CO<sub>2</sub> using the H<sup>∞</sup> Loop-Shaping Approach", *Acta Polytechnica*, vol. 53, pp. 895-900, 2013

## Robust Control of End-Tidal CO<sub>2</sub> using the H<sup>∞</sup> Loop-Shaping Approach

### Bibtex entry :

```
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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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```

[WSB+13]

[PDFBIB](#)

Walter, M., Stollenwerk, A., Bensberg, R., Kopp, R., and Leonhardt, S., "Smart ECLA—closed loop control of O<sub>2</sub> and CO<sub>2</sub> for management of extracorporeal lung assist", *Journal of Critical Care*, vol. 28, p. e41-e42, 2013

## Smart ECLA—closed loop control of O<sub>2</sub> and CO<sub>2</sub> for management of extracorporeal lung assist

### Bibtex entry :

```
@article { WSB+13,
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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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[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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[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,
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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,
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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

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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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[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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```

[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 },
    author = { Biallas, Sebastian and Olesen, Mads Chr. and Cassez,
    Franck
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    editor = { Adams, Bram and Rilling, J{"u}rgen and Khomh, Foutse },
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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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Intervals
  meet congruences },
  journal = { Science of Computer Programming. Methods of Software
Design:
  Techniques and Applications },
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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,
  author = { Biallas, Sebastian and Giacobbe, Mirco and Kowalewski,
  Stefan },
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editor = { Pecheur, Charles and Dierkes, Michael },
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},
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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 :

```
@inproceedings { BBK13,
author = { Biallas, Sebastian and Bohlender, Dimitri and
Kowalewski,
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booktitle = { Dependable Control of Discrete Systems (DCDS'13) },
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publishedas = { Druck },
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for_reporting_period = { 2013 },  
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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,  
  author = { Dzafic, Dzenan and Franke, Dominik and Baumeister, Danni  
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energieeffizientes  
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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,  
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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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Practice
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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 },
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    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,
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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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  booktitle = { ECC13: European Control Conference , Zurich,  
Switzerland  
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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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Stefan },  
  editor = { VDI Wissensforum },
```

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title = { Verifikation von sicherheitsgerichteten SPS-Programmen
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series = { VDI Berichte },
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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,
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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,
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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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for_reporting_period = { 2014 },
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```

[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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  title = { Ein modellbasiertes Sicherheitskonzept f{"u}r die
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    publications.embedded.rwth-aachen.de/get/4t.pdf },
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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,  
    Stefan },  
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  booktitle = { Proceedings Seventh Conference on Systems Software  
    Verification (SSV 2012) },  
  series = { EPTCS },  
  publisher = { EPTCS },  
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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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[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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  publisher = { ELEKTRONIKPRAXIS und MicroConsult },
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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 },
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  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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number = { 4 },
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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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[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 },
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Rubin,
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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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[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,  
  author = { Biallas, Sebastian and Kowalewski, Stefan and Schlich,  
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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 },  
  author = { Diab, Hilal and Ben Makhlof, Ibtissem and Kowalewski,  
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  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,
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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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[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,
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[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,
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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,
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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 },
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Andre
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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,  
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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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[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 :

```
@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,
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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,
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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 Makhoulf, 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 :

```
@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,
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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 :

```
@inproceedings { BS12,
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http://www.embedded.rwth-aachen.de/lib/exe/fetch.php?media=bib:bs12.pdf
},
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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,
  doi = { http://doi.ieeecomputersociety.org/10.1109/SSIRI-C.2010.21
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publishedas = { Druck Online },
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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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  booktitle = { 28. Tagung Elektronik im Kraftfahrzeug },
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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,  
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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 :

```
@inproceedings { FKWP12,
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  booktitle = { 5th International Conference on Software Testing,
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  publishedas = { Druck Online },
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  url = { http://doi.ieeecomputersociety.org/10.1109/ICST.2012.104 },
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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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school = { Embedded Software Laboratory - RWTH Aachen University },
type = { Dissertation },
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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 :

```
@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 :

