

# Dr.rer.nat. Bastian Schlich



## Publikationen

[BSK+15]

[PDFBIB](#)

Biallas, S., Simon, H., Kowalewski, S., Hauck-Stattelmann, S., and Schlich, B., "Automatische Testfallgenerierung für SPS-Programme mittels Zeilenüberdeckung"Düsseldorf: VDI, 2015, vol. 2258,2, pp. 95-106.

## Automatische Testfallgenerierung für SPS-Programme mittels Zeilenüberdeckung

### Bibtex entry :

```
@inbook { BSK+15,
  author = { Biallas, Sebastian and Simon, Hendrik and Kowalewski,
Stefan
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  title = { Automatische Testfallgenerierung f{"u}r SPS-Programme
mittels Zeilen{"u}berdeckung },
  booktitle = { Automation 2015 : benefits of change - the future of
automation ; 16. Branchentreff der Mess- und
Automatisierungstechnik ; Kongresshaus Baden-Baden, 11. und
12. Juni 2015 / VDI/VDE-Gesellschaft Mess- und
Automatisierungstechnik. - Bd. 1 },
  publisher = { VDI },
  pages = { 95-106 },
  volume = { 2258,2 },
  series = { VDI-Berichte },
  year = { 2015 },
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Automatisierungstechnik
Automation 2015, Baden-Baden (Germany), 2015-06-11 -
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2015-06-12 },
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}
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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" Springer International Publishing: Cham, 2015, vol. 9109, pp. 585-588.

## Analyzing the Restart Behavior of Industrial Control Applications

### Bibtex entry :

```
@inbook { HBS+15,
  author = { Hauck-Stattelmann, Stefan and Biallas, Sebastian and
    Schlich, Bastian and Kowalewski, Stefan and Jetley, Raoul },
  title = { Analyzing the Restart Behavior of Industrial Control
    Applications },
  booktitle = { FM 2015: formal methods : 20th international
    symposium,
    Oslo, Norway, June 24 - 26, 2015 ; proceedings / Nikolaj
    Bjørner; Frank de Boer (eds.) },
  publisher = { Cham },
  pages = { 585-588 },
  volume = { 9109 },
  series = { Lecture Notes in Computer Science },
  year = { 2015 },
  address = { Springer International Publishing },
  organization = { 20th International Symposium Formal Methods, Oslo
    (Norway),
    2015-06-24 - 2015-06-26 },
  doi = { 10.1007/978-3-319-19249-9_38 },
  typ = { PUB:(DE-HGF)8 },
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  url = { http://publications.rwth-aachen.de/record/541096 },
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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. 2015 IEEE 20th Conference on Emerging Technologies & Factory Automation (ETFA) : 8 - 11 Sept. 2015, City of Luxembourg, Luxembourg / co-sponsored by IEEE ...*, Piscataway, NJ, 2015, IEEE, p. 4.

# Automatic test case generation for PLC programs using coverage metrics

## Bibtex entry :

```
@inproceedings { SFB+15,  
  author = { Simon, Hendrik and Friedrich, Nico and Biallas,  
  Sebastian  
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    Kowalewski, Stefan },  
  title = { Automatic test case generation for PLC programs using  
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  booktitle = { 2015 IEEE 20th Conference on Emerging Technologies &  
  Factory  
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    Luxembourg / co-sponsored by IEEE ... },  
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  year = { 2015 },  
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  organization = { 2015 IEEE 20th Conference on Emerging Technologies  
& Factory  
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  doi = { 10.1109/ETFA.2015.7301602 },  
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}
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[BKS+14]

[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. Discrete Event Systems : [Proc. Proceedings of the 12th International Workshop on Discrete Event Systems, Cachan, France, 2014] / Conference Editor: Lesage, Jean-Jacques, Faure, Jean-Marc, Cury, Jose E. R., Lennartson, Bengt, Cachan, France, 2014, IFAC, pp. 400-405.*

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

## Bibtex entry :

