

Publikationen

[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. Emerging Technologies and Factory Automation 2016*, 2017, IEEE, pp. 1-4, To appear.

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  
            Kowalewski, Stefan },  
  title = { A Priori Test Coverage Estimation for Automated  
Production  
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  booktitle = { Emerging Technologies and Factory Automation 2016 },  
  publisher = { IEEE },  
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  note = { To appear },  
  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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    title = { Ground Surface Pattern Recognition with Hidden Markov
Models
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    booktitle = { tba },
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    for_reporting_period = { 2017 },
}
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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 :

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@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 },
    publisher = { Maximilian Eibl, Martin Gaedke },
    publishedas = { Druck },
    isbn = { 978-3-88579-669-5 },
    issn = { 1617-5468 },
    language = { eng },
    pages = { 1537--1549 },
    year = { 2017 },
    timestamp = { 2017.10.06 },
    illkey = { conference },
    for_reporting_period = { 2017 },
}
```

[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  
and  
  Th{"o}nnessen, David },  
  title = { Echtzeiterweiterung f{"u}r Android: SPS inside },  
  journal = { IEE - Elektrische Automatisierung + Antriebstechnik },  
  year = { 2015 },  
  pages = { 58--61 },  
  publisher = { IEE },  
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  illkey = { journal },  
  language = { ger },  
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http://www.iee-online.de/wp-content/uploads/sites/9/2015/01/IEE_02_2015  
_web.pdf },  
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  for_reporting_period = { 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,  
  author = { Schmidt, Teresa and Philipsen, Ralf and Dzafic, Dzenan  
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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  
HCI  
  International 2017, Vancouver, BC, Canada, July 9-14, 2017,  
Proceedings, Part II },
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publisher = { Springer, Cham },
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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,
  author = { Dzafic, Dzenan and Nicolas, Wagener and Schoonbrood,
    Peter
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  title = { Multimodales Dynamisches Routen mit eNav },
  booktitle = { AGIT Journal für Angewandte Geoinformatik },
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  language = { ger },
  pages = { 278--287 },
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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,  
  author = { Dzafic, Dzenan and Wagener, Nicolas and Schoonbrood,  
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  booktitle = { International Conference on Intelligent Transport  
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  publisher = { Elsevier B.V. },  
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  for_reporting_period = { 2017 },  
}
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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. Proceedings of IEEE International Conference on Emerging Technology & Factory Automation, 2017*, IEEE, To appear.

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 = { Proceedings of IEEE International Conference on  
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year = { 2017 },
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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
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      Johannes and Maquet, Ralf and Schlo{\ss}er, Axel },
  title = { Metrics-based strategies for quality assurance of
    automotive
      embedded software },
  booktitle = { 17. Internationales Stuttgarter Symposium },
  publisher = { Springer },
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  for_reporting_period = { 2017 },
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```

[NKM+17]

[PDFBIB](#)

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

Continuous process for the validation of transmission controls

Bibtex entry :

```
@inproceedings { NKM+17,
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```
author = { Nowack, Jan and Kugler, Christopher and Maquet, Ralf and
           Richenhagen, Johannes and Remelhe, Filipe },
title = { Continuous process for the validation of transmission
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booktitle = { 16. CTI Symposium },
year = { 2017 },
timestamp = { 2017.06.12 },
illkey = { conference },
note = { To appear },
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, To appear.

Applicability of Supervisory Control Theory for the Supervision of PLC Programs

Bibtex entry :

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@inproceedings { GAK17,
  author = { G{"o}be, Florian and Aydin, Selin and Kowalewski,
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  note = { To appear },
  for_reporting_period = { 2017 },
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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  
and  
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  title = { Arttest - a New Test Environment for Model-Based Software  
Development },  
  booktitle = { SAE Technical Paper },  
  publisher = { SAE International },  
  publishedas = { Online },  
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  url = { http://doi.org/10.4271/2017-01-0004 },  
  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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  booktitle = { AAET 2017 - Automatisiertes und Vernetztes Fahren },  
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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
    Walter, M. },
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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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  volume = { 62 },
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  publisher = { De Gruyter },
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issn = { 1862-278X },
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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 :

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@inproceedings { CMW+17,
  author = { Chomicz, Paul and M{"u}ller-Lerwe, Armin and Wegner,
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  editor = { Dencker, Peter and Klenk, Herbert and Keller, Hubert and
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  title = { Towards the Use of Controlled Natural Languages in Hazard
    Analysis and Risk Assessment },
  booktitle = { Automotive - Safety & Security 2017 },
  series = { Lecture Notes in Informatics },
  volume = { P-269 },
  publisher = { Gesellschaft f{"u}r Informatik },
  publishedas = { Druck Online },
  isbn = { 978-3-88579-663-3 },
  issn = { 1617-5468 },
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  for_reporting_period = { 2017 },
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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 },  
  author = { Stollenwerk, André and Sehl, Florian and Marx, Gernot  
and  
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  title = { Enrichment of a diving computer with body sensor network  
data },  
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  for_reporting_period = { 2017 },  
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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,  
  author = { Ibtissem Ben Makhlouf and Norman Hansen and Stefan  
  Kowalewski },  
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  title = { HyReach: A Reachability Tool for Linear Hybrid Systems  
Based  
  on Support Functions },  
  booktitle = { ARCH16. 3rd International Workshop on Applied  
Verification
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http://easychair.org/publications/paper/HyReach_A_Reachability_Tool_for
_Linear_Hybrid_Systems_Based_on_Support_Functions },
    for_reporting_period = { 2017 },
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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 :

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@article { BHK+17a,
  author = { Brendle, C. and Hackmack, K.-F. and K{"u}hn, J. and
Wardeh,
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    Walter, M. and Misgeld B. },
  title = { Closed-loop control of extracorporeal oxygen and carbon
dioxide gas transfer },
  journal = { Control Engineering Practice },
  year = { 2017 },
  volume = { 59 },
  pages = { 173--182 },
  publisher = { Elsevier },
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  language = { eng },
  url = { http://dx.doi.org/10.1016/j.conengprac.2016.09.016 },
  note = { To appear },
  timestamp = { 2017.01.11 },
  for_reporting_period = { 2016 },
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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,
Ulrike },
  title = { Fast Identification of Obfuscation and Mobile Advertising
in
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  booktitle = { Trustcom/BigDataSE/ISPA },
  volume = { 1 },
  publisher = { IEEE },
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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,
  author = { Smieschek, Manfred and Stollenwerk, André and
Kowalewski,
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zur
  Validierung der hygienischen H{"a}ndedesinfektion },
  journal = { Informatik Aktuell },
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year = { 2017 },
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publisher = { Springer-Verlag },
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language = { ger },
url = {
http://link.springer.com/chapter/10.1007/978-3-662-54345-0_35 },
timestamp = { 2016.12.16 },
for_reporting_period = { 2017 },
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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.
and
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  title = { Control and Safety Analysis of a Group of Point Mass
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  journal = { AT-Automatisierungstechnik },
  year = { 2010 },
  volume = { 58.4 },
  pages = { 227--235 },
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  publishedas = { Online Druck },
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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  
    Polzer,  
      A. and Kowalewski, S. },  
  title = { Featureoriented modelling of product line evolution },  
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[SLA+10]