```
@inproceedings { MDR+12,
  month = { March },
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author = { Merschen, Daniel and Duhr, Yves and Ringler, Thomas and
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title = { Model-Based Analysis of Design Artefacts Applying an
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for_reporting_period = { 2012 },
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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,
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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,  
  author = { Reinbacher, Thomas and Brauer, Jörg and Schachinger,  
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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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[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,
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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 },
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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 },
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and
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    title = { Automation of extracorporeal membrane oxygenation using a
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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 :

```
@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,
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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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series = { 2011 },
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pages = { 625 },
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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,
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    booktitle = { 18th Working Conference on Reverse Engineering (WCRE)
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timestamp = { 2011.08.08 },
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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 :

```
@inproceedings { HSK11,
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  booktitle = { Intelligent Robotics and Applications (ICIRA 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,
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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 :

```
@inproceedings { GK11,
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[RB11]

PDFSlidesBIB

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,  
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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 :

```
@inproceedings { BHK+12,  
  author = { Brauer, J{\\"o}rg and Hansen, Rene Rydhof and Kowalewski,  
Stefan and Larsen, Kim G. and Olesen, Mads Chr. },  
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for_reporting_period = { 2011 },
}

```

[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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      and Kowalewski, Stefan },
  editor = { Rui L. Reis },
  title = { Safety Aware Pump-Control for a Rotary ECMO Blood Pump },
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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 },
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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 :**

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@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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```

[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 },
  author = { Franke, Dominik and Dzafic, Dzenan and Weise, Carsten
and
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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.

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## Bibtex entry :

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@inproceedings { MWF+11,
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[RSM+11]

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### Bibtex entry :

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@inproceedings { RSM+11,
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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.

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@inproceedings { BKS11,
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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.

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## Bibtex entry :

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@inproceedings { BKK11a,
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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", *ASAIIO journal*, vol. 56, iss. 2, pp. 96-96, 2010

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[BBK11]

[PDFBIB](#)

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### Bibtex entry :

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@inproceedings { BBK11,
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[FDWK11]

[PDFBIB](#)

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

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### Bibtex entry :

```
@inproceedings { FDWK11,
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[SGW+11]

[PDFBIB](#)

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## Smart Data Provisioning for Model-Based Generated Code in an Intensive Care Application

### Bibtex entry :

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@inproceedings { SGW+11,
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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]

PDFBIB

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### Bibtex entry :

```
@inproceedings { PWKU11,  
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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.

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### 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.*

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### Bibtex entry :

```
@inproceedings { MPBK11,
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[PWMK11]

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**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.

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**Bibtex entry :**

```
@inproceedings { BPD+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.

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### Bibtex entry :

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@inproceedings { FW11,  
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[BBSK11]

[PDFBIB](#)

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### Bibtex entry :

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@inproceedings { BBSK11,  
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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.

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### Bibtex entry :

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@inproceedings { BK11a,
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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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[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,
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[BPK10]

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```

[BBGK10]

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## On-The-Fly Path Reduction

### Bibtex entry :

```
@article { BBGK10,
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```

[RBH+10]

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### Bibtex entry :

```

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[PDFBIB](#)

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## Testing Continuous Systems Conformance Using Cross Correlation

### Bibtex entry :

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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.

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### Bibtex entry :

```
@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.

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@inproceedings { BBKS10,
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```

[RHS+10]

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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

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@article { RHS+10,
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[BBK10]

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### 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.

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### Bibtex entry :

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@inproceedings { BKKN10,
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[CBD+10a]

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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 :

```
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[DCB+10]

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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.

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### Bibtex entry :

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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.

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### Bibtex entry :

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@proceedings { BGL+10,
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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.

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### 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 :

```
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[GBK10]

[PDFBIB](#)

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

### Bibtex entry :

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@inproceedings { GBK10,
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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 :

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@article { SJA+10,
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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.

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### Bibtex entry :

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@inproceedings { SJW+10,
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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

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### Bibtex entry :

```
@article { CMD+10,
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[BK10]

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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.

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### Bibtex entry :

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[BNS10]

[PDF](#)[BIB](#)

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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 :

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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.

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### Bibtex entry :

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@inproceedings { FK10,  
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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.

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### Bibtex entry :

```
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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



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## Bibtex entry :

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@inproceedings { WWS+09a,
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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.

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## Bibtex entry :

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

[PDFBIB](#)

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## Automatisierung und Fehlerdiagnose bei der extrakorporalen Membranoxygenierung

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@article { WSW+10,
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[Arm10]

[PDFBIB](#)

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### Bibtex entry :

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@phdthesis { Arm10,
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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.