```
@inproceedings { BKS+14,  
  author = { Biallas, Sebastian and Kowalewski, Stefan and  
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  title = { Efficient Handling of States in Abstract Interpretation  
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Industrial Programmable Logic Controller Code },
booktitle = { Discrete Event Systems : [Proc. Proceedings of the
12th
International Workshop on Discrete Event Systems, Cachan,
France, 2014] / Conference Editor: Lesage, Jean-Jacques,
Faure, Jean-Marc, Cury, Jose E. R., Lennartson, Bengt },
publisher = { IFAC },
pages = { 400-405 },
year = { 2014 },
address = { Cachan, France },
doi = { 10.3182/20140514-3-FR-4046.00065 },
typ = { PUB:(DE-HGF)8 },
reportid = { RWTH-CONV-205968 },
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}
```

[SKB+14]

[PDFBIB](#)

Stattelmann, S., Kowalewski, S., Biallas, S., and Schlich, B., "Applying Static Code Analysis on Industrial Controller Code", in *Proc. 2014 IEEE [International Conference on] Emerging Technologies and Factory Automation (ETFA 2014) : Barcelona, Spain, 16 - 19 September 2014 / [co-sponsored by Universitat Politècnica de Catalunya - Barcelona Tech (UPC); IEEE Industrial Electronics Society]*, Piscataway, NJ, 2014, IEEE, p. 4.

## Applying Static Code Analysis on Industrial Controller Code

### Bibtex entry :

```
@inproceedings { SKB+14,
author = { Stattelmann, Stefan and Kowalewski, Stefan and Biallas,
Sebastian and Schlich, Bastian },
title = { Applying Static Code Analysis on Industrial Controller
Code },
booktitle = { 2014 IEEE [International Conference on] Emerging
Technologies and Factory Automation (ETFA 2014) : Barcelona,
Spain, 16 - 19 September 2014 / [co-sponsored by Universitat
Politècnica de Catalunya - Barcelona Tech (UPC); IEEE
Industrial Electronics Society] },
publisher = { IEEE },
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address = { Piscataway, NJ },
organization = { 2014 IEEE [International Conference on] Emerging
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2014-09-16 - 2014-09-19 },
doi = { 10.1109/ETFA.2014.7005254 },
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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"Düsseldorf: VDI-Verl., 2013, vol. 2209, pp. 75-79.

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

### Bibtex entry :

```
@inbook { BKK+13,
  author = { Biallas, Sebastian and Kamin, Volker and Kowalewski,
Stefan
    and Schlich, Bastian and Sehestedt, Stephan and Stattelmann,
Stefan },
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    Hilfe von Safety-Automaten },
  booktitle = { Automation 2013 : 14. Branchentreff der Mess- und
Automatisierungstechnik ; Kongresshaus Baden-Baden, 25. und
26. Juni 2013 / VDI/VDE-Gesellschaft Mess- und
Automatisierungstechnik },
  publisher = { VDI-Verl. },
  pages = { 75-79 },
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  series = { VDI-Berichte },
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```

[BKS12]

[PDFBIB](#)

Biallas, S., Kowalewski, S., and Schlich, B., "Automatische Wertebereichsanalyse von SPS-Programmen", in *Proc. Automation 2012 : der 13. Branchentreff der Mess- und Automatisierungstechnik / VDI/VDE-Gesellschaft Mess- und Automatisierungstechnik ; Kongress 'Automation 2012' ; 13 (Baden-Baden) ; 2011.06.13-14* Branchentreff der Mess- und Automatisierungstechnik, Düsseldorf, 2012 in VDI-Berichte, VDI-Verl., pp. 79-83.

## Automatische Wertebereichsanalyse von SPS-

## Programmen

### Bibtex entry :

```
@inproceedings { BKS12,  
  author = { Biallas, Sebastian and Kowalewski, Stefan and Schlich,  
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  booktitle = { Automation 2012 : der 13. Branchentreff der Mess- und  
              Automatisierungstechnik / VDI/VDE-Gesellschaft Mess- und  
              Automatisierungstechnik ; Kongress 'Automation 2012' ; 13  
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[BKS12a]