PDFBIB

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

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

Bibtex entry :

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@inproceedings { SLA+10,  
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[BBD+11]

PDFBIB

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

Zuverlaessigkeit von automotive embedded Systems,

Bibtex entry :

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

PDFBIB

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

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

Bibtex entry :

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

PDFBIB

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

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

Bibtex entry :

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@inproceedings { RDK+12,  
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[Bia16]

PDFBIB

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

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

Bibtex entry :

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@phdthesis { Bia16,  
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pdf },
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    for_reporting_period = { 2016 },
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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]

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

Static Analysis of Sequential Function Charts using Abstract Interpretation

Bibtex entry :

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

PDFBIB

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

Continuous gas transfer monitoring during extracorporeal membrane oxygenation

Bibtex entry :

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@article { BHK+17,
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Leonhardt, S and and Walter, M. },
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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 :

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@inproceedings { KSB+16,
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[KVS+16]

PDFBIB

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

Eingebettete Rezirkulationsmessung für eine ECLA-Therapie

Bibtex entry :

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@conference { KVS+16,
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[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.

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Bibtex entry :

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@conference { WBK+16,
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[BSKH16]

PDFBIB

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

Symbolische Ausführung zum Testen von SPS-Programmen

Bibtex entry :

```
@inproceedings { BSKH16,
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[Der16]

[PDFBIB](#)

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

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

Bibtex entry :

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@inproceedings { Der16,
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[DHK16]

[PDFBIB](#)

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

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@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 :

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

[PDFBIB](#)

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

Der Bodenbelag-Detektor des eNav-Systems

Bibtex entry :

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

[PDFBIB](#)

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

Das Barrierenerkennungssystem von eNav

Bibtex entry :

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@inproceedings { DLS+16,
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[DSFK17]

[PDFBIB](#)

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

eNav: A Suitable Navigation System for the Disabled

Bibtex entry :

```
@inproceedings { DSFK17,
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  booktitle = { Ambient Assisted Living },
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[GNK16]

[PDFSlidesBIB](#)

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

Reusability and Modularity of Safety Specifications for Supervisory Control

Bibtex entry :

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@inproceedings { GNK16,  
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[BK16]

PDFBIB

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

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

Bibtex entry :

```
@inproceedings { BK16,  
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[GHDK16]

[PDFBIB](#)

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

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

Bibtex entry :

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@inproceedings { GHDK16,
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[GTNK16]

[PDFBIB](#)

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

Synthesis Tool for Automation Controller Supervision

Bibtex entry :

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@inproceedings { GTNK16,  
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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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[GK16a]

[PDFBIB](#)

Gerlitz, T. and Kowalewski, S., "Architectural Analysis of MATLAB/Simulink Models with artshop", in *Proc. 13th Working IEEE/IFIP Conference on Software Architecture (WICSA)*, 2016, IEEE, pp. 307-310.

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.

Symbolic Verification of PLC Safety-Applications based on PLCopen Automata

Bibtex entry :

```
@inproceedings { BSK16,
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author = { Bohlender, Dimitri and Simon, Hendrik and Kowalewski,
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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.

2nd Workshop on Fail Safety in Medical Cyber-Physical Systems (FS-MCPS)

Bibtex entry :

```

@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.

Networked Cooperative Platoon of Vehicles for Testing Methods and Verification Tools

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 :

```
@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 :

```
@inproceedings { JGN14a,
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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 :

```
@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.

Evaluating Hand Disinfection with Alcohol-Based Hand Sanitizers Using Thermal Imaging

Bibtex entry :

```

@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.

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

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

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

Bibtex entry :

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@article { BGK15,
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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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for_reporting_period = { 2016 },
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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.

{Integration von Bodenbelagsinformationen zum energieeffizienten Routen von Elektrorollstühlen}

Bibtex entry :

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@inproceedings { DBFK14,
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[KBS+15]

[PDFBIB](#)

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

Pulsatile Ansteuerung einer Diagonalblutpumpe

Bibtex entry :

```
@article { KBS+15,
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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 :

```
@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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[BFSK15]

[PDFBIB](#)

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

Automatic Error Cause Localization of Faulty PLC Programs

Bibtex entry :

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@article { BFSK15,
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[SFB+15]

[PDFBIB](#)

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

Automatic Test Case Generation for PLC Programs using Coverage Metrics

Bibtex entry :

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

[PDFBIB](#)

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

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

Bibtex entry :

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

[PDFBIB](#)

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

Automatische Testfallgenerierung für SPS-Programme mittels Zeilenüberdeckung

Bibtex entry :

```
@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 :

```
@inproceedings { SDK+11,
  author = { Sasnauskas, Raimondas and Dustmann, Oscar Soria and
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    Kaminski, Benjamin Lucien and Wehrle, Klaus and Weise,
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http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=5961669 },
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```

[HBS+15]

[PDFBIB](#)

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

Analyzing the Restart Behavior of Industrial Control Applications

Bibtex entry :

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

[PDFBIB](#)

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

Synthesis of State Space Generators for Model Checking Microcontroller Code

Bibtex entry :

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@phdthesis { Gue14,
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[BHK+15]

[PDFBIB](#)

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

In silico evaluation of gas transfer estimation during extracorporeal membrane oxygenation

Bibtex entry :

```
@inproceedings { BHK+15,
  doi = { 10.1016/j.ifacol.2015.10.190 },
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K{"u}hn,
    Jan and Wardeh, Markus Nabil and Kopp, R{"u}dger and
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[GSK15]

[PDFBIB](#)

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

Duplikatserkennung und Refactoring in Matlab/Simulink-Modellen

Bibtex entry :

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@inproceedings { GSK15,
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[KWS+15]

[PDFBIB](#)

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

Pulsatile Ansteuerung einer Diagonalblutpumpe

Bibtex entry :

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

[PDFBIB](#)

