

# Publikationen

[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 :

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@inproceedings { SPDZ17,  
  author = { Schmidt, Teresa and Philipsen, Ralf and Dzafic, Dzenan  
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  Ziefle, Martina },  
  title = { Watch out! User-centered Feedback Design for a  
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  booktitle = { Digital Human Modeling. Applications in Health,  
Safety,  
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  series = { 8th International Conference, DHM 2017, Held as Part of  
HCI  
  International 2017, Vancouver, BC, Canada, July 9-14, 2017,  
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  pages = { 365--383 },  
  year = { 2017 },  
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  url = { https://www.publications.embedded.rwth-aachen.de/file/77 },  
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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 f{"u}r Angewandte Geoinformatik },  
  volume = { 3-2017 },  
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Berlin/Offenbach. },  
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  issn = { 2364-9283 },  
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  pages = { 278--287 },  
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  url = { https://www.publications.embedded.rwth-aachen.de/file/6v },  
  for_reporting_period = { 2017 },  
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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,  
Peter  
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  booktitle = { International Conference on Intelligent Transport  
Systems in  
  Theory and Practice, mobil.TUM 2017 },  
  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, Stefan
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  title = { A Concept for PLC Hardware-in-the-loop Testing Using an
    Extension of Structured Text },
  booktitle = { Proceedings of IEEE International Conference on
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  year = { 2017 },
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  illkey = { conference },
  note = { To appear },
  for_reporting_period = { 2017 },
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[KKR+17]

[PDFBIB](#)

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

## Metrics-based strategies for quality assurance of automotive embedded software

### Bibtex entry :

```
@inproceedings { KKR+17,
```

```
author = { Kugler, Christopher and Kowalewski, Stefan and
Richenhagen,
    Johannes and Maquet, Ralf and Schlo{\ss}er, Axel },
title = { Metrics-based strategies for quality assurance of
automotive
    embedded software },
booktitle = { 17. Internationales Stuttgarter Symposium },
publisher = { Springer },
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https://link.springer.com/chapter/10.1007/978-3-658-16988-6\_56 },
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,
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 },
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note = { To appear },
for_reporting_period = { 2017 },
}
```

[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 :

```
@inproceedings { GAK17,  
  author = { G{"o}be, Florian and Aydin, Selin and Kowalewski,  
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  title = { Applicability of Supervisory Control Theory for the  
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  booktitle = { Proceedings of IEEE International Conference on  
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  illkey = { conference },  
  note = { To appear },  
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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  
Kugler, Alexander and Hansen, Norman and Kowalewski, Stefan },  
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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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  title = { RapidCoop - Robuste Architektur durch geeignete
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  f{"u}r Kooperativ Interagierende Automobile },
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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
  Janisch, T. and Kopp, R. and Rossaint, R. and Stollenwerk,
  A. and Kowalewski, S. and Misgeld, B. and Leonhardt, S. and
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  title = { Physiological closed-loop control of mechanical
ventilation
  and extracorporeal membrane oxygenation" },
  journal = { Biomedical Engineering / Biomedizinische Technik },
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year = { 2017 },
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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
    Schweigler, M. and Kowalewski, S. and Janisch, T. and
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  title = { Decentralized safety concept for closed-loop controlled
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  year = { 2017 },
  volume = { 62 },
  pages = { 213--223 },
  publisher = { De Gruyter },
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  language = { eng },
  timestamp = { 2017.03.15 },
  for_reporting_period = { 2017 },
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[CMW+17]

PDFBIB

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

## Towards the Use of Controlled Natural Languages in

# Hazard Analysis and Risk Assessment

## Bibtex entry :

```
@inproceedings { CMW+17,  
  author = { Chomicz, Paul and Müller-Lerwe, Armin and Wegner,  
            Götztz-Philipp and Busch, Rainer and Kowalewski, Stefan },  
  editor = { Dencker, Peter and Klenk, Herbert and Keller, Hubert and  
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  volume = { P-269 },  
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[SSM+17]

[PDFBIB](#)

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

## Enrichment of a diving computer with body sensor network data

### Bibtex entry :

```
@inproceedings { SSM+17,  
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  author = { Stollenwerk, André and Sehl, Florian and Marx, Gernot  
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  booktitle = { 14th International Conference on Wearable and  
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  publisher = { IEEE },  
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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
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  booktitle = { ARCH16. 3rd International Workshop on Applied
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http://easychair.org/publications/paper/HyReach_A_Reachability_Tool_for
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[BHK+17a]

[PDFBIB](#)

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

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

### Bibtex entry :

```
@article { BHK+17a,  
  author = { Brendle, C. and Hackmack, K.-F. and Kühn, J. and  
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  url = { http://dx.doi.org/10.1016/j.conengprac.2016.09.016 },  
  note = { To appear },  
  timestamp = { 2017.01.11 },  
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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 = { Kühnel, Marian and Smieschek, Manfred and Meyer,  
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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
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  title = { Unterst{"u}tzte Handerkennung in Thermographiebildern
zur
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  year = { 2017 },
  pages = { 147--152 },
  publisher = { Springer-Verlag },
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http://link.springer.com/chapter/10.1007/978-3-662-54345-0_35 },
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  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 Makhlouf, I. and Diab, H. and Mut, V.  
and  
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  journal = { AT-Automatisierungstechnik },  
  year = { 2010 },  
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  pages = { 227--235 },  
  publisher = { Oldenbourg Verlag },  
  publishedas = { Online Druck },  
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  timestamp = { 2016.12.09 },  
  for_reporting_period = { 2010 },  
}
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[PBD+10]

PDFBIB

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

## Featureoriented modelling of product line evolution

## Bibtex entry :

```
@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 },  
  pages = { 1--25 },  
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}
```

[SLA+10]

PDFBIB

Sasnauskas, R., Landsiedel, O., Alizai, M., Weise, C., Kowalewski, S., and Wehrle, K., "KleeNet: discovering insidious interaction bugs in wireless sensor networks before deployment", in *Proc.*

*Proceedings of the 9th ACM/IEEE International Conference on Information Processing in Sensor Networks*, 2010, ACM, pp. 186-196.

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

### **Bibtex entry :**

```
@inproceedings { SLA+10,
  author = { Sasnauskas, R. and Landsiedel, O. and Alizai, M. and
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  booktitle = { Proceedings of the 9th ACM/IEEE International
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  publisher = { ACM },
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[BBD+11]

PDFBIB

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

## **Zuverlaessigkeit von automotive embedded Systems,**

### **Bibtex entry :**

```
@proceedings { BBD+11,
  author = { Beckschulze, E. and Boymanns, D. and Duelks, R. and
  Gatterdam, T. and Kowalewski, S. and Lang, M. and Salewski,
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  title = { Zuverlaessigkeit von automotive embedded Systems, },
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  illkey = { editor },
  for_reporting_period = { 2011 },
}
```

[KPB13]

PDFBIB

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

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

### Bibtex entry :

```
@article { KPB13,
  author = { Kowalewski, S. and Philippou, A. and Brauer, J. },
  title = { Model checking and abstract interpretation as building
    blocks of advanced program analysis techniques },
  journal = { International Journal on Software Tools for Technology
    Transfer },
  year = { 2013 },
  volume = { 15.4 },
  pages = { 287--289 },
  publisher = { Springer Science & Business Media },
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  language = { eng },
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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 :

```
@inproceedings { RDK+12,
  author = { Reuter, S. and Diab, H. and Kowalewski, K. and Hauck, E.
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  title = { Design and implementation of a vehicle dynamics control
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[Bia16]

[PDFBIB](#)

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

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

### Bibtex entry :

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@phdthesis { Bia16,
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pdf },
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[DHK16a]

[PDFBIB](#)

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

# Abstract Interpretation of MATLAB Code with Interval Sets

## Bibtex entry :

