

LIST OF SCIENTIFIC PUBLICATIONS:

Books:

Söffker, D.: Zur Modellbildung und Regelung elastischer, längenvariabler Roboterarme. Dissertation, Bergische Universität-GH Wuppertal, Fachbereich Sicherheitstechnik, 1995; auch als VDI-Fortschrittbericht, Reihe 8, Nr. 584, 1996.

Söffker, D.: Systemtheoretische Modellbildung der wissensgeleiteten Mensch-Maschine-Interaktion. Habilitationsschrift, Bergische Universität Wuppertal, 2001; auch Logos Wissenschaftsverlag, Berlin, 2003.

Söffker, D.; Luther, W.; Ahle, E. (Eds.): Guidance and Control of Autonomous Systems. Readings of the DAAD German Summer Academy, Duisburg 2005, Logos Wissenschaftsverlag, Berlin, 2006.

Baloian, N.; Luther, W.; Söffker, D.; Urano, Y. (Eds.): Multimodal Human-Machine Interaction in different Application Scenarios. Readings of the Summer Academy, Santiago de Chile, 2008, Logos Wissenschaftsverlag, Berlin, 2009.

Baloian, N.; Luther, W.; Söffker, D.; Urano, Y. (Eds.): Interface and Interaction Design for Learning and Simulation Environments, Readings of the Summer Academy, Duisburg, 2009, Logos Wissenschaftsverlag, Berlin, 2010.

'Journal'-Publications / 'Book'-Contributions:

Söffker, D.; Bajkowski, J.; Müller, P.C.: Detection of Cracks in Turbo Rotors - a New Observer Based Method. ASME Journal of Dynamic Systems, Measurements, and Control, 3, 1993, pp. 518-524.

Bajkowski, J.; Fritzen, C.P.; Seibold, S.; Söffker, D.: Verfahren zur Rißdetektion - Vergleich zweier modellgestützter Vorgehensweisen. in: Irretier, H.; Nordmann, R.; Springer, H. (Hrsg.): Schwingungen in rotierenden Maschinen. Vieweg Verlag, 1993, Seiten 55-63.

Müller, P.C.; Bajkowski, J.; Söffker, D.: Chaotic Motions and Fault Detection in a Cracked Rotor. Nonlinear Dynamics, 5, 1994, pp. 233-254.

Söffker, D.; Müller, P.C.: Betriebsüberwachung und Schadensdiagnose an rotierenden Maschinen - Bewährte Methoden versus Neue modellbasierte Ansätze. in: Irretier, H.;

- Nordmann, R.; Springer, H. (Hrsg.): Schwingungen in rotierenden Maschinen III. Verlag Vieweg, 1995, Seiten 85-93.
- Söffker, D.; Yu, Tie-Jun; Müller, P.C.: State Estimation of Dynamical Systems with Non-linearities by using Proportional- Integral Observer. International Journal of System Science, Vol. 26 (1995), No. 9, pp. 1571-1582.
- Söffker, D.: Einsatz regelungstheoretischer Methoden in der Rotordynamik - Von der Zustandsbeobachtung über aktive Lager zum aktiven Rotor. in: Irretier, H.; Nordmann, R.; Springer, H. (Hrsg.): Schwingungen in rotierenden Maschinen IV. Verlag Vieweg, 1997, Seiten 299-308.
- Söffker, D.; Rakowsky, U.K.; Müller, P.C.; Peters, O.H.: Perspektiven regelungstheoretischer Methoden zur Überwachung dynamischer Systeme aus sicherheitstechnischer Sicht. at - Automatisierungstechnik 46 (1998), Seiten 295-301.
- Söffker, D.: Automatic generation of the equations of motion of the moving nonlinear elastic beam. System Analysis, Modeling, and Simulation SAMS, Vol. 35, 1999, pp. 61-74.
- Söffker, D.: Zur Online-Bestimmung von Zuverlässigkeits- und Nutzungskenngrößen innerhalb des *SRCE*-Konzeptes. at-Automatisierungstechnik. 48 (2000), Seiten 383-391.
- Söffker, D.: From human-machine-interaction modeling to new concepts constructing autonomous systems: a phenomenological engineering-oriented approach. Journal of Intelligent and Robotic Systems 32, 2001, pp. 191-205.
- Söffker, D.; Kirchenkamp, S.; Müller, P.C.: Model-Based Validation within the Rail-Wheel-subgrade Modeling. in: Popp, K.; Schiehlen, W. (Eds.): Lecture Notes in Applied Mechanics, Vol. 6, Springer, 2002, pp. 211-228.
- Söffker, D.; Ahrens, J.; Ulbrich, H.; Krajcin, I.: Modellgestützte Schätzung von Kontaktkräften und Verschiebungen an rotierenden Wellen. in: Irretier, H.; Nordmann, R.; Springer, H. (Hrsg.): Schwingungen in rotierenden Maschinen V. Verlag Vieweg, 2003.
- Krajcin, I.; Söffker, D.: Model-Based Estimation of Contact Forces in Flexible Structures. Mathematical and Computer Modelling of Dynamical Systems 10, 2004, pp. 303-316.
- Söffker, D.; Kashi, K.; Wolters, K.: Konzept zum Entwurf ausfallsicherer mechatronischer Systeme. Automatisierungstechnische Praxis atp 47 (2005), Heft 7, Seiten 90-94.
- Söffker, D.: New results of the development and application of robust observers to elastic mechanical structures. in: Ulbrich, H.; Günthner, W. (Eds.): Vibration Control of Nonlinear Mechanism and Structures, Solid Mechanics and its Applications, Vol. 130, Springer, Dordrecht NL, 2005, pp. 319-330.
- Al-Sweiti, Y.; Söffker, D.: Modeling and Control of an Elastic Ship-Mounted Crane Using Variable Gain Model-Based Controller. Proceedings of the Institution of Mechanical Engineers, Part K, Journal of Multi-body Dynamics, Vol. 220, Number 4 (17), 2006, pp. 239-255.
- Al-Sweiti, Y.; Söffker, D.: Planar cargo control of elastic ship cranes with the Maryland Rigging system. Journal of Vibration and Control, Vol. 13, Number 3 (2007), pp. 241-267.
- Al-Sweiti, Y.; Söffker, D.: Modeling and Control of an Elastic Ship-Mounted Crane Using Variable Gain Model-Based Controller. Journal of Vibration and Control, Vol. 13, Number 5 (2007), pp. 657-685.