[PDFBIB](#)

Biallas, S., Kowalewski, S., and Schlich, B., "Automatische Wertebereichsanalyse -- Formale Verifikation für SPS-Programme", *Automatisierungstechnische Praxis : atp*, vol. 54, iss. 7/8, pp. 68-74, 2012

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

### Bibtex entry :

```
@article { BKS12a,  
  author = { Biallas, Sebastian and Kowalewski, Stefan and Schlich,  
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  journal = { Automatisierungstechnische Praxis : atp },  
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  pages = { 68-74 },  
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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,
  author = { Biallas, Sebastian and Kowalewski, Stefan and Schlich,
    Bastian },
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  booktitle = { Proceedings of the 11th International Workshop on
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  pages = { 378-383 },
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  cin = { 122810 / 120000 },
  url = { http://publications.rwth-aachen.de/record/752302 },
}
```

[BSK12]

[PDFBIB](#)

Brauer, J., Schlich, B., and Kowalewski, S., "Parallel and distributed invariant checking of microcontroller software", *Electronic notes in theoretical computer science : ENTCS*, vol. 287, pp. 45-63, 2012

## Parallel and distributed invariant checking of microcontroller software

### Bibtex entry :

```
@article { BSK12,
  author = { Brauer, J{"o}rg and Schlich, Bastian and Kowalewski,
    Stefan },
  title = { Parallel and distributed invariant checking of
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  journal = { Electronic notes in theoretical computer science :
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ENTCS },
  publisher = { Elsevier Science },
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  cin = { 122810 / 120000 },
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}
```

[BBK+11]

[PDFBIB](#)

Biallas, S., Brauer, J., Kowalewski, S., and Schlich, B., "Automatically Deriving Symbolic Invariants for PLC Programs Written in IL", in *Proc. Formal methods for automation and safety in railway and automotive systems : FORMS/FORMAT 2010 ; [8th symposium ; proceedings] / Eckehard Schnieder; Géza Tarnai, eds.*, Heidelberg [u.a.], 2011, Springer, pp. 237-245.

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

### Bibtex entry :

```
@inproceedings { BBK+11,
  author = { Biallas, Sebastian and Brauer, J{"o}rg and Kowalewski,
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    proceedings] / Eckehard Schnieder; Géza Tarnai, eds. },
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  pages = { 237-245 },
  year = { 2011 },
  address = { Heidelberg [u.a.] },
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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. 'Zukunft verantwortungsvoll gestalten' : Automation 2011 ; der 12. Branchentreff der Mess- und Automatisierungstechnik ; Kongress Baden-Baden, 28. und 29. Juni 2011 / VDI/VDE-Gesellschaft Mess- und Automatisierungstechnik. [Kongressleiter: Peter Adolphs ...]*, Düsseldorf, 2011 in VDI-Berichte, VDI-Verl., pp. 67-72.

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

### Bibtex entry :

```
@inproceedings { BKS11,
  author = { Biallas, Sebastian and Kowalewski, Stefan and Schlich, Bastian },
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  booktitle = { 'Zukunft verantwortungsvoll gestalten' : Automation 2011 ;
    der 12. Branchentreff der Mess- und Automatisierungstechnik ; Kongress Baden-Baden, 28. und 29. Juni 2011 / VDI/VDE-Gesellschaft Mess- und Automatisierungstechnik. [Kongressleiter: Peter Adolphs ...] },
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  pages = { 67-72 },
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  cin = { 122810 / 120000 },
  url = { http://publications.rwth-aachen.de/record/118212 },
}
```

[RHS+11]

[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*, vol. 1, iss. 2, pp. 186-205, 2011

## Model checking embedded software of an industrial knitting machine

### Bibtex entry :