```
@inproceedings { DHK16a,  
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```

[SK16]

PDFBIB

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

# Static Analysis of Sequential Function Charts using Abstract Interpretation

## Bibtex entry :

```
@inproceedings { SK16,  
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[BHK+17]

PDFBIB

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

## Continuous gas transfer monitoring during extracorporeal membrane oxygenation

### Bibtex entry :

```

@article { BHK+17,
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```

[KSB+16]

PDFBIB

Kühn, J., Stollenwerk, A., Brendle, C., Janisch, T., Walter, M., Rossaint, R., Leonhardt, S.,

Kowalewski, S., and Kopp, R., "Sensor Supervision and Control Value Limitations in Networked Intensive Care", in *Proc. Fail Safety in Medical Cyber-Physical Systems*, 2016, vol. 1559 in Gemeinsamer Tagungsband der Workshops der Tagung Software Engineering 2016 (SE 2016), CEUR Workshop Proceedings, pp. 187-194.

## Sensor Supervision and Control Value Limitations in Networked Intensive Care

### Bibtex entry :

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

PDFBIB

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

# Eingebettete Rezirkulationsmessung für eine ECLA-Therapie

## Bibtex entry :

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[WBK+16]

PDFBIB

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

# Assistive Control of Extracorporeal Oxygenation Systems

## Bibtex entry :

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

PDFBIB

Bohlender, D., Simon, H., Kowalewski, S., and Hauck-Stattelmann, S., "Symbolische Ausführung

zum Testen von SPS-Programmen", in *Proc. Automation 2016, 07.06.2016-08.06.2016, Baden-Baden, Germany, 2016*, VDI Verlag GmbH, pp. 77-88.

## Symbolische Ausführung zum Testen von SPS-Programmen

### Bibtex entry :

```
@inproceedings { BSKH16,
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[Der16]

[PDFBIB](#)

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

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

### Bibtex entry :

```
@inproceedings { Der16,
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[DHK16]

[PDFBIB](#)

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

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

### Bibtex entry :

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[BSF+16]

[PDFBIB](#)

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

IEEE, pp. 432-437.

## Concolic Test Generation for PLC Programs using Coverage Metrics

### Bibtex entry :

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

[PDFBIB](#)

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

## Der Bodenbelag-Detektor des eNav-Systems

### Bibtex entry :

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

[PDFBIB](#)

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

## Das Barrierenerkennungssystem von eNav

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[DSFK17]

[PDFBIB](#)

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

## eNav: A Suitable Navigation System for the Disabled

### Bibtex entry :

```

@inproceedings { DSFK17,
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[GNK16]

[PDFSlidesBIB](#)

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

## Reusability and Modularity of Safety Specifications for Supervisory Control

### Bibtex entry :

```
@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

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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

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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 :

```
@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 :

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@inproceedings { BSK16,
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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,
  author = { Schlaefer, Alexander and Schupp, Sibylle and
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  editor = { Knoop, Jens and Zdun, Uwe },
  title = { 2nd Workshop on Fail Safety in Medical Cyber-Physical
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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,
  author = { Ben Makhoulf, Ibtissem and Kowalewski, Stefan },
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[BK15a]

[PDFBIB](#)

Ben Makhlof, 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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http://www.easychair.org/publications/download/Optimizing_Safe_Control_
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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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[SS]+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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    Riehle, Dirk and Schaefer, Ina and Scheuermann, Constantin
    and Schlaefer, Alexander and Schupp, Sibylle and Seitz,
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  title = { Evaluating Hand Disinfection with Alcohol-Based Hand
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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 :

```
@phdthesis { Ben16,  
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[BGK15]

[PDFBIB](#)

Ben Makhlouf, 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 :

```
@article { BGK15,  
  author = { Ben Makhlouf, Ibtissem and Gan, Jonathan and  
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  title = { A Study on Solving Guard and Invariant Set Intersection  
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[SAC+15]

[PDFBIB](#)

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

## Current Challenges in the Verification of Hybrid Systems

### Bibtex entry :

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@inproceedings { SAC+15,
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    Makhlof, Ibtissem and Frehse, Goran and Sankaranarayanan,
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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 :

```
@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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  title = { Pulsatile Ansteuerung einer Diagonalblutpumpe },
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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,

```

```

author = { Dernehl, Christian and Hansen, Norman and Gerlitz,
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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,
author = { Kalkov, Igor and Gurchian, Alexandru and Kowalewski,
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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 :

```
@inproceedings { GMD15,  
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[BFSK15]

[PDFBIB](#)

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

## Automatic Error Cause Localization of Faulty PLC Programs

### Bibtex entry :

```
@article { BFSK15,  
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[SFB+15]

PDFBIB

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

## Automatic Test Case Generation for PLC Programs using Coverage Metrics

### Bibtex entry :

```
@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 :**

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

[PDFBIB](#)

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

## Automatische Testfallgenerierung für SPS-Programme mittels Zeilenüberdeckung

**Bibtex entry :**

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@inproceedings { BSK+15,
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```

[SDK+11]

[PDFBIB](#)

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

## Scalable symbolic execution of distributed systems

### Bibtex entry :

```
@inproceedings { SDK+11,
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[HBS+15]

[PDFBIB](#)

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

# Analyzing the Restart Behavior of Industrial Control Applications

## Bibtex entry :

```
@inproceedings { HBS+15,  
  keywords = { Static Analysis; Abstract Interpretation; Programmable  
Logic  
  Controllers },  
  author = { Hauck-Stattelmann, Stefan and Biallas, Sebastian and  
  Schlich, Bastian and Kowalewski, Stefan and Jetley, Raoul },  
  editor = { Björner, Nikolaj and de Boer, Frank },  
  title = { Analyzing the Restart Behavior of Industrial Control  
Applications },  
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  series = { Lecture Notes in Computer Science },  
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  publishedas = { Druck Online },  
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  for_reporting_period = { 2015 },  
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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 :

```
@phdthesis { Gue14,  
  institution = { RWTH Aachen },  
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    {C}hecking {M}icrocontroller {C}ode },
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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 },
  author = { Brendle, Christian and Hackmack, Kay-Florian and
            K{"u}hn,
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            Marian },
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http://www.sciencedirect.com/science/article/pii/S2405896315020819 },
  for_reporting_period = { 2015 },
}

```

}

[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 :

```
@inproceedings { GSK15,
  author = { Gerlitz, Thomas and Schake, Stefan and Kowalewski, Stefan },
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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,
  author = { K{"u}hn, Jan and W{"u}bbels, Nico and Stollenwerk, André
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booktitle = { Automation 2015 },
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for_reporting_period = { 2015 },
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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,
  author = { Pleuss, Andreas and Botterweck, Goetz and Dhungana, Deepak
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  title = { Model-driven support for product line evolution on feature
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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 :

```
@inproceedings { KSS+15,
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  title = { Safety Conflict Analysis in Medical Cyber-Physical
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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

**Bibtex entry :**

