

Publications of Adjunct Professor Mattias Nyberg

Journal Publications

A probabilistic model of belief in safety cases

D. Nestic, M.Nyberg, B.Gallina.

Safety Science, Volume 138, June 2021

Product-line assurance cases from contract-based design

D. Nestic, M.Nyberg, B.Gallina.

Journal of Systems and Software, Volume 176, June 2021

An industrial evaluation of data access techniques for the interoperability of engineering software tools

Jad El-khoury, Andrii Berezovskyi, Mattias Nyberg

Journal of Industrial Information Integration, Elsevier, Volume 15, September 2019, Pages 58-68

Methodology for Linked Enterprise Data Quality Assessment Through Information Visualizations

D. Gürdür, J. El-khoury och M. Nyberg

Journal of Industrial Information Integration, vol. 15, s. 191-200, 2018.

Providing Tool Support for Specifying Safety-Critical Systems by Enforcing Syntactic Contract Conditions,

J. Westman and M. Nyberg

Requirements Engineering, 2018.

Automated SMT-based Consistency Checking of Industrial Critical Requirements

Predrag Filipovikj, Guillermo Rodriguez-Navas, Mattias Nyberg, Cristina Secoleanu

Applied Computing Review (ACR), Jan 2018

Conditions of Contracts for Separating Responsibilities in Heterogeneous Systems

Jonas Westman and Mattias Nyberg

Formal Methods in System Design, Springer, 2017.

Formal Architecture Modeling of Sequential Non-recursive C programs,

Jonas Westman, Mattias Nyberg, Joakim Gustavsson, Dilian Gurov

Science of Computer Programming, Elsevier, Volume 146, 15 October 2017, Pages 2-27

Data-Driven and Adaptive Statistical Residual Evaluation for Fault Detection with an Automotive Application.

Carl Svärd, Mattias Nyberg, Erik Frisk, and Mattias Krysander (2014).

Mechanical Systems and Signal Processing, 45(1):170—192

Guided Integrated Remote and Workshop Troubleshooting of Heavy Trucks

Håkan Warnquist, Mattias Nyberg, and Jonas Biteus (2014)

SAE International Journal of Commercial Vehicles, 7(1):25–36, 04 2014.

An integrated toolchain for model based functional safety analysis

Lena Rogovchenko-Buffoni, Andrea Tundis, Muhammed Zoheb Hossain, Mattias Nyberg, Peter Fritzson (2014)

Journal of Computational Science, Volume 5, Issue 3, May 2014, Pages 408–414

Automotive Engine FDI by Application of an Automated Model-Based and Data-Driven Design Methodology

Carl Svärd, Mattias Nyberg, Erik Frisk, and Mattias Krylander (2013).

Control Engineering Practice, 21(4):455--472.

Realizability Constrained Selection of Residual Generators for Fault Diagnosis with an Automotive Engine Application.

Carl Svärd, Mattias Nyberg, and Erik Frisk (2013).

In: IEEE Transactions on Systems, Man, and Cybernetics: Systems, 43(6):1354--1369.

Automated Design of an FDI-System for the Wind Turbine Benchmark.

Carl Svärd, and Mattias Nyberg (2012).

Journal of Control Science and Engineering. Volume 2012 (2012), Article ID 989873, 13 pages

Modeling and inference for troubleshooting with interventions applied to a heavy truck auxiliary braking system

Anna Pernstål, Mattias Nyberg, and Håkan Warnquist (2012).

IFAC Engineering Applications of Artificial Intelligence. 25(4):705-719

Distributed Diagnosis using a Condensed Representation of Diagnoses with application to an Automotive Vehicle.

Jonas Biteus, Erik Frisk, and Mattias Nyberg (2011).

IEEE Transactions on Systems, Man, and Cybernetics -- Part A: Systems and Humans. vol.41, no.6.

A Generalized Minimal Hitting-Set Algorithm to Handle Diagnosis with Behavioral Modes.

Mattias Nyberg (2011).

IEEE Transactions on Systems, Man, and Cybernetics -- Part A: Systems and Humans, 41(1):137--148.

Residual Generators for Fault Diagnosis using Computation Sequences with Mixed Causality Applied to Automotive Systems.