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

Model-driven support for product line evolution on feature level

Bibtex entry :

```
@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

Bibtex entry :

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

[PDFBIB](#)

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

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

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[CSB+15]

PDFBIB

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

A benchmark suite for hybrid systems reachability analysis

Bibtex entry :

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@inproceedings { CSB+15,
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[FAKK14]

PDFBIB

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

Semantic interfaces for automotive software

components: exemplary development & validation of a practical specification language

Bibtex entry :

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@techreport { FAKK14,
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[FOR14]

[PDFBIB](#)

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

Evaluating embedded-software specifications

Bibtex entry :

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@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 :

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@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 :

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@inproceedings { KGK14,
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[RFB14]

PDFBIB

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

Runtime verification of embedded real-time systems

Bibtex entry :

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@article { RFB14,
  author = { Reinbacher, Thomas and Fuegger, Matthias and Brauer,
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  pages = { 203--239 },
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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 :

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@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 :

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@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 :

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@inproceedings { SKB+14,
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  author = { Stollenwerk, Andr{'e} and K{"u}hn, Jan and Brendle,
    Christian and Walter, Marian and Arens, Jutta and Wardeh,
    Markus Nabil and Kowalewski, Stefan and Kopp, R{"u}dger },
  title = { Model-based supervision of a blood pump },
  booktitle = { 19th World Congress of the International Federation
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[FK14]

[PDFBIB](#)

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

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

Bibtex entry :

```
@inproceedings { FK14,
  author = { Franke, Dominik and Kowalewski, Stefan },
  editor = { Cerone, Antonio and Persico, Donatella and Fernandes,
Sara
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for
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series = { Lecture Notes in Computer Science },
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language = { eng },
pages = { 140--146 },
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for_reporting_period = { 2014 },
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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,
  author = { Brauer, J{\\"o}rg },
  title = { {A}utomatic {A}bstraction for {B}it-{\V}ectors using
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[PMS+13]

[PDFBIB](#)

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

Robust Control of End-Tidal CO₂ using the H[∞] Loop-Shaping Approach

Bibtex entry :

```
@article { PMS+13,
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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 :

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

[WSB+13]

[PDFBIB](#)

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

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

Bibtex entry :

```
@article { WSB+13,
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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,
  author = { Diab, Hilal },
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https://publications.rwth-aachen.de/record/465272/files/465272.pdf },
for_reporting_period = { 2014 },
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[MER14]

[PDFBIB](#)

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

Integration und Analyse von Artefakten in der modellbasierten Entwicklung eingebetteter Software

Bibtex entry :

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@phdthesis { MER14,
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[AFKK13]

[PDFBIB](#)

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

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

Bibtex entry :

```
@inproceedings { AFKK13,
author = { Armoush, Ashraf and Franke, Dominik and Kalkov, Igor and
Kowalewski, Stefan },
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title = { An Approach for Using Mobile Devices In Industrial
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booktitle = { 5th International Conference on Mobile Computing,
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publisher = { Springer },
publishedas = { Online },
language = { eng },
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url = { http://publications.embedded.rwth-aachen.de/file/56 },
for_reporting_period = { 2013 },
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[FOR12]

[PDFBIB](#)

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

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

Bibtex entry :

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@techreport { FOR12,
  author = { F{"o}rster, Marc },
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[For13]

PDFBIB

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

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

Bibtex entry :

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@conference { For13,
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[GKS+13]

PDFBIB

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

Non-Blocking Garbage Collection for Real-Time Android

Bibtex entry :

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@inproceedings { GKS+13,
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Franke, Dominik and Kowalewski, Stefan },
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}

[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,
  author = { Wiechowski, Norbert and Gerlitz, Thomas and Merschen,
Daniel
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der
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series = { Lecture Notes in Informatics (LNI) },
volume = { P-220 },
publisher = { K{\o}llen Druck+Verlag GmbH, Bonn },
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```

[BOCH13]

[PDFBIB](#)

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

PtrTracker: Pragmatic Pointer Analysis

Bibtex entry :

```

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

PDFBIB

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

Abstract interpretation of microcontroller code: Intervals meet congruences

Bibtex entry :

```
@article { BKK13,
  author = { Brauer, J{"o}rg and King, Andy and Kowalewski, Stefan
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Intervals
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[BGK13]

PDFBIB

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

Predicate Abstraction for Programmable Logic Controllers

Bibtex entry :

```
@inproceedings { BGK13,
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[BBK13]

PDFBIB

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

Boolean and Modular Abstractions for Programmable Logic Controllers

Bibtex entry :

```
@inproceedings { BBK13,
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[DFBK13]

[PDFBIB](#)

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

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

Bibtex entry :

```
@inproceedings { DFBK13,  
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[DF13]

[PDFBIB](#)

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

Entwicklung und Evaluation eines Navigationssystems für Elektrorollstühle

Bibtex entry :

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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 },
  title = { Reverse Engineering des Windows Phone Process Execution
    Models },
  booktitle = { Gesellschaft f{"u}r Informatik Seminars,
Informatiktage },
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  language = { ger },
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  illkey = { conference },
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[BDK13]

PDFBIB

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

Reachability Analysis for Managing Platoons at Intersections

Bibtex entry :

```
@inproceedings { BDK13,
  author = { Ben Makhlof, Ibtissem and Diab, Hilal and Kowalewski,
    Stefan },
  title = { Reachability Analysis for Managing Platoons at
Intersections },
  booktitle = { 21st Mediterranean Conference on Control & Automation
(MED)
    Plataniias-Chania, Crete, Greece, June 25-28, },
  publisher = { IEEE },
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  isbn = { 978-1-4799-0995-7 },
  language = { eng },
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for_reporting_period = { 2013 },  
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```

[BHK13]

PDFBIB

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

Comparison of Reachability Methods for Uncertain Linear Time-Invariant Systems

Bibtex entry :

```
@inproceedings { BHK13,  
  author = { Ben Makhlof, Ibtissem and Hänsch, Paul and  
            Kowalewski, Stefan },  
  title = { Comparison of Reachability Methods for Uncertain Linear  
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  booktitle = { ECC13: European Control Conference , Zurich,  
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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  
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  editor = { VDI Wissensforum },
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title = { Verifikation von sicherheitsgerichteten SPS-Programmen
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    Hilfe von Safety-Automaten },
booktitle = { Automation 2013 },
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,
  location = { Budapest },
  volume = { 37 },
  address = { Heidelberg },
  month = { September },
  owner = { stollenwerk },
  author = { Walter, Marian and Brendle, Christian and Bensberg, Ralf
and
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and Leonhardt, Steffen },
  editor = { \'{A}kos Jobb\{a}gy },
  title = { Closed loop physiological ECMO control },
  booktitle = { 5th European Conference of the International
Federation for
    Medical and Biological Engineering },
  series = { IFMBE Proceedings },
  publisher = { Springer },
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  isbn = { 978-3-642-23507-8 },
  language = { eng },
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for_reporting_period = { 2011 },
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[PAL13]

[PDFBIB](#)

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

Time-Continuous Behaviour Comparison Based on Abstract Models

Bibtex entry :

```
@phdthesis { PAL13,
  author = { Palczynski, Jacob },
  title = { Time-Continuous Behaviour Comparison Based on Abstract
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```

[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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issn = { 0935-3232 },
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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 :

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@phdthesis { Sto13,
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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,  
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  booktitle = { Proceedings Seventh Conference on Systems Software  
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  for_reporting_period = { 2013 },  
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[HK12]

[PDFBIB](#)

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

Invariants for LTI Systems with Uncertain Input

Bibtex entry :