```
@inproceedings { SKW+15,
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Marian
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    and Leonhardt, Steffen and Kowalewski, Stefan and Kopp,
R{"u}dger },
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Sibylle and Tranc{on} Widemann, Baltasar and Weyer, Thorsten },
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[CSB+15]

[PDFBIB](#)

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

## A benchmark suite for hybrid systems reachability analysis

**Bibtex entry :**

```
@inproceedings { CSB+15,
  author = { Chen , Xin and Schupp, Stefan and Ben Makhlof,
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booktitle = { {NASA} Formal Methods - 7th International Symposium,
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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 :

```

@techreport { FAKK14,
  author = { F{"o"}rster, Marc and Auerswald, Marko and Keldenich,
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modular
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}

[FOR14]

PDFBIB

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

## Evaluating embedded-software specifications

### Bibtex entry :

```
@conference { FOR14,
  url = { http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=6983827
},
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  for_reporting_period = { 2014 },
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[Fra15]

PDFBIB

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

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

### Bibtex entry :

```
@phdthesis { Fra15,
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  year = { 2015 },
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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

## Bibtex entry :

```
@phdthesis { Pol15,  
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[KGK14]

[PDFBIB](#)

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

## Predictable Broadcasting of Parallel Intents in Real-Time Android

## Bibtex entry :

```
@inproceedings { KGK14,  
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for_reporting_period = { 2014 },
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```

[RFB14]

[PDFBIB](#)

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

## Runtime verification of embedded real-time systems

### Bibtex entry :

```
@article { RFB14,
  author = { Reinbacher, Thomas and Fuegger, Matthias and Brauer,
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  year = { 2014 },
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  for_reporting_period = { 2014 },
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[OKK14]

[PDFBIB](#)

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

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

### Bibtex entry :

```
@inproceedings { OKK14,
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for_reporting_period = { 2014 },
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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,
author = { Stattelmann, Stefan and Biallas, Sebastian and Schlich,
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Code },
booktitle = { 19th IEEE International Conference on Emerging
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illkey = { conference },
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note = { Work in Progress Best Paper Award },
for_reporting_period = { 2014 },
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```

[DKFK15]

PDFBIB

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

Verlag, pp. 516-525.

## Routing über Flächen mit SpiderWebGraph

### Bibtex entry :

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

[PDFBIB](#)

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

## Model-based supervision of a blood pump

### Bibtex entry :

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

[FK14]

**PDFBIB**

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

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

**Bibtex entry :**

```
@inproceedings { FK14,
  author = { Franke, Dominik and Kowalewski, Stefan },
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[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}utomat{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 CO<sub>2</sub> using the H<sup>∞</sup> Loop-Shaping Approach", *Acta Polytechnica*, vol. 53, pp. 895-900, 2013

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

### Bibtex entry :

```
@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 :

```
@inproceedings { SDK13,
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  booktitle = { International Micro Air Vehicle Conference and Flight
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```

[WSB+13]

[PDFBIB](#)

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

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

### Bibtex entry :

```
@article { WSB+13,
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[Dia14]

[PDFBIB](#)

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

## Experimental validation and mathematical analysis of cooperative vehicles in a platoon

### Bibtex entry :

```
@phdthesis { Dia14,
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https://publications.rwth-aachen.de/record/465272/files/465272.pdf },
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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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for_reporting_period = { 2014 },
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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
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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 :**

```
@techreport { FOR12,
  author = { F{"o}rster, Marc },
  title = { Dependable reuse & guarded integration of automotive
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  pages = { 1--78 },
  institution = { RWTH },
  keywords = { Automotive software, case study, compositional
reasoning,
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    systems, model-based development, program verification,
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    survey, virtual integration. },
  year = { 2012 },
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http://www.vda.de/en/publikationen/publikationen\_downloads/detail.php?id=1141 },
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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 :**

```
@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 :

```
@inproceedings { GKS+13,
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  for_reporting_period = { 2013 },
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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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for_reporting_period = { 2013 },
}
```

[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,
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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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```

[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,  
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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,
  author = { Biallas, Sebastian and Bohlender, Dimitri and
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[DFBK13]

[PDFBIB](#)

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

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

### Bibtex entry :

```
@inproceedings { DFBK13,
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[DF13]

PDFBIB

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

## Entwicklung und Evaluation eines Navigationssystems für Elektrorollstühle

### Bibtex entry :

```
@inproceedings { DF13,
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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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[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,  
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[BDK13]

PDFBIB

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

## Reachability Analysis for Managing Platoons at Intersections

### Bibtex entry :

```
@inproceedings { BDK13,
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}
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[BHK13]

PDFBIB

Ben Makhlouf, 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,
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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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```

[WBB+11]

PDFBIB

Walter, M., Brendle, C., Bensberg, R., Kopp, R., Arens, J., Stollenwerk, A., and Leonhardt, S.,

"Closed loop physiological ECMO control", in *Proc. 5th European Conference of the International Federation for Medical and Biological Engineering*, Heidelberg, 2011, vol. 37 in IFMBE Proceedings, Springer, pp. 319-322.

## Closed loop physiological ECMO control

### Bibtex entry :

```
@inproceedings { WBB+11,
  location = { Budapest },
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  author = { Walter, Marian and Brendle, Christian and Bensberg, Ralf
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  Kopp, R{"u}dger and Arens, Jutta and Stollenwerk, Andr{'e}
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[PAL13]

[PDFBIB](#)

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

## Time-Continuous Behaviour Comparison Based on Abstract Models

### Bibtex entry :

```
@phdthesis { PAL13,
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```
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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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[Sto13]

PDFBIB

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

# Ein modellbasiertes Sicherheitskonzept für die extrakorporale Lungenunterstützung

## Bibtex entry :

```
@phdthesis { Stol3,  
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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,  
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url = { http://dx.doi.org/10.4204/EPTCS.102.10 },
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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,
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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,
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```

[BBK12b]

[PDFBIB](#)

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

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

## Bibtex entry :

```
@inproceedings { BBK12b,  
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[FRK12]

PDFBIB

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

# AndroLIFT: A Tool for Android Application Life Cycles

## Bibtex entry :

```
@inproceedings { FRK12,  
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[MGPK12]

PDFBIB

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

## Analysis of Simulink Models Using Databases and Model Transformations

### Bibtex entry :

```
@inproceedings { MGPK12,
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```

[KFSK12]

PDFBIB

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

# A Real-time Extension to the Android Platform

## Bibtex entry :

```
@inproceedings { KFSK12,  
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[BKS12c]

PDFBIB

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

## Automatische Wertebereichsanalyse -- Formale Verifikation für SPS-Programme

## Bibtex entry :

```
@article { BKS12c,  
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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,
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[BBK12a]

[PDFBIB](#)

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

## Access-Based Localization for Octagons

### Bibtex entry :

```
@article { BBK12a,
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```



```

author = { Beckschulze, Eva and Brauer, Jörg and Kowalewski,
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```

[FEK12]

PDFBIB

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

## Reverse Engineering and Testing Service Life Cycles of Mobile Platforms

### Bibtex entry :

```

@inproceedings { FEK12,
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```

[BKN12]

## PDFBIB

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

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

### Bibtex entry :

```
@inproceedings { BKN12,
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[FDBK12]