```
@article { RHS+11,
  author = { Reinbacher, Thomas and Horauer, Martin and Schlich, Bastian
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title = { Model checking embedded software of an industrial
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pages = { 186-205 },
volume = { 1 },
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address = { Geneva },
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doi = { 10.1504/IJITCC.2011.039285 },
typ = { PUB:(DE-HGF)16 },
reportid = { RWTH-CONV-052838 },
cin = { 122810 / 120000 },
url = { http://www.inderscience.com/IJITCC },
}
```

[SBK11]

[PDFBIB](#)

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

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

### Bibtex entry :

```
@article { SBK11,
author = { Schlich, Bastian and Brauer, J{"o}rg and Kowalewski,
Stefan },
title = { Application of Static Analyses for State-Space Reduction
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journal = { Science of computer programming },
publisher = { Elsevier },
pages = { 100-118 },
volume = { 76 },
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year = { 2011 },
address = { Amsterdam [u.a.] },
issn = { 0167-6423 },
doi = { 10.1016/j.scico.2010.03.006 },
typ = { PUB:(DE-HGF)16 },
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}
```

[SNB+11]

PDFBIB

Schlich, B., Noll, T., Brauer, J., and Brutschy, L., "Reduction of Interrupt Handler Executions for Model Checking Embedded Software", in *Proc. Hardware and software: verification and testing : 5th International Haifa Verification Conference, HCV 2009, Haifa, Israel, October 19-22, 2009 : revised selected papers / Kedar Namjoshi ... (eds.)*, Heidelberg [u.a.], 2011 in *Lecture Notes in Computer Science*, Springer.

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

### Bibtex entry :

```
@inproceedings { SNB+11,
  author = { Schlich, Bastian and Noll, Thomas and Brauer, J{"o}rg
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  title = { Reduction of Interrupt Handler Executions for Model
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Embedded Software },
  booktitle = { Hardware and software: verification and testing : 5th
International Haifa Verification Conference, HCV 2009,
Haifa, Israel, October 19-22, 2009 : revised selected papers
/ Kedar Namjoshi ... (eds.) },
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  series = { Lecture Notes in Computer Science },
  year = { 2011 },
  address = { Heidelberg [u.a.] },
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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. Entwurf komplexer Automatisierungssysteme : EKA 2010 ; Beschreibungsmittel, Methoden, Werkzeuge und Anwendungen ; 11. Fachtagung mit Tutorium, 25. bis 27. Mai 2010 in Magdeburg, Denkfabrik im Wissenschaftshafen / ifak, Institut für Automation und Kommunikation e.V., Magdeburg; Otto-von-Guericke-Universität Magdeburg, Institut für Automatisierungstechnik. [Hrsg.: Ulrich Jumar, Eckehard Schnieder, Christian Diedrich]*, Magdeburg, 2010, ifak, pp. 49-57.

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

## Ebene

### Bibtex entry :

```
@inproceedings { BFK+10,  
  author = { Biallas, Sebastian and Frey, Georg and Kowalewski,  
Stefan  
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  title = { Formale Verifikation von Sicherheits-Funktionsbausteinen  
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    PLCopen auf Modell- und Code-Ebene },  
  booktitle = { Entwurf komplexer Automatisierungssysteme : EKA 2010  
;  
    Beschreibungsmittel, Methoden, Werkzeuge und Anwendungen ;  
    11. Fachtagung mit Tutorium, 25. bis 27. Mai 2010 in  
    Magdeburg, Denkfabrik im Wissenschaftshafen / ifak, Institut  
f{"u}r Automation und Kommunikation e.V., Magdeburg;  
    Otto-von-Guericke-Universit{"a}t Magdeburg, Institut  
f{"u}r Automatisierungstechnik. [Hrsg.: Ulrich Jumar,  
    Eckehard Schnieder, Christian Diedrich] },  
  publisher = { ifak },  
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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. SCOPES '10 Proceedings of the 13th International Workshop on Software & Compilers for Embedded Systems : St. Goar, Germany - June 29-30, 2010*, New York, NY, 2010 in ACM Digital Library, ACM.

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

### Bibtex entry :