Carl Svärd, and Mattias Nyberg (2010).

IEEE Transactions on Systems, Man, and Cybernetics -- Part A: Systems and Humans, 40(6):1310--1328.

Determining the Fault Status of a Component and its Readiness, with a Distributed Automotive Application.

Jonas Biteus, Mattias Nyberg, Erik Frisk, and Jan Åslund (2009).

Engineering Applications of Artificial Intelligence, 22(3):363—373.

An Algorithm for Computing the Diagnoses with Minimal Cardinality in a Distributed System.

Jonas Biteus, Mattias Nyberg, and Erik Frisk (2008).

Engineering Applications of Artificial Intelligence, 21(2):269--276

An Efficient Algorithm for Finding Minimal Over-constrained Sub-systems for Model-based Diagnosis

M. Krysander, J. Åslund, and M. Nyberg (2008)

IEEE Transactions on Systems, Man, and Cybernetics -- Part A: Systems and Humans, 38(1)

Residual Generation for Fault Diagnosis of Systems Described by Linear Differential-Algebraic Equations

M. Nyberg and E. Frisk, 2006, Dec

IEEE Transactions on Automatic Control, Vol 51, No 12, pp. 1995-2000

Model based diagnosis of an air path of an automotive diesel engine

M. Nyberg and T. Stutte, 2004, May

Control Engineering Practice, Vol 12, No. 5, pp. 513-525

Using hypothesis testing to evaluate principles for leakage diagnosis of automotive engines

M. Nyberg , 2003, November

Control Engineering Practice, Vol. 11, No. 11, pp. 1263-1272

Model-based diagnosis of an automotive engine using several types of fault models

M. Nyberg , 2002 , September

IEEE Transaction on Control Systems Technology, 10, 5, 679—689

Criteria for detectability and strong detectability of faults in linear systems

M. Nyberg , 2002 , May

International Journal of Control , 75, 7, 490—501

Discussion on the paper “On fault detectability and isolability” by M. Basseville

M. Nyberg , 2001

European Journal of Control, Vol.7, Nb.6

A Minimal Polynomial Basis Solution to Residual Generation for Fault Diagnosis in Linear Systems

E. Frisk and M. Nyberg , 2001 , September

Automatica, Volume 37, 9

A Universal Chow-Willsky Scheme and Detectability Criteria

M. Nyberg and L. Nielsen , 2000 , January

IEEE Transactions Automatic Control, Volume 45, No. 1, pp. 152-156

Automatic Design of Diagnosis Systems with Application to an Automotive Engine

M. Nyberg , 1999 , August

Control Engineering Practice, Issue 8, Volume 7, pp. 993-1005

Model Based Diagnosis for the Air Intake System of the SI-Engine

M. Nyberg and L. Nielsen, 1997

970209, SAE 1997: Transactions of Commercial Vehicles

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International Conference Publications

Formally Verifying Decompositions of Stochastic Specification

Anton Hampus and Mattias Nyberg

FMICS 2022: 27th International Conference on Formal Methods for Industrial Critical Systems, Warsaw, Poland

A Stochastic Extension of Stateflow

S. Kaalen, A. Hampus, M. Nyberg and O. Mattsson

ICPE 22: Proceedings of the 2022 ACM/SPEC on International Conference on Performance Engineering, 2022, s. 211-222.

Transient Analysis of Hierarchical Semi-Markov Process Models with Tool Support in Stateflow

S. Kaalen, M. Nyberg and O. Mattsson,

Quantitative Evaluation of Systems : 18th International Conference, QEST 2021, Paris, France, August 23–27, 2021, Proceedings, 2021, s. 105-126.

Using State Transition Diagrams for Safety Quantification within the Automotive Industry

S. Kaalen, M. Nyberg and O. Mattsson,

CARS 2021 6th International Workshop on critical Automotive Applications: Robustness & Safety, at EDCC 2021.

Branching Transitions for Semi-Markov Processes with Application to Safety-Critical Systems

S. Kaalen and M. Nyberg,

7th International Symposium on Model-Based Safety and Assessment, 2020, Lisbon, Portugal, s. 68-82.