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@inproceedings { MWGK10,
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[Sch10]

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@article { Sch10,
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[SL09]

[PDFSlidesBIB](#)

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**Bibtex entry :**

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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.

## Mapping Requirements Models to Mathematical Models in Control Systems Development

### Bibtex entry :

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@inproceedings { SZR+09,  
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[SFKW09]

PDFBIB

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.

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### 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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[KP09]

PDFBIB

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## Bibtex entry :

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[SJK09]

[PDFSlidesBIB](#)

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## Bibtex entry :

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[WWK+09]

[PDFBIB](#)

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## Automation of Long Term Extracorporeal Oxygenation Systems

### Bibtex entry :

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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

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@inproceedings { BPPK09,  
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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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@inproceedings { ABK09,
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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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[BPK09a]

[PDFBIB](#)

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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.

## Extracorporeal Membrane Oxygenation for Cardiac and Pulmonary Indications: How to Increase Patient Safety?

### 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.

## Regelung des Gasaustauschs für die extrakorporale Oxygenierung

### Bibtex entry :

```
@inproceedings { LW+09,
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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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[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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Polzer, A., Botterweck, G., Wangerin, I., and Kowalewski, S., "Variabilität im modellbasierten Engineering von eingebetteten Systemen", in *Proc. 7. Workshop Automotive Software Engineering*, 2009, vol. P-154 in Lecture Notes in Informatics (LNI), pp. 2702-2719.

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### Bibtex entry :

```
@inproceedings { PBWK09,
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[Guec09]

PDFBIB

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## Retargeting a Hardware-Dependent Model Checker by Using Architecture Description Languages

### Bibtex entry :

```
@inproceedings { Guec09,
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[TBG+09]

PDFBIB

Thomas, W., Bollue, K., Gückel, D., Quiros, G., Slaats, M., and Ummels, M., "DFG Research Training Group "Algorithmic Synthesis of Reactive and Discrete-Continuous Systems (AlgoSyn)", *it - Information Technology*, vol. 4, pp. 222-230, 2009

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@article { TBG+09,
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[ASK08c]

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### Bibtex entry :

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@inproceedings { ASK08c,

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[ASK08a]

[PDFBIB](#)

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## Effective Pattern Representation for Safety Critical Embedded Systems

### Bibtex entry :

```
@inproceedings { ASK08a,
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[ASK08b]

[PDFBIB](#)

Armoush, A., Salewski, F., and Kowalewski, S., "Recovery Block with Backup Voting: A New Pattern with Extended Representation for Safety Critical Embedded Systems", in *Proc. 11th International Conference on Information Technology (ICIT 2008)*, 2008, IEEE CS, pp. 232-237.

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@inproceedings { ASK08b,
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[ASK09]

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Armoush, A., Salewski, F., and Kowalewski, S., "Design Pattern Representation for Safety-Critical Embedded Systems", *Journal of Software Engineering and Applications (JSEA)*, vol. 2, iss. 1, pp. 1-12, 2009

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```
@article { ASK09,
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[BHS09]

[PDFBIB](#)

Brauer, J., Huuck, R., and Schlich, B., "Interprocedural Pointer Analysis in Goanna", *Electronic Notes in Theoretical Computer Science*, vol. 254, p. 65, 2009, Proceedings of the 4th International Workshop on Systems Software Verification (SSV 2009)

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@article { BHS09,
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[BSK09a]

[PDFBIB](#)

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### Bibtex entry :

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@inproceedings { BSK09a,  
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[BSK09b]

[PDFBIB](#)

Brauer, J., Schlich, B., and Kowalewski, S., "Parallel and Distributed Invariant Checking of Microcontroller Software", *Electronic Notes in Theoretical Computer Science*, vol. 254, p. 45, 2009, Proceedings of the 4th International Workshop on Systems Software Verification (SSV 2009)

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### Bibtex entry :

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@article { BSK09b,  
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[BSK09c]

[PDFBIB](#)

Beckschulze, E., Salewski, F., and Kowalewski, S., "A Comparison of Dual-Core Approaches for Safety-Critical Automotive Applications", *SAE International Journal of Passenger Cars - Electronic and Electrical Systems*, vol. 2, iss. 1, pp. 301-308, 2009