## PDFBIB

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

## Energieeffizientes Routing für Elektrorollstühle

### Bibtex entry :

```
@inproceedings { FDBK12,
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[FSK12]

[PDFBIB](#)

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

## Softwarequalität in der Mobilen Welt: Testen von Lebenszyklen Mobiler Applikationen

### Bibtex entry :

```
@inproceedings { FSK12,
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[WBS+12]

[PDFBIB](#)

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

## Patient oriented closed loop control of extracorporeal lung assist

### Bibtex entry :

```
@inproceedings { WBS+12,
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```

[KRS12]

[PDFBIB](#)

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

## Cyber-Physical Systems - eine Herausforderung an die Automatisierungstechnik?

### Bibtex entry :

```

@inproceedings { KRS12,
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[BKS12b]

[PDFBIB](#)

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

## Range and Value-Set Analysis for Programmable Logic Controllers

### Bibtex entry :

```
@inproceedings { BKS12b,
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[FKW12]

[PDFBIB](#)

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

## A Mobile Software Quality Model

### Bibtex entry :

```
@inproceedings { FKW12,
  author = { Franke, Dominik and Kowalewski, Stefan and Weise, Carsten },
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```

[GDFK12]

[PDFBIB](#)

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

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

### Bibtex entry :

```
@inproceedings { GDFK12,
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[BBKK12]

[PDFBIB](#)

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

## Loop Leaping with Closures

### Bibtex entry :

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

[MPK12]

PDFBIB

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

## Integration and Analysis of Design Artefacts in Embedded Software Development

### Bibtex entry :

```
@inproceedings { MPK12,  
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```

[SFLK12]

PDFBIB

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

## Load Balancing for Cross Layer Communication

### Bibtex entry :

```
@inproceedings { SFLK12,
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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 :

```

@inproceedings { BDK12,
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```

[HDBK11]

[PDFBIB](#)

Hänsch, P., Diab, H., Ben Makhlof, I., and Kowalewski, S., "Reachability Analysis of Linear

Systems with Stepwise Constant Inputs", in *Proc. Electronic Notes in Theoretical Computer Science*, 2011, vol. 297, Elsevier, pp. 61-74, Proceedings of the first workshop on Hybrid Autonomous System (HAS2011).

## Reachability Analysis of Linear Systems with Stepwise Constant Inputs

### Bibtex entry :

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

[PDFBIB](#)

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

## Inferring Definite Counterexamples Through Under-Approximation

### Bibtex entry :

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@inproceedings { BS12,
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```

[MWK10]

PDFBIB

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

## Design Patterns for Integrating Variability in Timed Automata

### Bibtex entry :

```

@inproceedings { MWK10,
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```

[MHRK08]

PDFBIB

Michailidis, A., Hedenetz, B., Ringler, T., and Kowalewski, S., "Virtuelle Integration von vernetzten Funktionen in frühen Entwicklungsphasen", in *Proc. 28. Tagung Elektronik im*

*Kraftfahrzeug*, 2008, EXPERT-VERLAG, pp. 151-167.

## Virtuelle Integration von vernetzten Funktionen in frühen Entwicklungsphasen

### Bibtex entry :

```
@inproceedings { MHRK08,
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```

[MRHK10]

PDFBIB

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

## Virtuelle Integration modellbasierter Fahrzeugfunktionen unter AUTOSAR

### Bibtex entry :

```
@article { MRHK10,
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[MSH+10]

[PDFBIB](#)

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

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

### Bibtex entry :

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

[PDFBIB](#)

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

## Testing Conformance of Lifecycle-Dependent Properties of Mobile Applications

### Bibtex entry :

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

[PDFBIB](#)

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

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

### Bibtex entry :

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@phdthesis { Mic12,
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[Mit12]

[PDFBIB](#)

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

# Applied timed testing: Testautomatisierung in industriellen Testprozessen von eingebetteten Systemen

## Bibtex entry :

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[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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[BRT11]

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

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

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

### Bibtex entry :

```
@proceedings { BRT11,
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[RBS+11]

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

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 :

```

@inproceedings { GKKK11,
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[Bar11]

[PDFBIB](#)

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

## Introducing Timers to Pi-Calculus

### Bibtex entry :

```
@techreport { Bar11,
    author = { Barakat, Kamal },
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[KBW+11]

[PDFBIB](#)

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

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

### Bibtex entry :

```
@inproceedings { KBW+11,
  volume = { 37 },
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[PMB+11]

[PDFBIB](#)

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

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

### Bibtex entry :

```
@article { PMB+11,
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```

[WBA+11]

[PDFBIB](#)

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

## Physiological target control in long term extracorporeal oxygenation

### Bibtex entry :

```

@inproceedings { WBA+11,
    month = { August },
    organization = { European Society for Artificial Organs (ESAO) },
    doi = { DOI 10.5301/IJAO.2011.8701 },
    location = { Porto },
    author = { Walter, Marian and Brendle, Christian and Arens, Jutta
and
    Stollenwerk, Andre and Kopp, R{"u}dger and Bensberg, Ralf
and Leonhardt, Steffen },
    editor = { Rui L. Reis },
    title = { Physiological target control in long term extracorporeal
oxygenation },
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```

[FEWK11]

PDFBIB

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

## Reverse Engineering of Mobile Application Lifecycles

### Bibtex entry :

```
@inproceedings { FEWK11,
  location = { Lero, Limerick, Ireland },
  author = { Franke, Dominik and Elsemann, Corinna and Weise, Carsten
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  illkey = { conference },
  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 :**

```
@inproceedings { HSK11,  
  author = { H{"a}nsch, Paul and Schommer, John F. and Kowalewski,  
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  for_reporting_period = { 2011 },  
}
```

[DFDK11]

[PDFBIB](#)

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

## **An Architecture with Integrated Image Processing for Autonomous Micro Aerial Vehicles**

**Bibtex entry :**

```
@inproceedings { DFDK11,  
  location = { 't Harde, Netherlands },  
  author = { Dernehl, Christian and Franke, Dominik and Diab, Hilal  
  and  
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  title = { An Architecture with Integrated Image Processing for  
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```

[GK11]

PDFBIB

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

## Automatic Derivation of Abstract Semantics From Instruction Set Descriptions

### Bibtex entry :

```
@inproceedings { GK11,
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  author = { G{"u"}ckel, Dominique and Kowalewski, Stefan },
  title = { Automatic Derivation of Abstract Semantics From
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  illkey = { conference },
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```

[RB11]

PDFSlidesBIB

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

## Precise Control Flow Reconstruction Using Boolean Logic

### Bibtex entry :

```
@inproceedings { RB11,
  author = { Reinbacher, Thomas and Brauer, J{"o"}rg },
  editor = { Chakraborty, Samarjit and Jerraya, Ahmed and Baruah,
  Sanjoy
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  title = { Precise Control Flow Reconstruction Using Boolean Logic
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  booktitle = { International Conference on Embedded Software (EMSOFT
  2011) },
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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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  booktitle = { 6th International Workshop on Systems Software
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```

[BBS+11]

[PDFBIB](#)

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



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

## Bibtex entry :

```
@inproceedings { BBS+11,
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```

[SGA+11]

[PDFBIB](#)

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

## Safety Aware Pump-Control for a Rotary ECMO Blood Pump

## Bibtex entry :

```
@inproceedings { SGA+11,
  volume = { 34 },
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  title = { Safety Aware Pump-Control for a Rotary ECMO Blood Pump },
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```

booktitle = { 38. Congress of the European Society for Artificial
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```

[RGHK11]

[PDFBIB](#)

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

## Testing Microcontroller Software Simulators

### Bibtex entry :