Building a Web-Based Federated Toolchain: Lessons Learned From a Four-Year Industrial Project,

D. Nesic, J. El-Khoury, M. Nyberg, J. Westman.

21st International Conference on Information Integration and Web-based Applications & Services (iiWAS 2019).

Tool-Supported Dependability Analysis of Semi-Markov Processes with Application to Autonomous Driving

S. Kaalen, M. Nyberg and C. Bondesson,

2019 4th International Conference on System Reliability and Safety (ICSRS 2019), 2019, s. 126-135.

Modular Safety Cases for Product Lines based on Assume-Guarantee Contracts

D. Nešić och M. Nyberg

7th International Workshop on Assurance Cases for Software-intensive Systems at SAFECOMP. : Lecture Notes in Computer Science, 2019, s. 28-40.

Improved Pattern for ISO 26262 ASIL Decomposition with Dependent Requirements

Christian Lidström, Carl Bondesson, Mattias Nyberg and Jonas Westman

A3S'19: IEEE International Workshop on Automobile Software Security and Safety
July, 2019, Sofia, Bulgaria

Constructing Product-Line Safety Cases from Contract-Based Specifications

D Nesic, M. Nyberg, B. Gallina

34th Symposium of Applied Computing 2019

Formal Verification in Automotive Industry: Enablers and Obstacles

M. Nyberg, D. Gurov, C. Lidström, A. Rasmusson, and J. Westman

8th International Symposium On Leveraging Applications of Formal Methods, Verification and Validation, (ISoLA 2018), Limassol, Cyprus, Oct 30 - Nov 13, 2018

Preserving Contract Satisfiability Under Non-monotonic Composition [Best Paper Award]

J. Westman and M. Nyberg,

Formal Techniques for Distributed Objects, Components, and Systems (FORTE 2018), Part of the 13th International Federated Conference on Distributed Computing Techniques (DisCoTec 2018), Madrid, Spain, June 18-21, 2018

Verifying Contract-Based Specifications of Product Lines using Description Logic

D. Nešić och M. Nyberg

31st International Workshop on Description Logics, 2018.

Improving Image Classification Robustness using Predictive Data Augmentation

Harisubramanyabalaji Subramani Palanisamy, Shafiq Ur Rehman, Mattias Nyberg and Joakim Gustavsson

First International Workshop on Artificial Intelligence Safety Engineering (WAISE 2018), Västerås, Sweden, 2018

Safety analysis of autonomous driving using semi-Markov processes

M. Nyberg

European Safety and Reliability Conference (ESREL 2018), Trondheim, Norway, 2018

Pioneering the Creation of ISO 26262-compliant OSLC-based Safety Cases

Barbara Gallina, Mattias Nyberg

The 7th IEEE International Workshop on Software Certification (WoSoCer 2017), 2017, Toulouse, France

Applying Multi-Level Modeling to Data Integration in Product Line Engineering

Damir Nesic, Mattias Nyberg

MULTI, 4th International Workshop on Multi-Level Modelling, Sept. 2017, Austin, Texas, USA,

Modeling Product-Line Legacy Assets using Multi-Level Theory

Damir Nesic, Mattias Nyberg, Barbara Gallina

REVE, 5th International Workshop on Reverse Variability Engineering, September 2017, Sevilla, Spain

Deductive Functional Verification of Safety-Critical Embedded C-Code: An Experience Report

Dilian Gurov, Christian Lidström, Mattias Nyberg, and Jonas Westman,

FMICS-AVOCS, International Workshop on Formal Methods for Industrial Critical Systems and Automated Verification of Critical Systems, Turin, Italy, Sept. 2017

SMT-based Consistency Analysis of Industrial Systems Requirements

Predrag Filipovikj, Guillermo Rodriguez-Navas, Mattias Nyberg, Cristina Seceleanu

32nd ACM SIGAPP Symposium On Applied Computing (SAC2017), April 2017, Marrakesh, Morocco

CPS Specifier - A Specification Tool for Safety-Critical Cyber-Physical Systems

Jonas Westman, Mattias Nyberg and Oscar Thyden (2016)

CyPhy 2016 at ESWeek 2016, Pittsburgh, PA, USA

Multi-view modelling and automated analysis of product line variability in systems engineering

Damir Nesic, Mattias Nyberg (2016)

The 20th International Systems and Software Product Line Conference will be held during (SPLC), Beijing, China.