```
@inproceedings { HK12,  
  author = { H{"a"}nsch, Paul and Kowalewski, Stefan },  
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[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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[BK12]

[PDFBIB](#)

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

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

Bibtex entry :

```
@inproceedings { BK12,
  address = { Saint-Petersburg, Russia },
  doi = { 10.1109/ICUMT.2012.6459786 },
  author = { Barakat, Kamal and Kowalewski, Stefan },
  title = { Modeling and Verification of Network Protocol Specs using
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  booktitle = { The 4th International Workshop on Mobile Computing
and
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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,
  author = { Biallas, Sebastian and Brauer, J{"o}rg and Kowalewski,
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[FRK12]

[PDFBIB](#)

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

AndroLIFT: A Tool for Android Application Life Cycles

Bibtex entry :

```
@inproceedings { FRK12,
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Stefan },
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  booktitle = { 4th International Conference on Advances in System
Testing
and Validation Lifecycle (VALID) },
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  publishedas = { Online },
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[MGPK12]

PDFBIB

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

Analysis of Simulink Models Using Databases and Model Transformations

Bibtex entry :

```
@inproceedings { MGPK12,
  location = { Essen, Germany },
  author = { Merschen, Daniel and Gleis, Robert and Pott, Julian and
Kowalewski, Stefan },
  editor = { Machando, Ricardo J. and Maciel, Rita Suzana P. and
Rubin,
Julia and Botterweck, Goetz },
  title = { Analysis of Simulink Models Using Databases and Model
Transformations },
  booktitle = { 8th International Workshop on Model-based
Methodologies for
Pervasive and Embedded Software (MOMPES '12) },
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series = { Lecture Notes in Computer Science },
number = { 7706 },
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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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  author = { Kalkov, Igor and Franke, Dominik and Schommer, John F.
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  title = { A Real-time Extension to the Android Platform },
  booktitle = { 10th International Workshop on Java Technologies for
Real-time and Embedded Systems (JTRES) },
  publisher = { ACM },
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  for_reporting_period = { 2012 },
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[BKS12c]

[PDFBIB](#)

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

Automatische Wertebereichsanalyse -- Formale Verifikation für SPS-Programme

Bibtex entry :

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@article { BKS12c,  
  author = { Biallas, Sebastian and Kowalewski, Stefan and Schlich,  
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  for_reporting_period = { 2012 },  
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[DBK12]

PDFBIB

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

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

Bibtex entry :

```
@inproceedings { DBK12,  
  doi = { 10.1109/ITSC.2012.6338822 },  
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  booktitle = { 15th IEEE Intelligent Transportation Systems  
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[BBK12a]

[PDFBIB](#)

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

Access-Based Localization for Octagons

Bibtex entry :

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

[FEK12]

[PDFBIB](#)

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

Reverse Engineering and Testing Service Life Cycles of Mobile Platforms

Bibtex entry :

```
@inproceedings { FEK12,
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Stefan },
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  for_reporting_period = { 2012 },
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```

[BKN12]

PDFBIB

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

A Native Approach to Modeling Timed Behavior in the Pi-Calculus**Bibtex entry :**

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

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@inproceedings { FDBK12,
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(AMUS/ACMOTÉ) },
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  for_reporting_period = { 2012 },
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```

[FSK12]

[PDFBIB](#)

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

Softwarequalität in der Mobilen Welt: Testen von Lebenszyklen Mobiler Applikationen

Bibtex entry :

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

[PDFBIB](#)

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

Patient oriented closed loop control of extracorporeal lung assist

Bibtex entry :

```
@inproceedings { WBS+12,
  doi = { 10.1016/j.jcrc.2012.10.032 },
  author = { Walter, Marian and Brendle, Christian and Stollenwerk,
Andre
          and Kopp, R{"u}dger and Arens, Jutta and Bensberg, Ralf and
Leonhardt, Steffen },
  title = { Patient oriented closed loop control of extracorporeal
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[KRS12]

[PDFBIB](#)

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

Cyber-Physical Systems - eine Herausforderung an die Automatisierungstechnik?

Bibtex entry :

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

[PDFBIB](#)

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

Range and Value-Set Analysis for Programmable Logic Controllers

Bibtex entry :

```
@inproceedings { BKS12b,
  address = { Guadalajara, Mexico },
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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 :

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@inproceedings { GDFK12,
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```

[BBKK12]

PDFBIB

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

Loop Leaping with Closures

Bibtex entry :

```

@inproceedings { BBKK12,
  author = { Biallas, Sebastian and Brauer, J{"o}rg and King, Andy
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  Kowalewski, Stefan },
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  for_reporting_period = { 2012 },
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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 :

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@inproceedings { MPK12,
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[SFLK12]

PDFBIB

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

Load Balancing for Cross Layer Communication

Bibtex entry :

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

[BKS12a]

PDFBIB

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

Automatische Wertebereichsanalyse von SPS-Programmen

Bibtex entry :

```
@inproceedings { BKS12a,
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[BDK12]

PDFBIB

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

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

Bibtex entry :

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@inproceedings { BDK12,
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    Under Loss of Communication Using Zonotopes },
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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 :

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@inproceedings { HDBK11,
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System (HAS2011) },
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[BS12]

PDFBIB

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

Inferring Definite Counterexamples Through Under-Approximation

Bibtex entry :

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@inproceedings { BS12,
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[MWK10]

PDFBIB

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

Design Patterns for Integrating Variability in Timed Automata

Bibtex entry :

```
@inproceedings { MWK10,
  doi = { http://doi.ieeecomputersociety.org/10.1109/SSIRI-C.2010.21
},
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Stefan },
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title = { Design Patterns for Integrating Variability in Timed Automata },
booktitle = { 4th IEEE International Conference on Secure Software Integration and Reliability },
publisher = { IEEE Computer Society },
publishedas = { Druck Online },
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language = { eng },
pages = { 38--45 },
year = { 2010 },
timestamp = { 2012.01.24 },
illkey = { conference },
for_reporting_period = { 2010 },
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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 :

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@inproceedings { MHRK08,
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[MRHK10]

PDFBIB

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

Virtuelle Integration modellbasierter Fahrzeugfunktionen unter AUTOSAR

Bibtex entry :

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

PDFBIB

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

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

Bibtex entry :

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

[PDFBIB](#)

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

Testing Conformance of Lifecycle-Dependent Properties of Mobile Applications

Bibtex entry :

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

[PDFBIB](#)

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

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

Bibtex entry :

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@phdthesis { Mic12,
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[Mit12]

PDFBIB

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

Applied timed testing: Testautomatisierung in industriellen Testprozessen von eingebetteten Systemen

Bibtex entry :

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@phdthesis { Mit12,
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[MDR+12]