```
@inproceedings { BNS10,  
  author = { Brauer, J{"o}rg and Noll, Thomas and Schlich, Bastian  
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    Software & Compilers for Embedded Systems : St. Goar,
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    Germany - June 29-30, 2010 },
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```

[GSB+10]

[PDFBIB](#)

Gückel, D., Schlich, B., Brauer, J., and Kowalewski, S., "Synthesizing Simulators for Model Checking Microcontroller Binary", in *Proc. Proceedings of the 13th IEEE Symposium on Design and Diagnostics of Electronic Circuits and Systems : April 14-16, 2010, Vienna, Austria / Sponsored by IEEE Computer Society, Test Technology Techn. Council, In coop. with Dept. of Computer Engineering, Fac. of Informatics, Vienna Univ. of Techn., Piscataway, NJ, 2010, IEEE*, pp. 313-316.

## Synthesizing Simulators for Model Checking Microcontroller Binary

### Bibtex entry :

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@inproceedings { GSB+10,
  author = { G{"u}ckel, Dominique and Schlich, Bastian and Brauer,
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    Binary },
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    Society, Test Technology Techn. Council, In coop. with Dept.
    of Computer Engineering, Fac. of Informatics, Vienna Univ.
    of Techn. },
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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*, vol. 1, iss. 2, pp. 186-205, 2010

## Model Checking Embedded Software of an Industrial Knitting Machine

**Bibtex entry :**

```
@article { RHS+10,
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http://inderscience.metapress.com/content/y664g84625r780l0/fulltext.pdf
},
}
```

[Sch10]

PDFBIB

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**Bibtex entry :**

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@article { Sch10,
  author = { Schlich, Bastian },
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url = { http://publications.rwth-aachen.de/record/169982 },
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```

[BHS09]

[PDFBIB](#)

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## Interprocedural pointer analysis in Goanna

### Bibtex entry :

```
@article { BHS09,
  author = { Brauer, J{\\"o}rg and Huuck, Ralf and Schlich, Bastian },
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ENTCS },
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[BSR+09]

[PDFBIB](#)

Brauer, J., Schlich, B., Reinbacher, T., and Kowalewski, S., "Stack bounds analysis of microcontroller assembly code", in *Proc. Embedded Systems Week 2009 : CODES+ISSS'09, CASES'09, EMSOFT'09 ; Proceedings of the 2009 international conference on Compilers, architecture, and synthesis for embedded systems ; 2009, Grenoble, France, October 11 - 16, 2009*, New York, NY, 2009, ACM Press.

## Stack bounds analysis of microcontroller assembly code

## Bibtex entry :

```
@inproceedings { BSR+09,  
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Thomas  
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```

[FHS+09]

[PDFBIB](#)

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@inbook { FHS+09,  
  author = { Fehnker, Ansgar and Huuck, Ralf and Schlich, Bastian and  
Tapp, Michael },  
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  booktitle = { SOFSEM 2009: theory and practice of computer science  
: 35th  
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  Computer Science, Špindler°uv Mlýň, Czech Republic,  
  January 24 - 30, 2009 ; proceedings / Mogens Nielsen ...  
(eds.) },  
  publisher = { Springer },  
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  series = { Lecture notes in computer science },  
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url = { http://publications.rwth-aachen.de/record/83459 },
}
```

[KHS09]

[PDFBIB](#)

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### Bibtex entry :

```
@article { KHS09,
  author = { Klein, Gerwin and Huuck, Ralf and Schlich, Bastian },
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```

[RBH+09]

[PDFBIB](#)

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## Refining assembly code static analysis for the Intel MCS-51 microcontroller

### Bibtex entry :

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@inproceedings { RBH+09,
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MCS-51
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Embedded
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}

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[RHS+09]

[PDFBIB](#)

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```

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    author = { Reinbacher, Thomas and Horauer, Martin and Schlich,
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    and Brauer, J{"o}rg and Scheuer, Florian },
    title = { Model checking assembly code of an industrial knitting
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    booktitle = { Proceedings of the 2009 Fourth International
Conference on
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[RHS09]

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## Using 3-valued memory representation for state space reduction in embedded assembly code model checking

**Bibtex entry :**

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@inproceedings { RHS09,
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[SBW+09]

[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.