Integrating Pattern-based Formal Requirements Specification in an Industrial Tool-chain

Predrag Filipovikj, Trevor Jagerfield, Mattias Nyberg, Guillermo Rodriguez-Navas, Cristina Seceleanu (2016)

The 10th IEEE International Workshop on Quality Oriented Reuse of Software (QUORS'16)

Towards an ISO 26262-compliant OSLC-based Tool Chain Enabling Continuous Self-assessment

Barbara Gallina, Kathyayani Padira, Mattias Nyberg (2016)

10th International Conference on the Quality of Information and Communications Technology- Track: Quality Aspects in Safety Critical Systems (QUATIC-2016)

Towards Shaping ISO 26262-compliant Resources for OSLC-based Safety Case Creation

Barbara Gallina, Julieth Patricia Castellanos Ardila, Mattias Nyberg (2016)

4th International Workshop on Critical Automotive Applications: Robustness & Safety (CARS-2016)

Modelling Support for a Linked Data Approach to Tool Interoperability

Jad El-Khoury, Didem Gurdur, Frédéric Loiret, Martin Törngren, Da Zhang, Mattias Nyberg (2016)

ALLDATA 2016: The Second International Conference on Big Data, Small Data, Linked Data and Open Data

Formal Architecture Modeling of Sequential C-Programs

Jonas Westman and Mattias Nyberg (2015)

FACS - 12th International Conference on Formal Aspects of Component Software, Rio De Janeiro

Failure Propagation Modeling based on Contracts Theory

Mattias Nyberg and Jonas Westman (2015)

EDCC - 11th European Dependable Computing Conference, France

Reconciling the ISO 26262-compliant and the agile documentation management in the Swedish context

Barbara Gallina and Mattias Nyberg (2015)

3rd International Workshop on Critical Automotive applications: Robustness & Safety (CARS), Paris, France

Extending Contract Theory with Safety Integrity Levels

Jonas Westman, Mattias Nyberg (2015)

15th IEEE International Symposium on High Assurance Systems Engineering (HASE)

Automated Specification and Verification of Functional Safety in Heavy-Vehicles: the VeriSpec Approach

Guillermo Rodriguez-Navas, Cristina Seceleanu, Hans Hansson, Mattias Nyberg, Oscar Ljungkrantz, Henrik Lönn (2014)

51st Annual Design Automation Conference on Design Automation Conference (DAC), San Francisco, California, USA

Environment-Centric Contracts for Design of Cyber-Physical Systems

Jonas Westman, Mattias Nyberg (2014)

ACM/IEEE 17th International Conference on Model Driven Engineering Languages and Systems (MODELS), Valencia, Spain

Reassessing the Pattern-Based Approach for Formalizing Requirements in the Automotive Domain

Predrag Filipovikj, Mattias Nyberg, and Guillermo Rodriguez-Navas (2014)

22nd IEEE International Requirements Engineering Conference, Karlskrona, Sweden.

Experience on applying software architecture recovery to automotive embedded systems

Xinhai Zhang, Persson, M., Nyberg, M., Mokhtari, B., Einarson, A., Linder, H., Westman, J. ; DeJiu Chen, Torngren, M. (2014)

Software Maintenance, Reengineering and Reverse Engineering (CSMR-WCRE), IEEE 30th Conference on Software Maintenance and Evolution

Failure Propagation Modeling for Safety Analysis Using Causal Bayesian Networks

Mattias Nyberg (2013)

2nd International Conference on Control and Fault-Tolerant Systems, Nice, France.

A Reference Example on the Specification of Safety Requirements using ISO 26262

Jonas Westman and Mattias Nyberg (2013)

ERCIM/EWICS Workshop on Dependable Embedded and Cyber-physical Systems at SafeComp, 32nd International Conference on Computer Safety, Reliability and Security.

VROOM & cC: a Method to Build Safety Cases for ISO 26262-compliant Product Lines

Barbara Gallina, Antonio Gallucci, Kristina Lundqvist and Mattias Nyberg (2013)

SASSUR Workshop on Next Generation of System Assurance Approaches for Safety-Critical Systems at SafeComp, 32nd International Conference on Computer Safety, Reliability and Security.