PDFBIB

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

Model-Based Analysis of Design Artefacts Applying an Annotation Concept

Bibtex entry :

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

[PDFBIB](#)

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

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

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```
@proceedings { BRT11,
  editor = { Brauer, J{o}rg and Roveri, Marco and Tews, Hendrik },
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[RBS+11]

[PDFSlidesBIB](#)

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

Automated Test-Trace Inspection for Microcontroller Binary Code

Bibtex entry :

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

PDFBIB

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

Control Design for Generalized Platoon Problems

Bibtex entry :

```
@article { MDAK11,  
  owner = { diab },  
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  author = { Maschuw, Jan Philipp and Diab, Hilal and Abel, Dirk and  
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  year = { 2011 },  
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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 :

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@inproceedings { GKKK11,
  author = { Grobosch, Sebastian and Kamin, Volker and Krirkkawin,
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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 :

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@techreport { Bar11,
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  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 :

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@inproceedings { KBW+11,
    volume = { 37 },
    location = { Berlin },
    month = { October },
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    owner = { stollenwerk },
    author = { Kopp, R{"u}dger and Bensberg, Ralf and Walter, Marian
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    title = { Automation of extracorporeal membrane oxygenation using a
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    booktitle = { Intensive Care Medicine },
    number = { Supplement 2 },
    publisher = { Springer },
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```

[PMB+11]

[PDFBIB](#)

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

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

Bibtex entry :

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@article { PMB+11,
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  timestamp = { 2011.09.27 },
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[WBA+11]

[PDFBIB](#)

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

Physiological target control in long term extracorporeal oxygenation

Bibtex entry :

```
@inproceedings { WBA+11,
  month = { August },
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location = { Porto },
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title = { Physiological target control in long term extracorporeal
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series = { 2011 },
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for_reporting_period = { 2011 },
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```

[FEWK11]

PDFBIB

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

Reverse Engineering of Mobile Application Lifecycles

Bibtex entry :

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@inproceedings { FEWK11,
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for_reporting_period = { 2011 },
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[HSK11]

PDFBIB

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

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

Bibtex entry :

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@inproceedings { HSK11,
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[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 :

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@inproceedings { DFDK11,
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    Kowalewski, Stefan },
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[GK11]

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

Automatic Derivation of Abstract Semantics From Instruction Set Descriptions

Bibtex entry :

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@inproceedings { GK11,
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  illkey = { conference },
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[RB11]

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

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Bibtex entry :

```
@inproceedings { RB11,
  author = { Reinbacher, Thomas and Brauer, J{\\"o}rg },
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Sanjoy
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http://www.embedded.rwth-aachen.de/lib/exe/fetch.php?media=bib:rb11.pdf
},
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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,
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for_reporting_period = { 2011 },
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[BBS+11]

[PDFBIB](#)

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

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

Bibtex entry :

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@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 :

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@inproceedings { SGA+11,
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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 :**

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@inproceedings { RGHK11,
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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 :

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@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,
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AGIT-Symposium (AGIT) },
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[MWF+11]

[PDFBIB](#)

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

Coping with Complexity of Testing Models for Real-Time

Embedded Systems

Bibtex entry :

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

PDFSlidesBIB

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

Hardware Support for Efficient Testing of Embedded Software

Bibtex entry :

```
@inproceedings { RSM+11,
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M{"u"}ller,
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Kowalewski, Stefan },
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  booktitle = { 7th ASME/IEEE Conference on Mechatronics and Embedded
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[BKS11]

PDFBIB

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

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

Bibtex entry :

```
@inproceedings { BKS11,
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[BKK11a]

PDFSlidesBIB

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

Existential Quantification as Incremental SAT

Bibtex entry :

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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

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

Bibtex entry :

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@article { ADM+10,
  number = { 2 },
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  author = { Arens, Jutta and De Brouwer, Petra and Mager, Ilona and
    Kopp, R{"u}dger and Walter, Marian and Stollenwerk, Andre
    and Schmitz-Rode, Thomas and Steinseifer, Ulrich },
  title = { A Dynamic Study on the Hemolytic Effect of Negative
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  journal = { ASAIIO journal },
  year = { 2010 },
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timestamp = { 2011.03.18 },
for_reporting_period = { 2011 },
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```

[BBK11]

[PDFBIB](#)

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

SAT-Based Abstraction Refinement for Programmable Logic Controllers

Bibtex entry :

```
@inproceedings { BBK11,
  author = { Biallas, Sebastian and Brauer, J{"o}rg and Kowalewski,
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  title = { SAT-Based Abstraction Refinement for Programmable Logic
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  booktitle = { Dependable Control of Discrete Systems (DCDS'11) },
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},
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```

[FDWK11]

[PDFBIB](#)

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

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

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

Bibtex entry :

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

[PDFBIB](#)

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

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 :

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@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

Computer Science, Springer, pp. 73-88.

Approximate Quantifier Elimination for Propositional Boolean Formulae

Bibtex entry :

```
@inproceedings { BK11b,  
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[PWKU11]

PDFBIB

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

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

Bibtex entry :

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@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.

TripleT: Improving Test Responsiveness for High Performance Embedded Systems

Bibtex entry :

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@inproceedings { MFB+11,  
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[MPBK11]

[PDFBIB](#)

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

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

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

Bibtex entry :

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

PDFBIB

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

Comparing Continuous Behaviour in Model-based Development of Embedded Software

Bibtex entry :

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@inproceedings { PWMK11,  
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[BPD+10]

PDFBIB

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

EvoFM: Feature-driven Planning of Product-line Evolution

Bibtex entry :

```
@inproceedings { BPD+10,  
  author = { Botterweck, Goetz and Pleuss, Andreas and Dhungana,  
Deepak  
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  title = { EvoFM: Feature-driven Planning of Product-line Evolution  
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for_reporting_period = { 2011 },
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[FW11]

[PDFBIB](#)

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

Providing a Software Quality Framework for Testing of Mobile Applications

Bibtex entry :

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@inproceedings { FW11,
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[BBSK11]

[PDFBIB](#)

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

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

Bibtex entry :

```
@inproceedings { BBSK11,
  location = { Newport Beach, CA, USA },
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author = { Beckschulze, Eva and Brauer, J{"o}rg and Stollenwerk,
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title = { Analyzing Embedded Systems Code for Mixed-Critical
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for_reporting_period = { 2011 },
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```

[BK11a]

[PDFSlidesBIB](#)

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

Transfer Function Synthesis without Quantifier Elimination

Bibtex entry :

```

@inproceedings { BK11a,
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  booktitle = { European Symposium on Programming (ESOP 2011) },
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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,
  author = { Schlich, Bastian and Brauer, J{"o}rg and Kowalewski,
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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,
  author = { Andreas Polzer and Daniel Merschen and Jacques Thomas
and
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title = { View-Supported Rollout and Evolution of Model-Based ECU
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```

[KR10]