```

@inproceedings { RGHK11,
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    booktitle = { Informatik 2011 },
    publisher = { Gesellschaft für Informatik },
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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 :

```
@inproceedings { SGB+11,
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  booktitle = { 45. Jahrestagung der Deutschen Gesellschaft f{"u}r
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[KS11]

[PDFBIB](#)

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

## Supporting Evolving Requirements in CPS by Abstraction Layers in the Architecture

### Bibtex entry :

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@conference { KS11,
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[RBH+11]

[PDFSlidesBIB](#)

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

## Past Time LTL Runtime Verification for Microcontroller Binary Code

### Bibtex entry :

```
@inproceedings { RBH+11,
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  publisher = { Springer },
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[FDWK11a]

[PDFBIB](#)

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

# Konzept eines Mobilen OSM-Navigationssystems für Elektrofahrzeuge

## Bibtex entry :

```
@inproceedings { FDWK11a,
  location = { Salzburg, Austria },
  author = { Franke, Dominik and Dzafic, Dzenan and Weise, Carsten
and
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  title = { Konzept eines Mobilen OSM-Navigationssystems f{"u}r
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  booktitle = { Angewandte Geoinformatik 2011 - Beitr{"a}ge zum 23.
  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,
  author = { Reinbacher, Thomas and Steininger, Andreas and
M{"u"}ller,
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}
```

[BKS11]

PDFBIB

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

## Leistungsfähige Verifikation von industriellen SPS-

# Programmen mittels Model-Checking und statischer Analyse

## Bibtex entry :

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

[PDFSlidesBIB](#)

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

## Existential Quantification as Incremental SAT

### Bibtex entry :

```
@inproceedings { BKK11a,  
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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", *ASAIO Journal*, vol. 56, iss. 2, pp. 96-96, 2010

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

### Bibtex entry :

```
@article { ADM+10,
number = { 2 },
address = { Hagerstown, Md. },
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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
Pressure
on Blood },
journal = { ASAIO journal },
year = { 2010 },
volume = { 56 },
pages = { 96--96 },
publisher = { Lippincott },
publishedas = { Online Druck },
issn = { 1538-943X },
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language = { eng },
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timestamp = { 2011.03.18 },
for_reporting_period = { 2011 },
}
```

[BBK11]

[PDFBIB](#)

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



96-101.

## SAT-Based Abstraction Refinement for Programmable Logic Controllers

### Bibtex entry :

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

[FDWK11]

[PDFBIB](#)

Franke, D., Dzafic, D., Weise, C., and Kowalewski, S., "Entwicklung eines mobilen Navigationssystems für Elektrofahrzeuge auf Basis von OpenStreetMap-Daten", in *Proc. Konferenz für Freie und Open Source Software für Geoinformationssysteme (FOSSGIS)*, 2011, FOSSGIS e.V., pp. 92-99.

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

### Bibtex entry :

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

[PDFBIB](#)

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

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

### Bibtex entry :

```
@inproceedings { SGW+11,
  owner = { stollenwerk },
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[BMH+11]

## PDFBIB

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

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

### Bibtex entry :

```
@inproceedings { BMH+11,
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[BK11b]

## PDFSlidesBIB

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

```
@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 :

```
@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,  
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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 :

```

@inproceedings { PWMK11,
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}

[BPD+10]

PDFBIB

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

## EvoFM: Feature-driven Planning of Product-line Evolution

### Bibtex entry :

```
@inproceedings { BPD+10,
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```

[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 :

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@inproceedings { BBSK11,
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```



[BK11a]

[PDFSlides](#)[BIB](#)

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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[SBK11]

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

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

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

### Bibtex entry :

```
@article { SBK11,
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[PMT+10]

PDFBIB

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

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

### Bibtex entry :

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@inproceedings { PMT+10,
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[KR10]

PDFBIB

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

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

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@proceedings { KR10,
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[BPK10]

PDFBIB

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

## **Variability and Evolution in Model-based Engineering of Embedded Systems**

### **Bibtex entry :**

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@inproceedings { BPK10,
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[BBGK10]

[PDFBIB](#)

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

## On-The-Fly Path Reduction

### Bibtex entry :

```
@article { BBGK10,
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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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[PWK10]

PDFBIB

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

# Testing Continuous Systems Conformance Using Cross Correlation

## Bibtex entry :

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@inproceedings { PWK10,  
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[SDKS10]

[PDFBIB](#)

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

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

### Bibtex entry :

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@inproceedings { SDKS10,
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[BBKS10]

[PDFBIB](#)

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

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

### Bibtex entry :

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@inproceedings { BBKS10,
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[RHS+10]

[PDFBIB](#)

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

## Model Checking Embedded Software of an Industrial Knitting Machine

### Bibtex entry :

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@article { RHS+10,
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[BBK10]

[PDFBIB](#)

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

## Counterexample-guided abstraction refinement for {PLCs}

### Bibtex entry :

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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 :

```
@inproceedings { BKKN10,
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[CBD+10a]

[PDFSlidesBIB](#)

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

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

### Bibtex entry :

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

[PDFBIB](#)

Diab, H., Chávez Grunewald, M., Ben Makhlof, 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.

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

### Bibtex entry :

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

PDFBIB

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

## A Physiological Model for Extracorporeal Oxygenation Controller Design

### Bibtex entry :

```
@inproceedings { WWS+10,
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[BKK10]

[PDFSlidesBIB](#)

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

## Range Analysis of Microcontroller Code using Bit-Level Congruences

### Bibtex entry :

```
@inproceedings { BKK10,
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[GBK10]

[PDFBIB](#)

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

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

### Bibtex entry :

```
@inproceedings { GBK10,
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[SJA+10]

[PDFBIB](#)

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

## Model Based Diagnosis for Extracorporeal Membrane Oxygenation

### Bibtex entry :

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

[PDFBIB](#)

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

## Modellbasierte Fehlerdiagnose eines Membranoxygenators

### Bibtex entry :

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

PDFBIB

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

## Regelung und Sicherheitsanalyse einer Gruppe Massenpunktfahrzeuge mit Hilfe energiebasierter Methoden

### Bibtex entry :

```

@article { CMD+10,
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[BK10]

PDFSlidesBIB

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

# Automatic Abstraction for Intervals using Boolean Formulae

## Bibtex entry :

```
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[BNS10]

[PDFBIB](#)

Brauer, J., Noll, T., and Schlich, B., "Interval Analysis of Microcontroller Code using Abstract Interpretation of Hardware and Software", in *Proc. Proceedings of the 13th International Workshop on Software and Compilers for Embedded Systems (SCOPEs 2010)*, 2010, ACM.

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

## Bibtex entry :

```
@inproceedings { BNS10,  
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[FK10]

PDFBIB

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

## Verifikation der Java-Echtzeitfähigkeit für den Einsatz in zeitkritischen Systemen

### Bibtex entry :

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@inproceedings { FK10,
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[GSBK10]

PDFBIB

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

## Synthesizing Simulators for Model Checking Microcontroller Binary Code

### Bibtex entry :

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

[PDFBIB](#)

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

## In Vivo Validation of an Automatic Controlled Extracorporeal Membrane Oxygenator

### Bibtex entry :

```

@inproceedings { WWS+09a,
author = { Wartzek, Tobias and Walter, Marian and Schmitz-Rode,
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Extracorporeal
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```

[SLW+10]

[PDFBIB](#)

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

## Sicherheitskonzept für eine intensivmedizinische Anwendung am Beispiel der ECMO

### Bibtex entry :

```

@inproceedings { SLW+10,
  location = { Magdeburg, Germany },
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Marian
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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.