Structuring Safety Requirements in ISO 26262 using Contract Theory

Jonas Westman, Mattias Nyberg, and Martin Törngren (2013)

SafeComp, 32nd International Conference on Computer Safety, Reliability, and Security Lecture Notes in Computer Science Volume 8153, 2013, pp 166-177.

Requirement Verification and Dependency Tracing During Simulation in Modelica

Lena Buffoni-Rogovchenko, Peter Fritzson, Mattias Nyberg, Alfredo Garro, Andrea Tundis (2013)

8th EUROSIM Congress on Modelling and Simulation, Cardiff, Wales, UK

Performing Fault Tree Analysis of a Modelica-Based System Design Through a Probability Model

Andrea Tundis, Lena Rogovchenko-Buffoni, Alfredo Garro, Mattias Nyberg, Peter Fritzson (2013)

6th International Workshop on Applied Modeling and Simulation (WAMS2013), Buenos Aires, Argentina

Towards Benchmarking of Functional Safety in the Automotive Industry

Mafijul Islam, Behrooz Sangchoolie, Fatemeh Ayatollahi, Daniel Skarin, Jonny Vinter, Fredrik Törner, Andreas Käck, Mattias Nyberg, Emilia Villani, Johan Haraldsson, Patrik Isaksson, Johan Karlsson (2013)

14th European Workshop on Dependable Computing, Lecture Notes in Computer Science, 2013, Vol. 7869

An Integrated Toolchain for Model Based Functional Safety Analysis

Muhammed Zoheb Hossain, Olena Rogovchenko, Mattias Nyberg, Peter Fritzson (2012)

9th International Workshop on Applied Modeling and Simulation, WAMS, September 24-27, 2012

Industrial Experiences of Building a Safety Case in Compliance with ISO 26262

Raghad Dardar, Barbara Gallina, Andreas Johnsen, Kristina Lundqvist, Mattias Nyberg (2012)

2nd International Workshop on Software Certification (WoSoCER 2012)

Model-based Requirement Verification : A Case Study

Feng Liang, Wladimir Schamai, Olena Rogovchenko, Sara Sadeghi, Nyberg Mattias and Peter Fritzson (2012)

9th International Modelica Conference, Munich, Germany

Computerized Model Based Functional Safety Analysis.

Zoheb Hossain, Mattias Nyberg, Olena Rogovchenko, and Peter Fritzson (2012).

7th Vienna International Conference on Mathematical Modelling, Vienna, Austria.

A Data-Driven and Probabilistic Approach to Residual Evaluation for Fault Diagnosis.

Carl Svärd, Mattias Nyberg, Erik Frisk, and Mattias Krysander (2011).

50th IEEE Conference on Decision and Control. Orlando, Florida, USA.

Automated Design of an FDI-System for the Wind Turbine Benchmark.

Carl Svärd, and Mattias Nyberg (2011).

IFAC World Congress. Milano, Italy.

A Greedy Approach for Selection of Residual Generators.

Carl Svärd, Mattias Nyberg, and Erik Frisk (2011).

22nd International Workshop on Principles of Diagnosis (DX-11). Murnau, Germany.

A Decentralized Service Based Architecture for Design and Modeling of Fault Tolerant Control Systems.

Mattias Nyberg, and Carl Svärd (2010).

21st International Workshop on Principles of Diagnosis (DX-10). Portland, Oregon, USA.

A Service Based Approach to Decentralized Diagnosis and Fault Tolerant Control.

Mattias Nyberg, and Carl Svärd (2010).

Conference on Control and Fault-Tolerant Systems (SysTol'10). Nice, France.

Modeling and Troubleshooting with Interventions Applied to an Auxiliary Truck Braking System.

Anna Pernstål, Håkan Warnquist, and Mattias Nyberg (2009).

Proceedings of 2nd IFAC workshop on Dependable Control of Discrete Systems. Bari, Italy.

Anytime Near-Optimal Troubleshooting Applied to an Auxiliary Truck Braking System.

Håkan Warnquist, Anna Pernstål, and Mattias Nyberg (2009).

Proceedings of IFAC Safeprocess'09. Barcelona, Spain.