PDFBIB

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

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

Bibtex entry :

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@proceedings { KR10,
  title = { Formal Methods for Industrial Critical Systems. Proc.
FMICS
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[BPK10]

PDFBIB

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

Variability and Evolution in Model-based Engineering of Embedded Systems

Bibtex entry :

```
@inproceedings { BPK10,
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```

[BBGK10]

PDFBIB

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

On-The-Fly Path Reduction

Bibtex entry :

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

PDFBIB

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

Test-Case Generation for Embedded Binary Code Using Abstract Interpretation

Bibtex entry :

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@inproceedings { RBH+10,
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df },
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```

[PWK10]

[PDFBIB](#)

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

Testing Continuous Systems Conformance Using Cross Correlation

Bibtex entry :

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@inproceedings { PWK10,
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[SDKS10]

[PDFBIB](#)

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

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

Bibtex entry :

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@inproceedings { SDKS10,
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[BBKS10]

[PDFBIB](#)

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

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

Bibtex entry :

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@inproceedings { BBKS10,
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[RHS+10]

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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

Bibtex entry :

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@article { RHS+10,
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Counterexample-guided abstraction refinement for {PLCs}

Bibtex entry :

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@inproceedings { BBK10,
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[BKKN10]

[PDFBIB](#)

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

Loop Refinement using Octagons and Satisfiability

Bibtex entry :

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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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@inproceedings { CBD+10a,
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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.

A Testing Platform for Cooperative Vehicle Platoon Controllers

Bibtex entry :

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@inproceedings { DCB+10,
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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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@proceedings { BGL+10,
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[WWS+10]

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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 :

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@inproceedings { WWS+10,
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Bibtex entry :

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@inproceedings { BKK10,
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[GBK10]

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

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

Bibtex entry :

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@inproceedings { GBK10,
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[SJA+10]

[PDFBIB](#)

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Bibtex entry :

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[SJW+10]

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Modellbasierte Fehlerdiagnose eines

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Bibtex entry :

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[CMD+10]

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Regelung und Sicherheitsanalyse einer Gruppe Massenpunktfahrzeuge mit Hilfe energiebasierter Methoden

Bibtex entry :

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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.

Automatic Abstraction for Intervals using Boolean Formulae

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[BNS10]

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

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

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

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

Bibtex entry :

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@inproceedings { BNS10,  
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[FK10]

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

Verifikation der Java-Echtzeitfähigkeit für den Einsatz in zeitkritischen Systemen

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Informatiktage },  
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[GSBK10]

[PDFBIB](#)

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

Synthesizing Simulators for Model Checking Microcontroller Binary Code

Bibtex entry :

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[WWS+09a]

[PDFBIB](#)

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

In Vivo Validation of an Automatic Controlled

Extracorporeal Membrane Oxygenator

Bibtex entry :

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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.

Sicherheitskonzept für eine intensivmedizinische Anwendung am Beispiel der ECMO

Bibtex entry :

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

[PDFBIB](#)

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

Automatisierung und Fehlerdiagnose bei der extrakorporalen Membranoxygenierung

Bibtex entry :

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@article { WSW+10,
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[Arm10]

[PDFBIB](#)

Armoush, A., "Design Patterns for Safety-Critical Embedded Systems," PhD Thesis , 2010.

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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.

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

Bibtex entry :

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@inproceedings { MWGK10,
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Requirements for Embedded Systems },
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  illkey = { conference },
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[Sch10]

PDFBIB

Schlich, B., "Model Checking of Software for Microcontrollers", *ACM Transactions in Embedded Computing Systems (TECS)*, vol. 9, iss. 4, pp. 1-27, 2010

Model Checking of Software for Microcontrollers

Bibtex entry :

```
@article { Sch10,  
  author = { Schlich, Bastian },  
  journal = { ACM Transactions in Embedded Computing Systems (TECS) },  
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  for_reporting_period = { 2010 },  
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```

[SL09]

[PDFSlidesBIB](#)

Stollenwerk, A. and Lang, M., "Embedded Contributions to an Intensive Care Safety Concept", in *Proc. ArtistDesign Workshop on Embedded Systems in Healthcare, Eindhoven - The Netherlands, 2009*, Invited Talk.

Embedded Contributions to an Intensive Care Safety Concept

Bibtex entry :

```
@conference { SL09,  
  month = { December },  
  organization = { ARTIST },  
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  illkey = { conference },  
  url = { http://publications.embedded.rwth-aachen.de/file/4i },  
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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 :

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

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

Bibtex entry :

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@inproceedings { SFKW09,  
  location = { Madrid, Spain },
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doi = { http://doi.acm.org/10.1145/1620405.1620413 },
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title = { Evaluation of the Real-Time Java Runtime Environment for
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booktitle = { 7th International Workshop on Java Technologies for
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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.

Handbook of Hybrid Systems Control

Bibtex entry :

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@inbook { KGG+09,
chapter = { Hybrid Automata },
pages = { 57-86 },
title = { Handbook of Hybrid Systems Control },
publisher = { Cambridge University Press },
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Benedetto and Polderman, Jan Willem and Weise, Carsten },
timestamp = { 2009.12.08 },
for_reporting_period = { Old },
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[KP09]

PDFBIB

Kowalewski, S. and Philippou, A., Eds., *Tools and Algorithms for the Construction and Analysis of Systems. Proc. TACAS 2009*, York, UK: Springer, 2009.

Tools and Algorithms for the Construction and Analysis of Systems. Proc. TACAS 2009

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@proceedings { KP09,
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[SJK09]

[PDFSlidesBIB](#)

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

An Undergraduate Embedded Software Laboratory for the Masses

Bibtex entry :

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@inproceedings { SJK09,
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[WWK+09]

[PDFBIB](#)

Walter, M., Wartzek, T., Kopp, R., Stollenwerk, A., Kashefi, A., and Leonhardt, S., "Automation of Long Term Extracorporeal Oxygenation Systems", in *Proc. European Control Conference (ECC09), Budapest, Hungary, 2009*, European Union Control Association.

Automation of Long Term Extracorporeal Oxygenation Systems

Bibtex entry :

```
@inproceedings { WWK+09,
  month = { August },
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[BPK09]

[PDFBIB](#)

Botterweck, G., Polzer, A., and Kowalewski, S., "Using Higher-order Transformations to Derive Variability Mechanism for Embedded Systems", in *Proc. 2nd International Workshop on Model Based Architecting and Construction of Embedded Systems (ACESMB 2009), Workshop at the 12th International Conference on Model Driven Engineering Languages and Systems (MoDELS 2009)*, Denver, Colorado, USA, 2009, vol. Vol-507, CEUR Workshop Proceedings, pp. 107-121.