## {A Comparison of Dual-Core Approaches for Safety-Critical Automotive Applications}

### Bibtex entry :

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requirements for designing safety-critical systems. Among
others, these specifications include a comprehensive
detection and handling of hardware faults. Currently
emerging dual-core microcontrollers provide a cost-effective
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
investigation of the associated concepts called and
reveals their differences and at the same time advantages
and disadvantages. Besides effects on safety, effects on
reliability, modifiability and costs are evaluated and
presented graphically. },
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[BSRK09]

[PDFBIB](#)

Brauer, J., Schlich, B., Reinbacher, T., and Kowalewski, S., "Stack Bounds Analysis of Microcontroller Assembly Code", in *Proc. Workshop on Embedded Security (WESS 2009)*, Grenoble, France, 2009, ACM Press.

## Stack Bounds Analysis of Microcontroller Assembly Code

### Bibtex entry :

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@inproceedings { BSRK09,  
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[BSSK09]

[PDFBIB](#)

Beckschulze, E., Salewski, F., Siegbert, T., and Kowalewski, S., "Fault Handling Approaches on Dual-Core Microcontrollers in Safety-Critical Automotive Applications", in *Proc. Leveraging Applications of Formal Methods, Verification and Validation (ISoLA08)*, 2009, vol. 17 in Communications in Computer and Information Science, Springer Berlin Heidelberg, pp. 82-92.

## Fault Handling Approaches on Dual-Core Microcontrollers in Safety-Critical Automotive Applications

### Bibtex entry :

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@inproceedings { BSSK09,  
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[DSK09]

PDFBIB

Dülks, R., Salewski, F., and Kowalewski, S., "A Real-Time Test and Simulation Environment Based on Standard FPGA Hardware", in *Proc. Testing: Academic and Industrial Conference - Practice and Research Techniques (TAIC Part 2009)*, Washington, DC, USA, 2009, IEEE Computer Society, pp. 197-204.

## A Real-Time Test and Simulation Environment Based on Standard FPGA Hardware

### Bibtex entry :

```
@inproceedings { DSK09,
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[FHST09]

PDFBIB

Fehnker, A., Huuck, R., Schlich, B., and Tapp, M., "Automatic Bug Detection in Microcontroller Software by Static Program Analysis", in *Proc. SOFSEM 2009: Theory and Practise of Computer Science, Spindleruv Mlýn, Czech Republic*, 2009, vol. 5404 in Lecture Notes in Computer Science, Springer, pp. 267-278.



# Automatic Bug Detection in Microcontroller Software by Static Program Analysis

## Bibtex entry :

```
@inproceedings { FHST09,  
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[Klu09]

[PDFBIB](#)

Klünder, D., "Entwurf eingebetteter Software mit abstrakten Zustandsmaschinen und Business Object Notation," PhD Thesis , RWTH Aachen University, 2009.

# Entwurf eingebetteter Software mit abstrakten Zustandsmaschinen und Business Object Notation

## Bibtex entry :

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@phdthesis { Klu09,  
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[KWA+09]

## PDFBIB

Kopp, R., Walter, M., Arens, J., Stollenwerk, A., Leonhardt, S., Schmitz-Rode, T., Kowalewski, S., and Rossaint, R., "Regelungs- und Sicherheitskonzepte für extrakorporale Systeme zur Lungenunterstützung / Automatic control and safety concepts for extracorporeal lung support", *Biomedizinische Technik*, vol. 54, iss. 5, pp. 289-297, 2009

## Regelungs- und Sicherheitskonzepte für extrakorporale Systeme zur Lungenunterstützung / Automatic control and safety concepts for extracorporeal lung support

### Bibtex entry :

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@article { KWA+09,  
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[MKCA09]

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Ben Makhlof, I., Kowalewski, S., Chávez Grunewald, M. G., and Abel, D., "Safety Assessment of Networked Vehicle Platoon Controllers -- Practical Experiences With Available Tools", in *Proc. 3rd IFAC Conference on Analysis and Design of Hybrid Systems, Zaragoza, Spain 2009*, 2009.