Söffker, D.; Weber, J.: Über den Charakter von Maschinen und Technikgestaltung im 21. Jahrhundert. Ein interdisziplinärer Dialog. *International Review of Information Ethics*, Vol. 6, 12/2006, pp. 92-108.

Söffker, D.; Ahle, E.: Idea, conception, and realisation of learning abilities for robot control using a Situation-Operator-Model. *Int. J. Intelligent Systems Technologies and Applications*, Vol. 2, Nos. 2/3, 2007, pp. 271-283.

Al-Sweiti, Y.; Söffker, D.: Cargo pendulum suppression of ship cranes with elastic booms. *MCMDs-Journal of Mathematical and Computer Modeling of Dynamical Systems*, Vol. 13, Issue 6 Dec. 2007, pp. 503-529.

Söffker, D.: Interaction of Intelligent and Autonomous Systems - Part I: Qualitative Structuring of Interactions. *MCMDs-Mathematical and Computer Modelling of Dynamical Systems*, Vol. 14. No. 4, 2008, pp. 303-318.

Ahle, E.; Söffker, D.: Interaction of Intelligent and Autonomous Systems - Part II: Realisation of Cognitive Technical Systems. *MCMDs-Mathematical and Computer Modelling of Dynamical Systems*, Vol. 14. No. 4, 2008, pp. 319-339.

Söffker, D.; Gamrad, D.; Ahle, E.: Von der Automatisierungstechnik zu Kognitiven Technischen Systemen. *Industrie Management, Schwerpunktheft: Kognitive Automatisierung*, Vol. 24, Number 4/2008, Seiten 57-60.

Zhang, F.; Söffker, D.: Active Flutter Suppression of a Nonlinear Aeroelastic System Using PI-Observer. in: Ulbrich, H.; Ginzinger, L. (Eds.): *Motion and Vibration Control*, Springer, 2009, pp. 367-376.

Heidtmann, F.; Söffker, D.: Virtual Sensors for Diagnosis and Prognosis Purposes in the Context of Elastic Mechanical Structures. *IEEE Sensors Journal*, Vol 9. No 11, 2009, pp. 1577-1588.

Söffker D.; Quack, U.; Wolff, H.; Langer, M.: Teilautomatisierte Herstellung von Grogussformen - Projektvorstellung: Entwicklung einer modernen, bedienerzentrierten Mensch-Maschine-Schnittstelle zur Alltagsbewältigung in Giessereien. *GIESSEREI 04*, 2010.

Shibly, H.; Söffker, D.: Mathematical models of shape memory alloy behavior for online and fast prediction of the hysteretic behavior. *Nonlinear Dynamics*, 62, 2010, pp. 53-66.

Söffker, D.; Özbek, M.; Marx, M.: Powermanagement eines hybridelektrischen Antriebs Auslegung, Optimierung und Leistungsregelung. *at - Automatisierungstechnik*, Oktober 2010, Vol. 58, No. 10, Seiten 580-589.

Zhang, F.; Söffker, D.: Quadratic Stabilization of a Nonlinear Aeroelastic System Using a Novel Neural-Network-Based Controller. *Science in China Series E: Technological Sciences*, May 2011, in press.

Dettmann, K.-U.; Söffker, D.: Adaptive modeling of reliability properties for control and supervision purposes. *International Journal of Applied Mathematics and Computer Science (AMCS)*, Vol. 21, No. 3, 2011.

Aljoumaa, H.; Söffker, D.: Multi-Class Approach based on Fuzzy-Filtering for Condition Monitoring. *IAENG International Journal of Computer Science*, Volume 38 Issue 1, 2011, pp. 66-73.

Söffker, D.; Ahle, E.: A Qualitative Modeling Approach as Basis of Cognitive Technical Systems: Basic Ideas and Technical Applications. *at-Automatisierungstechnik*, submitted.

Liu, Y.; Söffker, D.: Observer-based Robust Position Control of Hydraulic Differential Cylinder. *Control Engineering Practise*, submitted.

Liu, Y.; Söffker, D.: Optimal High-Gain Disturbance Observer Design Based on Online-Optimization Embedded in Numerical Integration. *Math. Comp. in Sim.*, submitted.