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**Bibtex entry :**

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@inproceedings { SBW+09,
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[SK09]

[PDFBIB](#)

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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 : der Automatisierungskongress in Deutschland ; Kongress Baden-Baden, 16. und 17. Juni 2009 ; [10. Branchentreff der Mess- und Automatisierungstechnik] / VDI/VDE-Gesellschaft Mess- und Automatisierungstechnik. - 2067*, Düsseldorf, 2009 in VDI-Berichte, VDI-Verl., pp. 13-16.

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

**Bibtex entry :**

```
@inproceedings { SKW09,
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    [10. Branchentreff der Mess- und Automatisierungstechnik] /
    VDI/VDE-Gesellschaft Mess- und Automatisierungstechnik. -
    2067 },
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```

[BKK+08]

[PDFBIB](#)

Beckers, J., Klünder, D., Kowalewski, S., and Schlich, B., "Direct support for model checking abstract state machines by utilizing simulation" Berlin [u.a.]: Springer, 2008, vol. 5238, pp. 112-124.

## Direct support for model checking abstract state machines by utilizing simulation

**Bibtex entry :**

```
@inbook { BKK+08,
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    by
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  booktitle = { Abstract state machines, B and Z : first
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    proceedings / Egon B{"o}rger ... (eds.) },
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  volume = { 5238 },
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[HSW+08]

[PDFBIB](#)

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## Proving correctness of an efficient abstraction for interrupt handling

### Bibtex entry :

```
@article { HSW+08,
  author = { Herberich, Gerlind and Schlich, Bastian and Weise,
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  journal = { Electronic notes in theoretical computer science :
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  pages = { 133-150 },
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```

[NS08]

[PDFBIB](#)

Noll, T. and Schlich, B., "Delayed nondeterminism in model checking embedded systems assembly code" Berlin [u.a.]: Springer, 2008, vol. 4899, pp. 185-201.

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**Bibtex entry :**

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@inbook { NS08,
  author = { Noll, Thomas and Schlich, Bastian },
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  booktitle = { Hardware and software: verification and testing :
third
  International Haifa Verification Conference, HVC 2007,
  Haifa, Israel, October 23 - 25, 2007 ; proceedings / Karen
  Yorav (ed.) },
  publisher = { Springer },
  pages = { 185-201 },
  volume = { 4899 },
  series = { Lecture notes in computer science },
  year = { 2008 },
  address = { Berlin [u.a.] },
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```

[RKH+08]

[PDFBIB](#)

Reinbacher, T., Kramer, M., Horauer, M., and Schlich, B., "Motivating model checking for embedded systems software", in *Proc. 2008 IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications : MESA ; Beijing, China, 12 - 15 October 2008*, Piscataway, NJ, 2008, IEEE, pp. 546-551.

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**Bibtex entry :**

```
@inproceedings { RKH+08,
  author = { Reinbacher, Thomas and Kramer, Michael and Horauer,
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doi = { 10.1109/MESA.2008.4735653 },
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[RKH+08a]

[PDFBIB](#)

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## Challenges in embedded model checking : a simulator for the [mc]square model checker

### Bibtex entry :

```
@inproceedings { RKH+08a,
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    IEEE },
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```

[Sch08]

[PDFBIB](#)

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### Bibtex entry :

```
@phdthesis { Sch08,
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author = { Schlich, Bastian },
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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 ; proceedings of Symposium FORMS/FORMAT 2008, Budapest, Hungary, October 9 - 10, 2008 / Géza Tarnai ... (ed.)*, Budapest, 2008, L Harmattan.