## Design Patterns for Safety-Critical Embedded Systems

## 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

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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

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@inproceedings { MWGK10,  
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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 },  
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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,
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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
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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 :

```
@inproceedings { SFKW09,
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[KGG+09]

PDFBIB

Kowalewski, S., Garavello, M., Guéguen, H., Herberich, G., Langerak, R., Piccoli, B., Polderman, J.



W., and Weise, C., "Handbook of Hybrid Systems Control" Cambridge University Press, 2009, pp. 57-86.

## Handbook of Hybrid Systems Control

### Bibtex entry :

```
@inbook { KGG+09,  
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  timestamp = { 2009.12.08 },  
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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

### Bibtex entry :

```
@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,
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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

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@inproceedings { BPK09,
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[BPPK09]

PDFBIB

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

## Towards Feature-driven Planning of Product-Line Evolution

### Bibtex entry :

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```

[ABK09]

PDFBIB

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

## 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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Christa Schwanninger and Steffen Thiel and Markus Voelter },
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[CLK09]

[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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```

[LWW+09]

[PDFBIB](#)

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

## Regelung des Gasaustauschs für die extrakorporale Oxygenierung

### Bibtex entry :

```

@inproceedings { LWW+09,
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Tobias
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R{"u}dger },
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[WWS+09]

[PDFBIB](#)

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

## Automatisierung der extrakorporalen Membranoxygenierung

### Bibtex entry :

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[Mit09]

[PDFBIB](#)

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



# Testing in the Industrial Development Process for Embedded Systems

## Bibtex entry :

```
@inproceedings { Mit09,
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```

[PBWK09]

PDFBIB

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

## Variabilität im modellbasierten Engineering von eingebetteten Systemen

### Bibtex entry :

```
@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 :

```
@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 :

```
@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 :

```

@inproceedings { ASK08c,
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[ASK08a]

[PDFBIB](#)

Armoush, A., Salewski, F., and Kowalewski, S., "Effective Pattern Representation for Safety Critical Embedded Systems", in *Proc. 2008 International Conference on Computer Science and Software Engineering*, 2008, vol. 4, IEEE CS, pp. 91-97.

# Effective Pattern Representation for Safety Critical Embedded Systems

## Bibtex entry :

```
@inproceedings { ASK08a,
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[ASK08b]

[PDFBIB](#)

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

# Recovery Block with Backup Voting: A New Pattern with Extended Representation for Safety Critical Embedded Systems

## Bibtex entry :

```
@inproceedings { ASK08b,
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```

[ASK09]

PDFBIB

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

## Design Pattern Representation for Safety-Critical Embedded Systems

### Bibtex entry :

```
@article { ASK09,
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  for_reporting_period = { Old },
}
```

[BHS09]

PDFBIB

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

# Interprocedural Pointer Analysis in Goanna

## Bibtex entry :

```
@article { BHS09,  
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```

[BSK09a]

PDFBIB

Beckschulze, E., Salewski, F., and Kowalewski, S., "A Comparison of Dual-Core Approaches for Safety-Critical Automotive Applications", in *Proc. Safety-Critical Systems, 2009 (SAE World Congress 2009)*, 2009, SAE International, pp. 209-216.

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

## Bibtex entry :

```
@inproceedings { BSK09a,  
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```

[BSK09b]

PDFBIB

Brauer, J., Schlich, B., and Kowalewski, S., "Parallel and Distributed Invariant Checking of Microcontroller Software", *Electronic Notes in Theoretical Computer Science*, vol. 254, p. 45,

2009, Proceedings of the 4th International Workshop on Systems Software Verification (SSV 2009)

## Parallel and Distributed Invariant Checking of Microcontroller Software

### Bibtex entry :

```
@article { BSK09b,  
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```

[BSK09c]

[PDFBIB](#)

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

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

### Bibtex entry :

```
@article { BSK09c,  
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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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```

[BSRK09]

[PDFBIB](#)

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

## Stack Bounds Analysis of Microcontroller Assembly Code

### Bibtex entry :

```

@inproceedings { BSRK09,
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```



[BSSK09]

PDFBIB

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

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

**Bibtex entry :**

```
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```

[DSK09]

PDFBIB

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

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

**Bibtex entry :**

```
@inproceedings { DSK09,
```

```

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for_reporting_period = { Old },
}

```

[FHST09]

PDFBIB

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

## Automatic Bug Detection in Microcontroller Software by Static Program Analysis

### Bibtex entry :

```

@inproceedings { FHST09,
author = { Fehnker, Ansgar and Huuck, Ralf and Schlich, Bastian and
Tapp, Michael },
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Spindleruv Ml\{y}n, Czech Republic },
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Static Program Analysis },
volume = { 5404 },
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for_reporting_period = { Old },
}

```

[Klu09]

PDFBIB

Klünder, D., "Entwurf eingebetteter Software mit abstrakten Zustandsmaschinen und Business

Object Notation," PhD Thesis , RWTH Aachen University, 2009.

## Entwurf eingebetteter Software mit abstrakten Zustandsmaschinen und Business Object Notation

### Bibtex entry :

```
@phdthesis { Klu09,  
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[KWA+09]

[PDFBIB](#)

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

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

### Bibtex entry :

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@article { KWA+09,  
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```

[MKCA09]

PDFBIB

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

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

### Bibtex entry :

```

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[MWK+09]

PDFBIB

Mitsching, R., Weise, C., Kolbe, A., Bohnenkamp, H., and Berzen, N., "Towards an Industrial Strength Process for Timed Testing", *IEEE International Conference on Software Testing, Verification, and Validation*, pp. 29-38, 2009

## Towards an Industrial Strength Process for Timed

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```

[PK09]

PDFBIB

Palczynski, J. and Kowalewski, S., "Early Behaviour Modelling for Control Systems", in *Proc. UKSIM European Symposium on Computer Modeling and Simulation*, Los Alamitos, CA, USA, 2009, IEEE Computer Society, pp. 148-153.

## Early Behaviour Modelling for Control Systems

### Bibtex entry :

```
@inproceedings { PK09,  
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[PKB09]

PDFBIB

Polzer, A., Kowalewski, S., and Botterweck, G., "Applying Software Product Line Techniques in

Model-based Embedded Systems Engineering", in *Proc. Model-based Methodologies for Pervasive and Embedded Software (MOMPES 2009), Workshop at the 31st International Conference on Software Engineering (ICSE 2009)*, 2009, IEEE Computer Society, pp. 2-10.

## Applying Software Product Line Techniques in Model-based Embedded Systems Engineering

### Bibtex entry :

```
@inproceedings { PKB09,
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[RBHS09]

[PDFBIB](#)

Reinbacher, T., Brauer, J., Horauer, M., and Schlich, B., "Refining Assembly Code Static Analysis for the Intel MCS-51 Microcontroller", in *Proc. Industrial Embedded Systems (SIES'09), Lausanne, Switzerland, 2009*, IEEE Computer Society Press, pp. 161-170.

## Refining Assembly Code Static Analysis for the Intel MCS-51 Microcontroller

### Bibtex entry :

```
@inproceedings { RBHS09,
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[RHS+09]

[PDFBIB](#)

Reinbacher, T., Horauer, M., Schlich, B., Brauer, J., and Scheuer, F., "Model Checking Assembly Code of an Industrial Knitting Machine", in *Proc. Embedded and Multimedia Computing (EM-Com 2009)*, Jeju, Korea, 2009, IEEE Computer Society Press, pp. 1-8.