Using Higher-order Transformations to Derive Variability Mechanism for Embedded Systems

Bibtex entry :

```
@inproceedings { BPK09,  
  author = { Botterweck, Goetz and Polzer, Andreas and Kowalewski,  
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  booktitle = { 2nd International Workshop on Model Based  
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[BPPK09]

PDFBIB

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

Towards Feature-driven Planning of Product-Line Evolution

Bibtex entry :

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@inproceedings { BPPK09,  
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(FOSD), Workshop at the 12th International Conference on
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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.

Safety Assessment of Design Patterns for Safety-Critical Embedded Systems

Bibtex entry :

```
@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.

Safety Recommendations for Safety-Critical Design Patterns

Bibtex entry :

```
@inproceedings { AK09,  
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pdf/Safety_Recommendations_for_Safety_Critical_Design_Patterns.pdf },  
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```

[BPK09a]

[PDFBIB](#)

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

Interactive Configuration of Embedded Systems Product Lines

Bibtex entry :

```
@inproceedings { BPK09a,  
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```

[KLK09]

[PDFBIB](#)

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

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

Bibtex entry :

```

@inbook { KLK09,
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  pages = { 341-349 },
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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 :

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@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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@inproceedings { WWS+09,
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booktitle = { 8. Workshop AUTOMED – Automatisierungstechnische
Verfahren
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```

[Mit09]

[PDFBIB](#)

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

Testing in the Industrial Development Process for Embedded Systems

Bibtex entry :

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@inproceedings { Mit09,
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[PBWK09]

PDFBIB

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Variabilität im modellbasierten Engineering von eingebetteten Systemen

Bibtex entry :

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@inproceedings { PBWK09,
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[Guec09]

PDFBIB

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

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

Bibtex entry :

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@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

DFG Research Training Group "Algorithmic Synthesis of Reactive and Discrete-Continuous Systems (AlgoSyn)"

Bibtex entry :

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@article { TBG+09,
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[ASK08c]

PDFBIB

Armoush, A., Salewski, F., and Kowalewski, S., "A Hybrid Fault Tolerance Method for Recovery Block with a Weak Acceptance Test", in *Proc. The 5th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC 2008)*, 2008, vol. 1, IEEE CS, pp. 484-491.

A Hybrid Fault Tolerance Method for Recovery Block with a Weak Acceptance Test

Bibtex entry :

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@inproceedings { ASK08c,

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Weak Acceptance Test },
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author = { Armoush, Ashraf and Salewski, Falk and Kowalewski,
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automotive applications. Recent safety standards set
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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  author = { Fehnker, Ansgar and Huuck, Ralf and Schlich, Bastian and  
    Tapp, Michael },  
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@phdthesis { Klu09,  
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@article { KWA+09,  
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  author = { Schlich, Bastian and Kowalewski, Stefan },  
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@inproceedings { SKW09,
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[SNBB09]

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[SWW+09]

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

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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
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[Klu08a]

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[KK07]

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[KKK08]

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[BKKS08]

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[DHH+08]

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@inproceedings { DHH+08,
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[HFSB08]

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[HNSW08]

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  author = { Herberich, Gerlind and Noll, Thomas and Schlich, Bastian  
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[RKHS08a]

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[RKHS08b]

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    author = { Salewski, Falk },  
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[SDH+08a]

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

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

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[SGK08]
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[SK08a]

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[SK08b]

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[SLK08]

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[Wil08]

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Empirical Studies for the Application of Agile Methods to Embedded Systems

Bibtex entry :

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[WK07]

[PDFBIB](#)

Wilking, D. and Kowalewski, S., "Analyzing Software Engineering Processes on Source Code Level", in *Proc. New trends in software methodologies, tools and techniques (SOMET'2007)*, 2007 in *Frontiers in Artificial Intelligence and Applications*, IOS Press, pp. 305-314.

Analyzing Software Engineering Processes on Source Code Level

Bibtex entry :

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@inproceedings { WK07,  
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[WSK07]

PDFBIB

Wilking, D., Schili, D., and Kowalewski, S., "Measuring the Human Factor with the Rasch Model", in *Proc. Balancing Agility and Formalism in Software Engineering (CEE-SET 2007)*, 2007, vol. 5082 in LNCS, Springer, pp. 157-168.

Measuring the Human Factor with the Rasch Model

Bibtex entry :

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@inproceedings { WSK07,  
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[CKSS07]

PDFBIB

Chen, X., Salewski, F., Kowalewski, S., and Spisic, K., "Concept and Prototyping of a Fault Management Framework for Automotive Safety Relevant Systems", in *Proc. Moderne Elektronik im Kraftfahrzeug II*, 2007, expert-verlag, pp. 70-79.

Concept and Prototyping of a Fault Management Framework for Automotive Safety Relevant Systems

Bibtex entry :

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@inproceedings { CKSS07,
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[SK07a]

PDFBIB

Salewski, F. and Kowalewski, S., "Achieving Highly Reliable Embedded Software: An Empirical Evaluation of Different Approaches", in *Proc. Computer Safety, Reliability, and Security (SAFECOMP'07)*, 2007, vol. 4680/2007 in Lecture Notes in Computer Science, Springer, pp. 270-275.

Achieving Highly Reliable Embedded Software: An Empirical Evaluation of Different Approaches

Bibtex entry :

```
@inproceedings { SK07a,
  author = { Salewski, Falk and Kowalewski, Stefan },
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[SK07b]

PDFBIB

Salewski, F. and Kowalewski, S., "Hardware Platform Design Decisions In Embedded Systems - A Systematic Teaching Approach", in *Proc. Special Issue on the Second Workshop on Embedded System Education (WESE'06)*, 2007, vol. 4, ACM, pp. 27-35.

Hardware Platform Design Decisions In Embedded Systems - A Systematic Teaching Approach

Bibtex entry :

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@inproceedings { SK07b,
  volume = { 4 },
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[SK07d]

PDFBIB

Salewski, F. and Kowalewski, S., "The Effect of Hardware Platform Selection on Safety-Critical Software in Embedded Systems: Empirical Evaluations", in *Proc. IEEE Symposium on Industrial Embedded Systems (SIES'07)*, 2007, IEEE, pp. 78-85.

The Effect of Hardware Platform Selection on Safety-Critical Software in Embedded Systems: Empirical Evaluations

Bibtex entry :

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@inproceedings { SK07d,
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[SK07e]

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Salewski, F. and Kowalewski, S., "Testing Issues in Empirical Reliability Evaluation of Embedded Real-Time Systems", in *Proc. IEEE Real-Time and Embedded Technology and Applications Symposium, WiP session (RTAS'07)*, 2007, vol. Technical Report WUCSE-2007-17, Washington University in St. Louis, pp. 48-51.

Testing Issues in Empirical Reliability Evaluation of Embedded Real-Time Systems

Bibtex entry :

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@inproceedings { SK07e,
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[SK07f]

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Schlich, B. and Kowalewski, S., "An Extendable Architecture for Model Checking Hardware-Specific Automotive Microcontroller Code", in *Proc. Formal Methods for Automation and Safety in Railway and Automotive Systems (FORMS/FORMAT 2007)*, Braunschweig, Germany, Braunschweig, Germany, 2007, GZVB, pp. 202-212.