Özbek, M.; Wang, S.; Marx, M.; Söffker, D.: Modeling and Control of a PEM Fuel Cell System: An experiment-based example. *Journal of Process Control*, submitted.

Marx, M.; Özbeck, M.; Söffker, D.: Powermanagement of a Hybrid Electric Powertrain System - Aspects of Design, Power Flow Control, and Optimization Targets, *International Journal of Powertrains (IJPT)*, submitted.

Marx, M.; Söffker, D.: Effecting the Efficiency of Hybrid Electric Powertrain Systems. *IEEE Trans.: Transportation Electrification and Vehicle-to-Grid Applications*, submitted.

Junglas, M.; Kazemina, A.; Eick, R.; Söffker, D.: Analysis and quantification of systems - a formalized definition of reliability topologies and characteristic values for system quantification. *Proc. of the Inst. of Mechanical Engineers, Part 0, Journal of Risk and Reliability*, submitted.

Kazemina, A.; Junglas, M.; Söffker, D.: Reliability optimization of hardware components and system's architecture during design phase. *Proc. of the Inst. of Mechanical Engineers, Part 0, Journal of Risk and Reliability*, submitted.

Conference articles (major peer review):

Müller, P.C.; Gürgöze, M.; Söffker, D.: Modelling of Elastic Robot Arms with Revolute or Prismatic Joints for High Accurate Position Control. Proc. 8th Symposium on the Theory and Practice of Robots and Manipulators Ro.Man.Sy'90, July 2-5, 1990, Cracow, Poland.

Söffker, D.; Müller, P.C.: Control of Dynamic Systems with Nonlinearities and Time Varying Parameters. ASME Conference on Mechanical Vibration and Noise, Albuquerque, Sept. 1993, USA, in: Sinha, S.C.; Evan-Iwanowski, R.M. (eds.): Control of Dynamic Systems, ASME Proc. DE-Vol. 56, 1993, pp. 269-277.

Söffker, D.; Bajkowski, J.; Müller, P.C.: Crack Detection in Turbo Rotors - Vibrational Analysis and Fault Detection. ASME Conference on Mechanical Vibration and Noise, Albuquerque, Sept. 1993. USA, in: Wang, K.W.; Segalman, D. (eds.): Vibration of Rotating Systems, ASME Proc. DE-Vol 60, 1993, pp. 277-287.

Söffker, D.: Dynamics of Elastic Robot Arms with Varying Length - Systematic Modeling, Simulation, and Control. Proc. 10th Symposium on the Theory and Practice of Robots and Manipulators Ro.Man.Sy'94, September 12-15, 1994, Gdansk, Poland.

Söffker, D.; Yu, T.: Design of Proportional-Integral Observer for Nonlinear Systems. Proc. 1st Asian Control Conference, Vol. 2, Tokyo, Japan, July 27-30, 1994, pp. 637-640.

Söffker, D.: A New Model-based Tool for Failure Detection and Isolation in Machine- and Rotordynamics. ASME DE-Vol. 83-2, 1995, pp. 233-242.

Söffker, D.: Elastic Robot Arms with Varying Length - Part I: A Systematic Nonlinear Modeling Approach. in: Sinha, S.C.; Cusumano, J.P.; Pfeifer, F. (eds.): Vibration of Nonlinear, Random, and Time-Varying Systems - Time Varying Systems and Structures, ASME DE-Vol. 84-1, 1995, pp. 109-119.

Söffker, D.: Elastic Robot Arms with Varying Length - Part II: Robust Control of Elastic Vibrations. in: Sinha, S.C.; Cusumano, J.P.; Pfeifer, F. (eds.): Vibration of Nonlinear, Random, and Time-Varying Systems - Time Varying Systems and Structures, ASME DE-Vol. 84-1, 1995, pp. 109-119.

Söffker, D.: Fault detection using Proportional - Integral Observer for application to elastic mechanical structures. Proc. IFAC - IMACS Multiconference on Computational Engineering in Systems Applications (CESA'96), July 9-12, 1996, Lille, France, pp. 522-527.

Söffker, D.; Rakowsky, U.K.: Perspectives of monitoring and control of vibrating structures by combining new methods of fault detection with new approaches of reliability engineering. Proc. 12th ASME Conference on Reliability, Stress Analysis and Failure Prevention, Virginia Beach, April 1997, in: Pusey, H.C. (ed.): A Critical Link: Diagnosis to prognosis. A publication of the Society for Machinery Failure Prevention Technology, 1997, pp. 671-682.

Rakowsky, U.K.; Söffker, D.: Real-time Reliability Evaluation of Vibrating Mechanical Structures. Proc. 12th ASME Conference on Reliability, Stress Analysis and Failure Prevention, Virginia Beach, April 1997, in: Pusey, H.C. (ed.): A Critical Link: Diagnosis to prognosis. A publication of the Society for Machinery Failure Prevention Technology, 1997, pp. 625-636.

Söffker, D.: Robust fault detection of large vibrating structures by the means of control theory - some principal remarks. Proc. 12th ASME Conference on Reliability, Stress Analysis and Failure Prevention, Virginia Beach, April 1997, in: Pusey, H.C. (ed.): A Critical Link: Diagnosis to prognosis. A publication of the Society for Machinery Failure Prevention Technology, 1997, pp. 751-762.