## Model Checking Assembly Code of an Industrial Knitting Machine

### Bibtex entry :

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@inproceedings { RHS+09,
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[RHS09]

[PDFBIB](#)

Reinbacher, T., Horauer, M., and Schlich, B., "Using 3-Valued Memory Representation for State Space Reduction in Embedded Assembly Code Model Checking", in *Proc. Design and Diagnostics of Electronic Circuits and Systems (DDECS 2009)*, Liberec, Czech Republic, 2009, IEEE Computer Society Press, pp. 114-119.

# Using 3-Valued Memory Representation for State Space Reduction in Embedded Assembly Code Model Checking

## Bibtex entry :

```
@inproceedings { RHS09,
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[SBWK09]

[PDFBIB](#)

Schlich, B., Brauer, J., Wernerus, J., and Kowalewski, S., "Direct Model Checking of PLC Programs in IL", in *Proc. Dependable Control of Discrete Systems (DCDS'09)*, Bari, Italy, 2009, pp. 28-33.

## Direct Model Checking of {PLC} Programs in {IL}

## Bibtex entry :

```
@inproceedings { SBWK09,
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```

[SK09]



## PDFBIB

Schlich, B. and Kowalewski, S., "Model Checking C Source Code for Embedded Systems", *International Journal on Software Tools for Technology Transfer (STTT)*, vol. 11, iss. 3, pp. 187-202, 2009

## Model Checking C Source Code for Embedded Systems

### Bibtex entry :

```
@article { SK09,
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```

[SKW09]

## PDFBIB

Schlich, B., Kowalewski, S., and Wernerus, J., "Verifikation von SPS-Programmen in AWL mit Hilfe von direktem Model-Checking", in *Proc. AUTOMATION 2009, Baden-Baden, Germany*, Düsseldorf, 2009 in VDI-Berichte, VDI Verlag.

## {Verifikation von SPS-Programmen in AWL mit Hilfe von direktem Model-Checking}

### Bibtex entry :

```
@inproceedings { SKW09,
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```

[SNBB09]

[PDFBIB](#)

Schlich, B., Noll, T., Brauer, J., and Brutschy, L., "Reduction of Interrupt Handler Executions for Model Checking Embedded Software", in *Proc. Haifa Verification Conference (HVC 2009)*, Haifa, Israel, 2009, vol. 6405 in Lecture Notes in Computer Science, Springer, pp. 5-20.

## Reduction of Interrupt Handler Executions for Model Checking Embedded Software

### Bibtex entry :

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@inproceedings { SNBB09,
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[SWW+09]

[PDFBIB](#)

Stollenwerk, A., Walter, M., Wartzek, T., Kopp, R., Arens, J., and Kowalewski, S., "A Safety and Control Concept for Extracorporeal Membrane Oxygenation", *The International Journal of Artificial Organs*, vol. 32, iss. 7, p. 428, 2009

## A Safety and Control Concept for Extracorporeal Membrane Oxygenation

### Bibtex entry :

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@article { SWW+09,
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```

[MK06]

[PDFBIB](#)

Ben Makhlof, I. and Kowalewski, S., "An Evaluation of Two Recent Reachability Analysis Tools for Hybrid Systems", in *Proc. 2nd IFAC Conference on Analysis and Design of Hybrid Systems*, 2006.

## An Evaluation of Two Recent Reachability Analysis Tools for Hybrid Systems

### Bibtex entry :

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@inproceedings { 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]

PDFBIB

Klünder, D., Li, J., and Kowalewski, S., "Design-by-Contract for Embedded Systems", in *Proc. International Symposium on Software Variability: a Programmers' Perspective (SVPP 2008)*, 2008.

## Design-by-Contract for Embedded Systems

### Bibtex entry :

```
@inproceedings { Klu08a,
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[KK07]

PDFBIB

Klünder, D. and Kowalewski, S., "Scenario-Based Evaluation of Abstract State Machines", in *Proc. The 14th International ASM Workshop (ASM'07)*, 2007.

## Scenario-Based Evaluation of Abstract State Machines

### Bibtex entry :

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@conference { KK07,
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[KKK08]

PDFBIB

Klünder, D., Kameni, D., and Kowalewski, S., "Nahtloser Entwurf sicherheitskritischer, eingebetteter Softwaresysteme mit abstrakten Zustandsmaschinen und Business Object Notation", in *Proc. Entwurf komplexer Automatisierungssysteme (EKA 2008)*, 2008.

## Nahtloser Entwurf sicherheitskritischer, eingebetteter Softwaresysteme mit abstrakten Zustandsmaschinen und Business Object Notation

### Bibtex entry :

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@inproceedings { KKK08,
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```

[Klu08b]

PDFBIB

Klünder, D., "Modellierung und Analyse von Fahrzeugsoftware mit Abstract State Machines", in *Proc. Modellierung 2008*, 2008 in Lecture Notes in Informatics, pp. 225-228.

## Modellierung und Analyse von Fahrzeugsoftware mit Abstract State Machines

### Bibtex entry :

```
@inproceedings { Klu08b,
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```

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```

[BKKS08]

PDFBIB

Beckers, J., Klünder, D., Kowalewski, S., and Schlich, B., "Direct Support for Model Checking of Abstract State Machines by Utilizing Simulation", in *Proc. Abstract State Machines, B and Z (ABZ 2008)*, London, UK, 2008, vol. 5238 in Lecture Notes in Computer Science, Springer, pp. 112-124.

## Direct Support for Model Checking of Abstract State Machines by Utilizing Simulation

### Bibtex entry :

```
@inproceedings { BKKS08,
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[DHH+08]

PDFBIB

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

## Entwicklung einer Luftpfadregelung am Dieselmotor unter Berücksichtigung nichtfunktionaler Anforderungen

### Bibtex entry :

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@inproceedings { DHH+08,
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```

[HFSB08]

PDFBIB

Huuck, R., Fehnker, A., Seefried, S., and Brauer, J., "Goanna: Syntactic Software Model Checking", in *Proc. Automated Technology for Verification and Analysis (ATVA 2008), Seoul, Korea, 2008*, vol. 5311 in Lecture Notes in Computer Science, Springer, pp. 216-221.

## Goanna: Syntactic Software Model Checking

### Bibtex entry :

```
@inproceedings { HFSB08,
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```

[HNSW08]

PDFBIB

Herberich, G., Noll, T., Schlich, B., and Weise, C., "Proving Correctness of an Efficient Abstraction for Interrupt Handling", *Electronic Notes in Theoretical Computer Science*, vol. 217, pp. 133-150, 2008, Proceedings of the 3rd International Workshop on Systems Software Verification (SSV 2008)

## Proving Correctness of an Efficient Abstraction for Interrupt Handling

### Bibtex entry :

```
@article { HNSW08,
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[NS08]

PDFBIB

Noll, T. and Schlich, B., "Delayed Nondeterminism in Model Checking Embedded Systems Assembly Code", in *Proc. Hardware and Software: Verification and Testing (HVC 2007)*, Haifa, Israel, 2008, vol. 4899 in Lecture Notes in Computer Science, Springer, pp. 185-201.



# Delayed Nondeterminism in Model Checking Embedded Systems Assembly Code

## Bibtex entry :

```
@inproceedings { NS08,  
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[RKHS08a]

PDFBIB

Reinbacher, T., Kramer, M., Horauer, M., and Schlich, B., "Challenges in Embedded Model Checking --- A Simulator for the [mc]square Model Checker", in *Proc. Industrial Embedded Systems (SIES 2008), Le Grande Motte, France, 2008*, IEEE Computer Society Press, pp. 245-248.