Minimal Structurally Overdetermined Sets for Residual Generation: A Comparison of Alternative Approaches.

J. Armengol Llobet, A. Bregon, T. Escobet, E. R. Gelso, M. Krysanter, M. Nyberg, X. Olive, and B. Pulido, L. Trave-Massuyes (2009).

Proceedings of IFAC Safeprocess'09. Barcelona, Spain.

A Bayesian Approach to Learning in Fault Isolation

Anna Pernerstål, Hannes Wettig, Tomi Silander, Mattias Nyberg, Petri Myllymäki (2008)

Bayesian Modelling Applications Workshop - 24th Conference on Uncertainty in Artificial Intelligence.

A Mixed Causality Approach to Residual Generation Utilizing Equation System Solvers and Differential-Algebraic Equation Theory.

Carl Svärd, and Mattias Nyberg (2008).

19th International Workshop on Principles of Diagnosis (DX-08). Blue Mountains, Australia.

Statistical Properties and Design Criteria for Fault Isolation in Noisy Systems.

Mattias Krysander, and Mattias Nyberg (2008).

19th International Workshop on Principles of Diagnosis (DX-08). Sydney, Australia.

A Heuristic for Near-Optimal Troubleshooting Using AO*.

Håkan Warnquist and Mattias Nyberg (2008).

19th International Workshop on Principles of Diagnosis (DX-08). Sydney, Australia.

A Bayesian Approach to Learning in Fault Isolation

Anna Pernerstål, Hannes Wettig, Tomi Silander, Mattias Nyberg, Petri Myllymäki (2008)

19th International Workshop on Principles of Diagnosis (DX-08). Sydney, Australia.

Observer-Based Residual Generation for Linear Differential-Algebraic Equation Systems.

Carl Svärd, and Mattias Nyberg (2008).

IFAC World Congress. Seoul, Korea.

Statistical Properties and Design Criteria for AI-Based Fault Isolation.

Mattias Nyberg, and Mattias Krysander (2008).

IFAC World Congress. Seoul, Korea.

Using Prior Information in Bayesian Inference - with Application to Diagnosis.

Anna Pernerstål, and Mattias Nyberg (2007).

MaxEnt, Bayesian Inference and Maximum Entropy Methods in Science and Engineering. Albany, NY, USA.

Probabilistic Fault Diagnosis based on Incomplete Data

Anna Pernestål and Mattias Nyberg (2007)

European Control Conference, Kos, Greece.

A Fault Isolation Algorithm for the case of Multiple Faults and Multiple Fault Types

Mattias Nyberg (2006).

IFAC Safeprocess'06. Beijing, China.

A bayesian approach to fault isolation - structure estimation and inference

Anna Pernestål, Mattias Nyberg, and Bo Wahlberg (2006).

IFAC Safeprocess'06. Beijing, China.

A toolbox for design of diagnosis systems

Erik Frisk, Mattias Krysander, Mattias Nyberg, and Jan Åslund (2006).

IFAC Safeprocess'06. Beijing, China.

Determining a Component's Fault Status and the Status' Readiness

Jonas Biteus, Mattias Nyberg, Erik Frisk, and Jan Åslund (2006).

IFAC Safeprocess'06. Beijing, China.

A Generalization of the GDE Minimal Hitting-Set Algorithm to Handle Behavioral Modes

Mattias Nyberg (2006).

17th International Workshop on Principles of Diagnosis (DX-06). Spain.

Condensed Representation of Global Diagnoses with Minimal Cardinality in Local Diagnoses

Jonas Biteus, Erik Frisk, and Mattias Nyberg (2006).

17th International Workshop on Principles of Diagnosis (DX-06). Spain.

A bayesian approach to fault isolation with application to diesel engine diagnosis

Anna Pernestål, Mattias Nyberg, and Bo Wahlberg (2006).

17th International Workshop on Principles of Diagnosis (DX-06). Spain.

An Efficient Algorithm for Finding Over-constrained Sub-systems for Construction of Diagnostic Tests

Mattias Krysander, Jan Åslund, and Mattias Nyberg (2005)

16th International Workshop on Principles of Diagnosis (DX-05). Pacific Grove, California, USA.

Fault Isolability Prediction of Diagnostic Models.