Seelecke, S.; da Silva, E.; Söffker, D.: Simulation of Feedback Control for SMA Actuators. in: Proc. ICAST'98, Massachusetts Institute of Technology, Cambridge, USA, October 14-16, 1998.

Söffker, D.; Rinne, M.: The application of the *SRCE*- concept for monitoring high speed automotive tires. in: Schueller, G.I.; Kafka, P.: Safety and Reliability, Proc. of ESREL'99, München-Garching, September 13-17, 1999, pp. 1083-1089.

Söffker, D.: From Human-Machine-Interaction Modeling to Virtual Agents Controlling Autonomous Systems: a phenomenological Engineering-oriented Approach. in: Troch, I.; Breiteneker, F. (Eds.): 3rd IMACS Symposium on Mathematical Modelling, Vienna University of Technology, Austria, February 2-4, 2000, ARGESIM Report No. 15, pp. 425-428.

Söffker, D.: Human-Machine-Interaction: Modeling of Individual Human Planning, Cognition, Mental Representation and Action using a Situation-Operator Model. Preprints of the 7th IFAC (International Federation of Automatic Control) Symposium on Automated Systems based on Human Skills published by VDI/VDE Gesellschaft für Mess- und Automatisierungstechnik, June 15-17 2000, Aachen, pp. 123-126.

Söffker, D.; Bormann, J.; Müller, P.C.; Ulbrich, H.: Model-based Control of Elastic Structures with Impacts. Preprints 1st IFAC-Conference on Mechatronic Systems, Darmstadt, September 18-20, 2000, pp. 1021-1026.

Abicht, C.; Bormann, J.; Müller, P.C.; Söffker, D.; Ulbrich, H.: Model-Based Estimation of Impact Forces affecting Elastic Structures: Simulation and Experiment. 18th ASME-DECT Biennial Conference on Mechanical Vibration and Noise, Symposium on Vibration Including Friction and Impacts, Pittsburgh, Pennsylvania, USA, September 9-12, 2001, 6 pages.

Söffker, D.: A Novel Strategy for Probability-Based Failure Avoidance of Operating Technical Systems. 15th ASME Conference on Reliability, Stress Analysis and Failure Prevention, Pittsburgh PA, USA, September 9-12, 2001, 10 pages.

Söffker, D.: Modeling of the Knowledge-Based 'Intelligent System'-Environment Interaction:

Part I: Description and Application to Human-Machine Interaction,

Part II: Systemtheoretic Aspects leading to a New Type of Autonomous Systems. IEEE Int. Conf. on Systems, Man, and Cybernetics, Tucson AZ, USA, October 7-10, 2001, 10 pages.

Ahrens J.; Söffker, D.; Ulbrich, H.: Model-Based Estimation of Contact Forces of a Rotating Blade. Proceedings of the 6th IFToMM International Conference on Rotor Dynamics, Sydney, 2002, pp. 160-166.

- Krajcin, I.; Söffker, D.: Model-Based Estimation of Contact Forces in Rotating Machines. Proc. 4th IMACS Symposium on Mathematical Modeling, Vienna University of Technology, Austria, February 5-7, 2003, 6 pages.
- Söffker, D.: Closing loops: a Unified View from Control to Information Science. Proc. 4th IMACS Symposium on Mathematical Modeling, Vienna University of Technology, Austria, February 5-7, 2003, 8 pages.
- Seelecke, S.; Söffker, D.: An inverse compensator method for the control of SMA actuators. Proc. SPIE Conf. on Smart Structures and Materials, Conf. on Modeling, Signal Processing and Control, March 2-6 2003, San Diego, California, USA.
- Kirchenkamp, S.; Söffker, D.: Reconstruction of the Dynamic Rail-Wheel Contact Forces. Proc. 2003 ASME DETC Conferences, Sept. 2-6, 2003, Chicago, IL, USA, 6 pages.
- Krajcin, I.; Söffker, D.: Modified PIO Design for Robust Unknown Input Estimation. Proc. 2003 ASME DETC Conferences, Sept. 2-6, 2003, Chicago, IL, USA, 6 pages.
- Wolters, K.; Söffker, D.: Control of damage dependent online reliability characteristics to extend system utilization. in: Structural Health Monitoring 2003 (Chang, F.K. (Editor)), Proc. of the 4th Int. Workshop on Structural Health Monitoring, Stanford University, Stanford, CA, Sept. 15-17, 2003, pp. 796-804.
- Kashi, K.; Söffker, D.: Model-based Estimation of Internal and External Forces on a Hydraulic Cylinder. Proc. 1st Int. Conf. on Computational Methods in Fluid Power Technology, FPNI 2003, 2003.
- Kashi, K.; Söffker, D.; Nissing, D.; Kesselgruber, D.: Vehicle Dynamics Investigation using a Hydraulic Hardware-in-the-Loop Test Rig. Proc. 1st International Conference on Computational Methods in Fluid Power Technology, FPNI 2003, Australia.
- Söffker, D.: Understanding MMI from a system-theoretic view - Part I: Formalization MMI introducing modified situation-operator concept. Proc. 9th IFAC, IFIP, IFORS,IEA Symposium Analysis, Design, and Evaluation of Human-Machine Systems, Atlanta, Georgia, USA, September 7-9, 2004.
- Söffker, D.: Understanding MMI from a system-theoretic view - Part II: Concepts for supervision of Human and Machine. Proc. 9th IFAC, IFIP, IFORS,IEA Symposium Analysis, Design, and Evaluation of Human-Machine Systems, Atlanta, Georgia, USA, September 7-9, 2004.
- Wolters, K.; Söffker, D.: Improving systems availability by combining reliability and control engineering techniques. Proc. 2nd European Workshop on Structural Health Monitoring, Munich, July 7-9, 2004, pp. 711-720.
- Ahle, E.; Söffker, D.: Learning from Interaction with the Environment using a Situation-Operator Calculus with Application to Mobile Robotics. Proc. IEEE Int. Conf. on System, Man and Cybernetics, October 10-13, 2004, The Hague, Netherlands, pp. 3829-3844.
- Kashi, K.; Söffker, D.: Model-Based Estimation of a Force and Displacement of a Hydraulic Cylinder. Proc. 7th International Symposium on Advanced Vehicle Control KIVI-NIRIA, Arnheim, Netherlands, 2004.
- Ahle, E.; Söffker, D.: Modeling the Decision Process of the Lane-Change-Maneuver Using a Situation-Operator Model. Proc. IEEE Conf. on Cybernetics and Intelligent Systems (CIS), Dec. 1-3, 2004, Singapore, pp. 1106-1110.