## Challenges in Embedded Model Checking --- A Simulator for the [mc]square Model Checker

### Bibtex entry :

```
@inproceedings { RKHS08a,  
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[RKHS08b]

[PDFBIB](#)

Reinbacher, T., Kramer, M., Horauer, M., and Schlich, B., "Motivating Model Checking for Embedded Systems Software", in *Proc. Mechatronic and Embedded Systems and Applications (MESA08), Beijing, China, 2008*, IEEE Computer Society Press, pp. 546-551.

## Motivating Model Checking for Embedded Systems Software

### Bibtex entry :

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@inproceedings { RKHS08b,
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[Sal08]

[PDFBIB](#)

Salewski, F., "Empirical Evaluations of Safety-Critical Embedded Systems," PhD Thesis , 2008.

## Empirical Evaluations of Safety-Critical Embedded Systems

### Bibtex entry :

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@phdthesis { Sal08,
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[Sch08]

PDFBIB

Schlich, B., "Model Checking of Software for Microcontrollers," PhD Thesis , Aachen, Germany, 2008.

## Model Checking of Software for Microcontrollers

### Bibtex entry :

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@phdthesis { Sch08,
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[SDH+08a]

PDFBIB

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.

## Entwicklungsprozess für eine Luftpfadregelung am Dieselmotor unter Berücksichtigung nichtfunktionaler Anforderungen

### Bibtex entry :

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

PDFBIB

Schmitz, D., Drews, P., Heßeler, F., Jarke, M., Kowalewski, S., Palczynski, J., Polzer, A., Reke, M., and Rose, T., "Modellbasierte Anforderungserfassung für softwarebasierte Regelungen", in *Proc. Software Engineering*, 2008, vol. 121 in LNI, GI, pp. 257-271.

## Modellbasierte Anforderungserfassung für softwarebasierte Regelungen

### Bibtex entry :

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@inproceedings { SDH+08b,
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and Polzer, Andreas and Reke, Michael and Rose, Thomas },
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[SGK08]

PDFBIB

Schlich, B., Gückel, D., and Kowalewski, S., "Modeling the Environment of Microcontrollers to Tackle the State-Explosion Problem in Model Checking", in *Proc. Formal Methods for Automation and Safety in Railway and Automotive Systems (FORMS/FORMAT 2008)*, Budapest, Hungary, Budapest, Hungary, 2008, L'Harmattan, pp. 27-34.

# Modeling the Environment of Microcontrollers to Tackle the State-Explosion Problem in Model Checking

## Bibtex entry :

```
@inproceedings { SGK08,  
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```

[SK08a]

PDFBIB

Salewski, F. and Kowalewski, S., "The Effect of Real-Time Software Reuse in FPGAs and Microcontrollers with respect to Software Faults", in *Proc. Industrial Embedded Systems (SIES'08)*, 2008, IEEE, pp. 141-148.

## The Effect of Real-Time Software Reuse in FPGAs and Microcontrollers with respect to Software Faults

## Bibtex entry :

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@inproceedings { SK08a,  
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}
```

[SK08b]

PDFBIB

Salewski, F. and Kowalewski, S., "Hardware/Software Design Considerations for Automotive Embedded Systems", *IEEE Transactions on Industrial Informatics*, vol. 4, iss. 3, pp. 156-163, 2008

## Hardware/Software Design Considerations for Automotive Embedded Systems

### Bibtex entry :

```
@article { SK08b,
  author = { Salewski, Falk and Kowalewski, Stefan },
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    Embedded Systems },
  journal = { IEEE Transactions on Industrial Informatics },
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```

[SLK08]

PDFBIB

Schlich, B., Löll, J., and Kowalewski, S., "Application of Static Analyses for State Space Reduction to Microcontroller Assembly Code", in *Proc. Formal Methods for Industrial Critical Systems (FMICS 2007)*, Berlin, Germany, 2008, vol. 4916 in Lecture Notes in Computer Science, Springer, pp. 21-37.

## Application of Static Analyses for State Space Reduction to Microcontroller Assembly Code

### Bibtex entry :

```
@inproceedings { SLK08,
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[ST08]

[PDFBIB](#)

Salewski, F. and Taylor, A., "Systematic Considerations for the Application of FPGAs in Industrial Applications", in *Proc. Industrial Electronics 2008(ISIE'08)*, 2008.

## Systematic Considerations for the Application of FPGAs in Industrial Applications

### Bibtex entry :

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@inproceedings { ST08,
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[Wil08]

[PDFBIB](#)

Wilking, D., "Empirical Studies for the Application of Agile Methods to Embedded Systems," PhD Thesis , RWTH Aachen University, 2008.

## Empirical Studies for the Application of Agile Methods to Embedded Systems

### Bibtex entry :

```
@phdthesis { Wil08,
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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 :

```
@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 :

```
@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 :

```

@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,
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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,
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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 :

```
@inproceedings { SK07d,
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}
```

[SK07e]

PDFBIB

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 :

```
@inproceedings { SK07e,
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}
```

[SK07f]

PDFBIB

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 :

```
@inproceedings { SK07f,
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Hardware-Specific Automotive Microcontroller Code },
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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,
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Stefan },
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Portugal },
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Application },
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```

[ST07]

PDFBIB

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 :

```
@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 :

```
@inproceedings { Klu06a,
author = { Kl{\\"u}nder, Daniel },
title = { TRIZ for Software Architecture },
booktitle = { Creativity, Quality and Efficiency - Building an
Innovation
Culture (TRIZ Future 2006) },
year = { 2006 },
editor = { Joost R. Duflou and Joris D'hondt and Tom Devoldere and
Simon Dewulf and Nele Dekeyser },
volume = { 1: Scientific Contributions },
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for_reporting_period = { Old },
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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

## Bibtex entry :

```
@inproceedings { Klu06b,  
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  illkey = { conference },  
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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 :

```
@inproceedings { WK05,  
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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 :

```
@article { WKK07,
  author = { Wilking, Dirk and Khan, Umar Farooq and Kowalewski,
Stefan },
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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 :

```
@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.

## {Eine Evaluationssuite zur schnellen Bewertung von Matlab/Simulink-Modelcheckern}

### Bibtex entry :

```

@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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```

[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 :

```
@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 :

```
@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 :

```

@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

### Bibtex entry :

```

@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 :

```
@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.

## Diverse hardware platforms in embedded systems lab courses: A way to teach the differences

### Bibtex entry :

```
@inproceedings { SWK05,
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Education (WESE) },
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for_reporting_period = { Old },
}
```

[SK04]

PDFBIB

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

## {C Model Checker: Eine Übersicht}

### Bibtex entry :

```
@techreport { SK04,
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<http://publications.embedded.rwth-aachen.de/browse>

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