Mattias Krysander, and Mattias Nyberg (2005).

16th International Workshop on Principles of Diagnosis (DX-05). Pacific Grove, California, USA.

Improving Diagnosis Performances on a Truck Engine Making Use of Statistical Charts.

Antoine Berton and Erik Frisk and Mattias Nyberg (2004).

IFAC Symposium on Advances in Automotive Control. Salerno, Italy.

Combining AI, FDI, and Statistical Hypothesis-Testing in a Framework for Diagnosis

Mattias Nyberg and Mattias Krysander , 2003

Proceedings of IFAC Safeprocess'03, Washington, USA

Fault Sensitive Model Validity Measures for Minimal Singular Equation Sets

Jonas Biteus and Mattias Nyberg , 2003

IFAC Safeprocess'03, Washington, USA

Residual Generation for Fault Diagnosis of Systems Described by General Linear Differential-algebraic Equations

E. Frisk and M. Nyberg , 2002

Barcelona, Spain, IFAC World Congress

Structural Analysis for Fault Diagnosis of DAE Systems Utilizing MSS Sets

Mattias Krysander and Mattias Nyberg , 2002 , July

Barcelona, Spain, IFAC World Congress

Structural Analysis utilizing MSS Sets with Application to a Paper Plant

Mattias Krysander and Mattias Nyberg , 2002 , May

Semmering, Austria, Proc. of the Thirteenth International Workshop on Principles of Diagnosis

A General Framework for Model Based Diagnosis Based on Statistical Hypothesis

M. Nyberg , 2001

135--142, Sansicario, Via Lattea, Italy, 12:th International Workshop on Principles of Diagnosis

Model Based Diagnosis Using Structured Hypothesis Tests

M. Nyberg , 2000

1026--1031, Budapest, Hungary, IFAC Fault Detection, Supervision and Safety for Technical Processes

Framework and Method for Model Based Diagnosis with Application to an Automotive Engine

M. Nyberg , 1999

ECC, IFAC

Using Minimal Polynomial Bases for Fault Diagnosis

E. Frisk and M. Nyberg , 1999

ECC, IFAC

Model Based Diagnosis of Both Sensor-Faults and Leakage in the Air-Intake System of an SI-Engine

M. Nyberg , 1999

1999-01-0860, SAE Paper

A Minimal Polynomial Basis Solution to Residual Generation for Fault Diagnosis in Linear Systems

M. Nyberg and E. Frisk , 1999

Beijing, China, IFAC

SI-Engine Air-Intake System Diagnosis by Automatic FDI-Design

M. Nyberg , 1998

225-230, Columbus, Ohio, IFAC Workshop Advances in Automotive Control

Model Based Diagnosis of Leaks in the Air-Intake System of an SI-Engine

M. Nyberg and A. Perkovic , 1998

980514, SAE Paper

Parity Functions as Universal Residual Generators and Tool for Fault Detectability Analysis

M. Nyberg and L. Nielsen , 1997

4483-4489, San Diego, California, IEEE Conf. on Decision and Control

Design of a Complete FDI System based on a Performance Index With Application to an Automotive Engine

M. Nyberg and L. Nielsen , 1997

812-817, Hull, IFAC Fault Detection, Supervision and Safety for Technical Processes

FDI with adaptive residual generation applied to a DC-servo

E. Frisk, M. Nyberg and L. Nielsen , 1997

Hull, United Kingdom, IFAC Fault Detection, Supervision and Safety for Technical Processes

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Book Chapters

Contracts for Specifying and Structuring Requirements on Cyber-Physical Systems.

Jonas Westman and Mattias Nyberg.

Accepted for publication as chapter in Danda B. Rawat, Joel Rodrigues, and Ivan Stojmenovic, editors, *Cyber Physical Systems: From Theory to Practice*. CRC Press, Taylor & Francis Group. 2015.

Automatic Optimal Design of Fuzzy Systems based on Universal Approximation and Evolutionary Programming

M. Nyberg and Yoh-Han Pao, 1995, Chapter in book Fuzzy Logic and Intelligent Systems

Series : The Kluwer International Series in Intelligent Technologies , Vol. 3

Hua Harry Li; Gupta, Madan M. (Eds.). Springer Netherlands.