## Modeling the environment of microcontrollers to tackle the state-explosion problem in model checking

### Bibtex entry :

```

@inproceedings { SGK08,
  author = { Schlich, Bastian and G{"u}ckel, Dominique and
Kowalewski,
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and
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  2008, Budapest, Hungary, October 9 - 10, 2008 / Géza Tarnai
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```

[SLK08]

[PDFBIB](#)

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  author = { Schlich, Bastian and L{"o"}ll, Jann and Kowalewski,
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  booktitle = { Formal methods for industrial critical systems : 12th
international workshop, FMICS 2007, Berlin, Germany, July 1
- 2, 2007 ; revised selected papers / Stefan Leue; Pedro
Merino (eds.) },
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  pages = { 21-37 },
  volume = { 4916 },
  series = { Lecture notes in computer science },
  year = { 2008 },
  address = { Berlin [u.a.] },
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  url = { http://publications.rwth-aachen.de/record/83462 },
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[SK07d]

[PDFBIB](#)

Schlich, B. and Kowalewski, S., "An extendable architecture for model checking hardware-specific automotive microcontroller code", in *Proc. FORMS/FORMAT 2007 - 6th symposium : formal methods for automation and safety in railway and automotive systems ; proceedings of Symposium FORMS/FORMAT 2007, Braunschweig, Germany, 25th and 26th January, 2007 / Eckehard Schnieder; Géza Tarnai (Eds.)*, Braunschweig, 2007, GZVB, pp. 202-212.

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### Bibtex entry :

```
@inproceedings { SK07d,
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    proceedings of Symposium FORMS/FORMAT 2007, Braunschweig,
    Germany, 25th and 26th January, 2007 / Eckehard Schnieder;
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```

[SSK07]

[PDFBIB](#)

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## Applying model checking to an automotive microcontroller application

### Bibtex entry :

```

@inproceedings { SSK07,
  author = { Schlich, Bastian and Salewski, Falk and Kowalewski,
Stefan },
  title = { Applying model checking to an automotive microcontroller
application },
  booktitle = { 2007 International Symposium on Industrial Embedded
Systems
: Costa da Caparica, [Lisbon], Portugal, 4 - 6 July 2007 ;
[SIES'2007] / IEEE / IEEE Computer Society Press },
  publisher = { IEEE },
  pages = { 209-216 },
  year = { 2007 },
  address = { Piscataway, NJ },
  doi = { 10.1109/SIES.2007.4297337 },
  typ = { PUB:(DE-HGF)8 },
  reportid = { RWTH-CONV-188512 },
  cin = { 122810 / 120000 },
  url = { http://publications.rwth-aachen.de/record/117071 },
}

```

[PSK06]

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Palczynski, J., Schlich, B., and Kowalewski, S., "Eine Evaluationsuite zur schnellen Bewertung von Matlab/Simulink-Modelcheckern", in *Proc. Informatik 2006 : Informatik für Menschen ; Beiträge der 36. Jahrestagung der Gesellschaft für Informatik e.V. (GI) ; 2. bis 6. Oktober 2006 in Dresden / Christian Hochberger ... (Hrsg.). - T. 1. - 1*, Bonn, 2006 in GI-Edition : Proceedings, Ges. für Informatik, pp. 751-755.