Krajcin, I.; Söffker, D.: Diagnosis and control of 3D elastic mechanical structures. Proc. 12th SPIE Symposium on Smart Structures and Materials, March 6-10, 2005, San Diego, CA, USA.

Söffker, D.; Krajcin, I.; Wolters, K.: Fault tolerant design and improved availability of active composite elastic structures. Proc. 12th SPIE Symposium on Smart Structures and Materials, March 6-10, 2005, San Diego, CA, USA.

Wolters, K.; Söffker, D.: An Approach to Affect the Probability of Failure by changed Operation Modes. Proc. ESREL 2005, European Safety and Reliability Conf., June 27-30 2005, Gdansk, 2005.

Söffker, D.; Kashi, K.; Wolters, K.: Integration of Reliability Concepts, Diagnosis and Control Realizing Safe Systems. Proc. ESREL 2005, European Safety and Reliability Conf., June 27-30 2005, Gdansk, 2005.

Krajcin, I.; Söffker, D.: Design of Proportional-Integral Observers for Unknown Input Estimation in Experimental Approaches. Proc. ASME DETC Conferences 2005, Sept. 2005, Palm Beach CA, USA.

Al-Sweiti, Y.; Söffker, D.: Modeling and Simulation of an Elastic Ship-Mounted Crane. Proc. ASME DETC Conferences 2005, Sept. 2005, Palm Beach CA, USA.

Wolters, K.; Söffker, D.: The potential of the Safety and Reliability Control Engineering Concept as framework for reliability based utilization strategies. Structural Health Monitoring 2005 (Chang, F.K. (Editor)), Proc. of the 5th Int. Workshop on Structural Health Monitoring, Stanford University, Stanford, CA, Sept. 2005, pp. 1353-1360.

Ahle, E.; Söffker, D.: A concept for a cognitive-oriented approach to build autonomous systems. Proc. IEEE Int. Conf. on System, Man and Cybernetics, October 10-12, 2005, Hawaii, pp. 2929-2935.

Al-Sweiti, Y.; Söffker, D.: Modeling and Control of an Elastic Ship-mounted crane using variable Gain Model-Based Control. Proc. 5th IMACS Symposium on Mathematical Modeling, Vienna University of Technology, Austria, Febr. 2006.

Söffker, D.: Cognitive Approaches realizing flexible Interaction behavior of Cognitive Technical Systems: a Comparison. Proc. 5th IMACS Symposium on Mathematical Modeling, Vienna University of Technology, Austria, Febr. 2006.

Ahle, E.; Söffker, D.: Cognitive modeling to realize autonomous behavior in mobile robotics. Proc. 5th IMACS Symposium on Mathematical Modeling, Vienna University of Technology, Austria, Febr., 2006.

Kashi, K.; Nissing, D.; Kesselgruber, D.; Söffker, D.: Fault Diagnosis of an active suspension control system. Proc. 6th IFAC Symposium Fault Detection, Supervision and Safety of Technical Processes Safeprocess 2006, Beijing, China.

Söffker, D.; Ahle, E.: Supervision of human operators using a situation-operator modeling approach. Proc. 6th IFAC Symposium Fault Detection, Supervision and Safety of Technical Processes Safeprocess 2006, Beijing, China.

Ahle, E., Söffker, D.: A Cognitive-Oriented Architecture to Realize Autonomous Behavior - Part I: Theoretical Background, Proc. IEEE International Conference on Systems, Man and Cybernetics 2006, pp. 2215-2220.

Ahle, E., Söffker, D.: A Cognitive-Oriented Architecture to Realize Autonomous Behavior - Part II: Application to Mobile Robotics. Proc. IEEE International Conference on Systems, Man and Cybernetics 2006, pp. 2221-2227.

Söffker, D.; Wolters, K.; Özbek, M.; Dettmann, K.-U.: Feature-based Diagnosis and Prognosis for an Integrated Diagnostic Approach. Structural Health Monitoring 2007 (Chang, F.K. (Editor)), Proc. of the 6th Int. Workshop on Structural Health Monitoring, Stanford University, Stanford, CA, 2007, pp. 754-761.