# Safety Assessment of Networked Vehicle Platoon Controllers -- Practical Experiences With Available Tools

## Bibtex entry :

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@inproceedings { MKCA09,  
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[MWK+09]

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@article { MWK+09,  
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[PK09]

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[RBHS09]

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[RHS+09]

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[SBWK09]

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[SK09]

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@article { SK09,
  author = { Schlich, Bastian and Kowalewski, Stefan },
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[SKW09]

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[SNBB09]

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http://www.embedded.rwth-aachen.de/lib/exe/fetch.php?media=bib:SNBB09.pdf },
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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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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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@inproceedings { Klu08a,
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[KK07]

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@conference { KK07,
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[KKK08]

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[Klu08b]

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[BKKS08]

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@inproceedings { BKKS08,
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[DHH+08]

PDFBIB

Drews, P., Heßeler, F., Hoffmann, K., Abel, D., Schmitz, D., Polzer, A., and Kowalewski, S., "Entwicklung einer Luftpfadregelung am Dieselmotor unter Berücksichtigung nichtfunktionaler Anforderungen", in *Proc. Steuerung und Regelung von Fahrzeugen und Motoren – AUTOREG 2008, Baden-Baden, Germany, 2008*, vol. VDI-Berichte Nr. 2009, VDI-Verlag, pp. 91-102.

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[HFSB08]

[PDFBIB](#)

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[HNSW08]

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[NS08]

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[RKHS08a]

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[RKHS08b]

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```

[Sal08]

[PDFBIB](#)

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```
@phdthesis { Sal08,
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[Sch08]

[PDFBIB](#)

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[SDH+08a]

PDFBIB

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### Bibtex entry :

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@inproceedings { SDH+08a,
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[SDH+08b]

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[SGK08]

PDFBIB

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  Automotive Systems (FORMS/FORMAT 2008), Budapest, Hungary },  
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[SK08a]

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[SK08b]

PDFBIB

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    author = { Salewski, Falk and Kowalewski, Stefan },
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[SLK08]

PDFBIB

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@inproceedings { SLK08,
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[ST08]

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## in Industrial Applications

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  author = { Salewski, Falk and Taylor, Adam },  
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[Wil08]

[PDFBIB](#)

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```
@phdthesis { Wil08,  
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[WK07]

[PDFBIB](#)

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[WSK07]

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[CKSS07]

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[SK07a]

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### Bibtex entry :

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@inproceedings { SK07a,
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  booktitle = { Computer Safety, Reliability, and Security
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[SK07b]

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### Bibtex entry :

```
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[SK07d]

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@inproceedings { SK07d,
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[SK07e]

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[SK07f]

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@inproceedings { SK07f,
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  Automotive Systems (FORMS/FORMAT 2007), Braunschweig,
  Germany },
  editor = { Schnieder, E. and Tarnai, G. },
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[SSK07]

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  author = { Schlich, , Bastian and Salewski, Falk and Kowalewski,  
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[ST07]

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@inproceedings { ST07,  
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[Klu06a]

PDFBIB

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  author = { Kl{\u}nder, Daniel },
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[Klu06b]

PDFBIB

Klünder, D., "An Approach to Resolving Contradictions in Software Architecture Design", in *Proc. Perspectives in Software Architecture Quality (QoSA 2006)*, 2006, Universität Karlsruhe, Fakultät für Informatik, pp. 59-63.

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@inproceedings { Klu06b,
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http://www.ubka.uni-karlsruhe.de/cgi-bin/psview?document=ira/2006/10 },
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[WK05]

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[WKK07]

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author = { Wilking, Dirk and Khan, Umar Farooq and Kowalewski,
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[MK06a]

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[PSK06]

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[SK06a]

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Salewski, F. and Kowalewski, S., "Exploring the Differences of FPGAs and Microcontrollers for their Use in Safety-Critical Embedded Applications", in *Proc. IEEE Symposium on Industrial Embedded Systems (IES'06)*, 2006, IEEE, pp. 1-4.

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[SK06b]

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Schlich, B. and Kowalewski, S., "[mc]square: A model checker for microcontroller code", in *Proc. Leveraging Applications of Formal Methods, Verification and Validation (ISoLA 2006)*, Paphos, Cyprus, 2006, IEEE Computer Society Press, pp. 466-473.

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@inproceedings { SK06b,
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[SRWK06]

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## The effect of diverse hardware platforms on {N-version programming} in embedded systems - an empirical evaluation

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@inproceedings { SWK06,
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[SK05]

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[SK05b]

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@techreport { SK04,
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