An Extendable Architecture for Model Checking Hardware-Specific Automotive Microcontroller Code

Bibtex entry :

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@inproceedings { SK07f,
  address = { Braunschweig, Germany },
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[SSK07]

PDFBIB

Schlich, B., Salewski, F., and Kowalewski, S., "Applying Model Checking to an Automotive Microcontroller Application", in *Proc. Industrial Embedded Systems (SIES'07)*, Lisbon, Portugal, 2007, IEEE Computer Society Press, pp. 209-216.

Applying Model Checking to an Automotive

Microcontroller Application

Bibtex entry :

```
@inproceedings { SSK07,  
  author = { Schlich, , Bastian and Salewski, Falk and Kowalewski,  
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[ST07]

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Salewski, F. and Taylor, A., "Fault Handling in FPGAs and Microcontrollers in Safety-Critical Embedded Applications: A Comparative Survey", in *Proc. 10th Euromicro Conference on Digital System Design (DSD'07)*, 2007, IEEE, pp. 124-131.

Fault Handling in {FPGAs} and Microcontrollers in Safety-Critical Embedded Applications: A Comparative Survey

Bibtex entry :

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@inproceedings { ST07,  
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[Klu06a]

PDFBIB

Klünder, D., "TRIZ for Software Architecture", in *Proc. Creativity, Quality and Efficiency - Building an Innovation Culture (TRIZ Future 2006)*, 2006, vol. 1: Scientific Contributions, pp. 93-98.

TRIZ for Software Architecture

Bibtex entry :

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@inproceedings { Klu06a,
  author = { Kl{"u}nder, Daniel },
  title = { TRIZ for Software Architecture },
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  Simon Dewulf and Nele Dekeyser },
  volume = { 1: Scientific Contributions },
  pages = { 93-98 },
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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.

An Approach to Resolving Contradictions in Software Architecture Design

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@inproceedings { Klu06b,
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  booktitle = { Perspectives in Software Architecture Quality (QoSA
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}

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[WK05]

PDFBIB

Wilking, D. and Kowalewski, S., "Agile Methods for Embedded Systems", in *Proc. Extreme Programming and Agile Processes in Software Engineering (XP 2005)*, 2005, vol. 3556/2005, Springer, pp. 319-320.

Agile Methods for Embedded Systems

Bibtex entry :

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@inproceedings { WK05,
  author = { Wilking, Dirk and Kowalewski, Stefan },
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```

[WKK07]

PDFBIB

Wilking, D., Khan, U. F., and Kowalewski, S., "An Empirical Evaluation of Refactoring", *Software Development Theory, Practice and Experimentation*, vol. 1, iss. 1, pp. 28-44, 2007

An Empirical Evaluation of Refactoring

Bibtex entry :

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@article { WKK07,

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

PDFBIB

Mitsching, R. and Kowalewski, S., "Coping with the Variability of Hybrid Models for Automotive Software", in *Proc. HYCON & CEmACS Workshop on Automotive Systems and Control, Lund, 2006*, University Lund, Dept. Automatic Control, pp. 31-38.

Coping with the Variability of Hybrid Models for Automotive Software

Bibtex entry :

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@inproceedings { MK06a,
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[PSK06]

PDFBIB

Palczynski, J., Schlich, B., and Kowalewski, S., "Eine Evaluationssuite zur schnellen Bewertung von Matlab/Simulink-Modelcheckern", in *Proc. Informatik 2006: Informatik für Menschen (INFORMATIK 2006), Dresden, Germany, 2006*, vol. 1 in Lecture Notes in Informatics, Gesellschaft für Informatik e.V., pp. 751-755.

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Bibtex entry :

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@inproceedings { PSK06,
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[SK06a]

PDFBIB

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.

Exploring the Differences of FPGAs and Microcontrollers for their Use in Safety-Critical Embedded Applications

Bibtex entry :

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@inproceedings { SK06a,
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[SK06b]

PDFBIB

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.

[mc]square: A model checker for microcontroller code

Bibtex entry :

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@inproceedings { SK06b,
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[SRWK06]

PDFBIB

Schlich, B., Rohrbach, M., Weber, M., and Kowalewski, S., "Model Checking Software for Microcontrollers", RWTH Aachen University, Aachen, Germany, AIB-2006-11, 2006.

Model Checking Software for Microcontrollers

Bibtex entry :

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@techreport { SRWK06,
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[SWK06]

PDFBIB

Salewski, F., Wilking, D., and Kowalewski, S., "The effect of diverse hardware platforms on N-version programming in embedded systems - an empirical evaluation", in *Proc. Proc. of the 3rd. Workshop on Dependable Embedded Sytems (WDES'06)*, 2006, vol. TR 105/2006, Vienna University of Technology, pp. 61-66.

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

Bibtex entry :

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@inproceedings { SWK06,
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[SK05]

PDFBIB

Schlich, B. and Kowalewski, S., "Model Checking C Source Code for Embedded Systems", in *Proc. IEEE/NASA Workshop on Leveraging Applications of Formal Methods, Verification, and Validation (ISoLA 2005)*, Columbia, Maryland, USA, Maryland, USA, 2005, NASA, pp. 65-77, NASA/CP-2005-212788.

Model Checking C Source Code for Embedded Systems

Bibtex entry :

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@inproceedings { SK05,
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[SK05b]

PDFBIB

Salewski, F. and Kowalewski, S., "Zuverlässigkeitsmechanismen für Eingebettete Systeme", in *Proc. Workshop on Zuverlässigkeit in eingebetteten Systemen - Ada Deutschland Tagung, 2005*, Shaker Verlag, pp. 39-51.

Zuverlässigkeitsmechanismen für Eingebettete Systeme

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@inproceedings { SK05b,
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[SK05c]

PDFBIB

Salewski, F. and Kowalewski, S., "Zuverlässigkeitsmechanismen für Eingebettete Systeme", *GI Softwaretechnik-Trends*, vol. 25, iss. 4, pp. 7-8, 2005

Zuverlässigkeitsmechanismen für Eingebettete Systeme

Bibtex entry :

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@article { SK05c,
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[SWK05]

[PDFBIB](#)

Salewski, F., Wilking, D., and Kowalewski, S., "Diverse hardware platforms in embedded systems lab courses: A way to teach the differences", in *Proc. Special Issue: The First Workshop on Embedded System Education (WESE)*, 2005, vol. 2, ACM, pp. 70-74.

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Bibtex entry :

```
@inproceedings { SWK05,
  volume = { 2 },
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[SK04]

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

{C Model Checker: Eine Übersicht}

Bibtex entry :

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@techreport { SK04,
  address = { Aachen, Germany },
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}
```

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