Liu, Y.; Söffker, D.: Robust Approach for Position Control of Hydraulic Differential Cylinder. Proc. ASME 2007 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE), Las Vegas, NV, USA, 2007.

Söffker, D.; Liu, Y.; Qiu, Z.; Zhang, F.; Müller, P.C.: Robust Control of Uncertain System with Nonlinearities using Model-Based Online Robustness Measure. Proc. ASME 2007 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE), Las Vegas, NV, USA, 2007.

Liu, Y.; Söffker, D.: A Robust Control Design Approach combining Exact Linearization and High-Gain PI-Observer. Proc. ASME 2007 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE), Las Vegas, NV, USA, 2007.

Oberheid, H.; Söffker, D.: Designing for Cooperation - Mechanisms and Procedures for Air-Ground Integrated Arrival Management. Proc. IEEE Int. Conf. on System, Man and Cybernetics, Montreal, Canada, 2007, pp. 253-259.

Gamrad, D.; Oberheid, H.; Söffker, D.: Supervision of Open Systems using a Situation-Operator-Modeling Approach and Higher Petri Net Formalisms. Proc. IEEE Int. Conf. on System, Man and Cybernetics, Montreal, Canada, 2007, pp. 925-930.

Dettmann, K.-U.; Söffker, D.: Defining features for diagnosis and prognosis - Part I: Idea and experimental motivation. Proc. 9th International Conference on Motion and Vibration Control MOVIC 2008, Munich, Sept. 15-18, 2008.

Söffker, D.; Al-Joumaa, H.; Saadawia, M.: Defining features for diagnosis and prognosis - Part II: Data driven adaption of diagnosis filter. Proc. 9th International Conference on Motion and Vibration Control MOVIC 2008, Munich, Sept. 15-18, 2008.

Dettmann, K.-U.; Nissing, D.; Kashi, K.; Söffker, D.: Mechanical system for disturbance decoupling using an electro-mechanical actuator. Proc. 9th International Conference on Motion and Vibration Control MOVIC 2008, Munich, Sept. 15-18, 2008.

Heidtmann, F.; Söffker, D.: Experimental-Modeling-Based Observer Approach for the Analysis of Structural Changes in Elastic Mechanical Systems. Proc. 9th International Conference on Motion and Vibration Control MOVIC 2008, Munich, Sept. 15-18, 2008.

Liu, Y.; Söffker, D.: New Development of Optimal High-Gain PI-Observer Design. Proc. 9th International Conference on Motion and Vibration Control MOVIC 2008, Munich, Sept. 15-18, 2008.

Zhang, F.; Söffker, D.: Active Flutter Suppression of a Nonlinear Aeroelastic System Using PI-Observer. Proc. 9th International Conference on Motion and Vibration Control MOVIC 2008, Munich, Sept. 15-18, 2008.

ter Beek, M.; Söffker, D.: Optimized Control Strategy for Active Vibration Absorbers. Proc. 9th International Conference on Motion and Vibration Control MOVIC 2008, Munich, Sept. 15-18, 2008.

Özbek, M.; Wülbeck, L.; Roes, J.; Heinzl, A.; Söffker, D.: Hardware-in-the-Loop-based Simulation of a Fuel Cell-driven Powertrain System Conception, Modeling, and Simulation Results. 9th International Conference on Motion and Vibration Control MOVIC 2008, Munich, Sept. 15-18, 2008.

Oberheid, H.; Söffker, D.: Cooperative Arrival Management in Air Traffic Control - A Coloured Petri Net Model of Sequence Planning. Proc. 8th International Conference on Application of Concurrency to System Design 2008, Xian, China, 2008, pp. 348-367.

Oberheid, H.; Gamrad, D.; Söffker, D.: Closed Loop State Space Analysis and Simulation for Cognitive Systems. Proc. 8th International Conference on Application of Concurrency to System Design, Xian, China, 2008, pp. 39-44.

Gamrad, D.; Oberheid, H.; Söffker, D.: Formalization and Automated Detection of Human Errors. Proc. SICE International Conference on Instrumentation, Control and Information Technology, Tokyo, Japan, 2008, pp. 1761-1766.

Gamrad, D.; Söffker, D.: Learning from Errors: A Bio-inspired Approach for Hypothesis-based Machine Learning. Proc. SICE International Conference on Instrumentation, Control and Information Technology, Tokyo, Japan, 2008, pp. 647-652.

Heidtmann, F.; Söffker, D.: Numerical Optimizations in Observer-Based Monitoring of Elastic Mechanical Systems. Proc. IEEE International Conference on Prognostics and Health Management. October 6-9, 2008, Denver, USA.

Özbek, M.; Söffker, D.: Modeling and Simulation of a Fuel Cell-based Hybrid Powertrain. Proc. IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications October 12-15, 2008, Beijing, China.

ter Beek, M.; Söffker, D.: Observer-based Identification of Nonlinear Clutch Friction under Operating Conditions. Proc. European Control Conference ECC 2009, Budapest, Hungary, August 2009.

Liu, Y.; Söffker, D.: Improvement of Optimal High-Gain PI-Observer Design. European Control Conference ECC 2009, Budapest, Hungary, August 2009.