## Eine Evaluationsuite zur schnellen Bewertung von Matlab/Simulink-Modelcheckern

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@inproceedings { PSK06,
  author = { Palczynski, Jacob and Schlich, Bastian and Kowalewski,
            Stefan },
  title = { Eine Evaluationsuite zur schnellen Bewertung von
            Matlab/Simulink-Modelcheckern },
  booktitle = { Informatik 2006 : Informatik für Menschen ;
               Beiträ\{a}ge
               der 36. Jahrestagung der Gesellschaft für Informatik
               e.V. (GI) ; 2. bis 6. Oktober 2006 in Dresden / Christian
               Hochberger ... (Hrsg.). - T. 1. - 1 },
  publisher = { Ges. für Informatik },
  pages = { 751-755 },
  series = { GI-Edition : Proceedings },
  year = { 2006 },
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  cin = { 120000 / 122810 },
  url = { http://publications.rwth-aachen.de/record/111754 },
}
```

[SK06a]

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Schlich, B. and Kowalewski, S., "[mc]square: A model checker for microcontroller code", in *Proc. ISoLA 2006 : Second International Symposium on Leveraging Applications of Formal Methods, Verification and Validation ; 15 - 19 November 2006, Paphos, Cyprus / IEEE Computer Society 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 { SK06a,
  author = { Schlich, Bastian and Kowalewski, Stefan },
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  booktitle = { ISoLA 2006 : Second International Symposium on
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```

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Applications of Formal Methods, Verification and Validation
; 15 - 19 November 2006, Paphos, Cyprus / IEEE Computer
SocietyLeveraging Applications of Formal Methods,
Verification and Validation (ISoLA 2006) },
publisher = { IEEE Computer Society Press },
pages = { 466-473 },
year = { 2006 },
address = { Paphos, Cyprus },
doi = { 10.1109/ISoLA.2006.62 },
typ = { PUB:(DE-HGF)8 },
reportid = { RWTH-CONV-188517 },
cin = { 122810 / 120000 },
url = { http://publications.rwth-aachen.de/record/117076 },
}

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[SRW+06]

[PDFBIB](#)

Schlich, B., Rohrbach, M., Weber, M., and Kowalewski, S., "Model checking software for microcontrollers", , Aachen, AIB-2006-11, 2006.

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### Bibtex entry :

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@techreport { SRW+06,
  author = { Schlich, Bastian and Rohrbach, Michael and Weber,
Michael
and Kowalewski, Stefan },
  title = { Model checking software for microcontrollers },
  pages = { 33 Bl. : graph. Darst. },
  volume = { 2006,11 },
  number = { AIB-2006-11 },
  series = { Aachener Informatik-Berichte },
  year = { 2006 },
  address = { Aachen },
  typ = { PUB:(DE-HGF)29 },
  reportid = { RWTH-CONV-008343 },
  cin = { 122810 / 120000 },
  url = { http://webdoc.sub.gwdg.de/ebook/serien/ah/AIB/2006-11.pdf
},
}

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[SK05b]

[PDFBIB](#)

Schlich, B. and Kowalewski, S., "Model checking C source code for embedded systems", , [S.I.], NASA/CP-2005-212788, 2005.

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@techreport { SK05b,  
  author = { Schlich, Bastian and Kowalewski, Stefan },  
  title = { Model checking C source code for embedded systems },  
  booktitle = { IEEE/NASA Workshop on Leveraging Applications of  
Formal  
  Methods, Verification, and Validation : IEEE/NASA ISoLA 2005  
  ; proceedings of a workshop held at the Loyola College  
  Graduate Center, Columbia, Maryland, USA, 23 - 24 September  
  2005 ; with a special track on the theme of formal methods  
  in human and robotic space exploration / National  
  Aeronautics and Space Administration, Goddard Space Flight  
  Center. Ed.: Tiziana Margaria ... },  
  pages = { 65-77 },  
  number = { NASA/CP-2005-212788 },  
  year = { 2005 },  
  address = { [S.l.] },  
  typ = { PUB:(DE-HGF)8 },  
  reportid = { RWTH-CONV-009447 },  
  cin = { 120000 / 122810 },  
  url = { http://publications.rwth-aachen.de/record/111740 },  
}
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[SK04]

[PDFBIB](#)

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## C Model Checker: Eine Übersicht

### Bibtex entry :

```
@inbook { SK04,  
  author = { Schlich, Bastian and Kowalewski, Stefan },  
  title = { C Model Checker: Eine {"U}bersicht },  
  year = { 2004 },  
  typ = { PUB:(DE-HGF)7 },  
  reportid = { RWTH-CONV-101608 },  
  cin = { 122810 / 120000 },  
  url = { http://publications.rwth-aachen.de/record/90178 },  
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