Dettmann, K.-U.; Söffker, D.: Online definition of reliability characteristics based on experimental data. Proc. 7th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes, SafeProcess 2009, Barcelona, Spain.

ter Beek, M.; Elspaß, A.; Söffker, D.: Subharmonic Oscillations of Vehicle Drivelines induced by Nonlinear Clutch Characteristics. Noise and Vibration: Emerging Methods, Keble College, Oxford, Great Britain, April 5-8, 2009.

Liu, Y.; Söffker, D.: Robust control approach for input-output linearizable nonlinear systems with modeling errors based on high-gain PI-Observer. Proc. 6th Vienna Conference on Mathematical Modeling on Dynamical Systems MATHMOD 2009, Vienna, Austria, 2009.

Gamrad, D.; Oberheid, H.; Söffker, D.: Automated detection of human errors based on multiple partial state spaces. Proc. 6th Vienna Conference on Mathematical Modeling on Dynamical Systems MATHMOD 2009, Vienna, Austria, 2009, pp. 651-659.

Özbek, M.; Söffker, D.: Modeling and simulation of the dynamics of fuel-cell driven hybrid powertrains. Proc. 6th Vienna Conference on Mathematical Modeling on Dynamical Systems MATHMOD 2009, Vienna, Austria, 2009, pp. 1974-1982.

Oberheid, H.; Söffker, D.: Model-based analysis of agents incentives in a distributed air traffic management process. Proc. 6th Vienna Conference on Mathematical Modeling on Dynamical Systems MATHMOD 2009, Vienna, Austria, 2009, pp. 512-523.

Zhang, F.; Söffker, D.: Intelligent control using online-stability-based knowledge representation. Proc. 6th Vienna Conference on Mathematical Modeling on Dynamical Systems MATHMOD 2009, Vienna, Austria, 2009, pp. 200-208.

Fu, X.; Gamrad, D.; Mosebach, H.; Lemmer, K.; Söffker, D.: Modeling and implementation of cognitive-based supervision and assistance. Proc. 6th Vienna Conference on Mathematical Modeling on Dynamical Systems MATHMOD 2009, Vienna, Austria, 2009, pp. 2063-2068.

Dettmann, K.-U.; Söffker, D.: Wear prognosis based on identified wear accumulation models. in: Bris, R., C.; Soares, G. and Martorell, A.: (Eds.): Reliability, Risk and Safety - Theory and application, Proc. ESREL 2009, Volume 1, Taylor Francis Group, London, Prague (Czech Republic), pp. 215-220.

Junglas, M.; Kazeminia, A.; Eick, R.; Söffker, D.: A practical approach for determination of reliability-oriented system topology in mechatronic systems. in: Bris, R., C.; Soares, G. and Martorell, A.: (Eds.): Reliability, Risk and Safety - Theory and application, Proc. ESREL 2009, Volume 1, Taylor Francis Group, London, Prague (Czech Republic), pp. 1517-1524.

Kazeminia, A.; Junglas, M.; Söffker, D.: Optimization of system component reliability characteristics at early design stage with economically reasonable uncertainty level. in: Bris, R., C.; Soares, G. and Martorell, A.: (Eds.): Reliability, Risk and Safety - Theory and application, Proc. ESREL 2009, Volume 1, Taylor Francis Group, London, Prague (Czech Republic), pp. 1623-1627.

Dettmann, K.-U.; Hockmann, D.; Söffker, D.: New approaches to detect and to classify wear phenomena. Proc. 7th Int. Workshop on Structural Health Monitoring, Stanford University, Stanford, CA, 2009.

Dettmann, K.-U.; Söffker, D.: Wear prognosis based on identified damage accumulation models. Proc. 7th Int. Workshop on Structural Health Monitoring, Stanford University, Vol. 2, Stanford, CA, 2009, pp. 1538-1545.

Söffker, D.; Aljoumaa, H.: Signal-based modeling – a new method for classifying system states. Proc. 7th Int. Workshop on Structural Health Monitoring, Stanford University, Stanford, CA, 2009.

Junglas, M.; Kazeminia, A.; Eick, R.; Söffker, D.: Reliability-based design of future highly reliable systems. Proc. ASME 2009 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE), San Diego CA, USA, 2009.

Özbek, M.; Söffker, D.: About the system design of a fuel-cell/SuperCap hybrid powertrain. Proc. ASME 2009 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE), San Diego CA, USA, 2009.

- Dettmann, K.-U.; Marx, M.; Kashi, K.; Nissing, D.; Söffker, D.: Concept and components for disturbance decoupling and energy harvesting. Proc. ASME 2009 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE), San Diego CA, USA, 2009, pp. 863-868.
- Zhang, F.; Söffker, D.: Stabilization of a Nonlinear Prototypical Wing Section with Self-improvement of Control Performance. Proc. 4th International Scientific Conference on Physics and Control, Catania, Italy, September 1-4, 2009.
- Dettmann, K.-U.; Söffker, D.: Classification of wear phenomena by specific ultrasonic emission detection for prognostic purpose. Proc. Int. Conf. Prognostics and Health Monitoring, San Diego, USA, Oct. 2009.
- Dettmann, K.-U.; Söffker, D.: Health prognosis based on a novel approach for damage accumulation calculation. Proc. Int. Conf. Prognostics and Health Monitoring, San Diego, USA, Oct. 2009.
- Gamrad, D.; Söffker, D.: Simulation of Learning and Planning by a Novel Architecture for Cognitive Technical Systems. Proc. IEEE Int. Conf. on System, Man, and Cybernetics, San Antonio, TX, USA, 2009, pp. 2302-2307.
- Gamrad, D.; Söffker, D.: Reduction of Complexity for the Analysis of Human-Machine-Interaction. IEEE Int. Conf. on System, Man, and Cybernetics, San Antonio, TX, USA, 2009, pp. 1300-1305.
- Gamrad, D.; Söffker, D.: Implementation of a Novel Approach for the Simulation of Cognition based on Situation-Operator-Modeling and High-Level Petri Nets. Proc. ICROS-SICE International Joint Conference, Fukuoka, Japan, 2009, pp. 1404-1410.
- Ertle, P.; Voos, H.; Söffker, D.: Development of Safe Autonomous Mobile Service Robots using an Active Integrated Approach. Proceedings for the joint conference of ISR 2010 (41st International Symposium on Robotics) and ROBOTIK 2010 (6th German Conference on Robotics), Munich, Germany, June 07-09, 2010, pp. 1121-1128.
- Ertle, P.; Voos, H.; Söffker, D.: On Risk Formalization of On-Line Risk Assessment for Safe Decision Making in Robotics. 7th IARP Workshop on Technical Challenges for Dependable Robots in Human Environments, Toulouse, France, June 16-17, 2010, pp. 15-22.
- Gamrad, D.; Söffker, D.: Learning from conflicts in real world environments for the Realization of Cognitive Technical Systems. IEEE Int. Conf. on Systems, Man, and Cybernetics, Istanbul, October 10th - 13th, 2010, pp. 1995-2002.
- Ertle, P.; Gamrad, D.; Voos, H.; Söffker, D.: Action Planning for Autonomous Systems with respect to Safety Aspects. 2010 IEEE Int. Conf. on Systems, Man, and Cybernetics, Istanbul, October 10th - 13th, 2010, pp. 2465-2472.
- Liu, Y.; Söffker, D.: Contact Force Estimation for an Elastic Beam Using Optimal High-Gain Disturbance Observer. Proc. 2010 ASME Dynamic Systems and Control Conference (DSCC), September 13-15, 2010, Cambridge, Massachusetts.
- Kazemina, A.; Junglas, M.; Söffker, D.: An approach for reliability optimization of mechatronic systems during design phase. Reliability, Risk and Safety - Theory and application, Proc. ESREL 2009, Taylor Francis Group, London, 2010, pp. 1505-1512.
- Junglas, M.; Kazemina, A.; Eick, R.; Söffker, D.: Analysis, quantification, and optimization of system reliability-formalized definition of reliability topologies and values for system optimization. Proc. ESREL 2009, Taylor Francis Group, London, 2010, pp. 941-946.

- Fu, X.; Söffker, D.: System theoretic modeling of human interaction with respect to rule-based driving interactions. Proc. 11th IFAC/IFIP/IFORS/IEA Symposium on Analysis, Design, and Evaluation of Human-Machine Systems. Valenciennes, France, August 31 - September 3, 2010.
- Saadawia, M.; Söffker, D.: Application of Support Vector Machine for Evaluation of Wear State and Remaining Life Time. Proc. 7th. EUROSIM Congress on Modelling and Simulation, Prague, 2010.
- Wei, C.; Söffker, D.: MIMO-control of a Flexible Rotor with Active Magnetic Bearing. Proc. The twelfth International Symposium on magnetic bearings ISMB 12, August 22-25, 2010, Wuhan, China.
- Zhang, F.; Söffker, D.: Stabilization of a Nonlinear Aeroelastic Wing Section Using Modified Model-Free Control with Self-Improvement of Control Performance. AIAA Guidance, Navigation, and Control Conference, Toronto, Ontario, Aug. 2-5, 2010. AIAA-2010-8284.
- Aljoumaa, H.; Söffker, D.: Condition Monitoring and Classification Approach based on Fuzzy-Filtering. Proc. International Conference on Soft Computing and Applications 2010 (ICSCA'10), San Francisco, USA, 20-22 October, 2010.
- Wei, C.; Söffker, D.: Optimal Control of a Flexible Rotor by Using Magnetic Bearing. Proc. SIRM 2011: Ninth International Conference on Vibrations in Rotating Machines, February 21-23th, 2011, Darmstadt, Germany.
- Fu, X.; Söffker, D.: Concept for SOM-based computer supported cooperative work. The 2011 15th International Conference on Computer Supported Cooperative Work in Design CSCWD 2011, Lausanne, Switzerland, June 8-10, 2011, accepted.
- Aljoumaa, H.; Söffker, D.: Adaptive Fuzzy-based Approach for Classification of Systems states. 8th Int. Workshop on Structural Health Monitoring, Stanford University, Stanford, CA, Sept. 13-15, 2011, accepted.
- Dettmann, K.-U.; Baccar, D.; Söffker, D.: Examination of wear phenomena by using filtering techniques for FDI purposes. 8th Int. Workshop on Structural Health Monitoring, Stanford University, Stanford, CA, Sept. 13-15, 2011, accepted.
- Al-Shrouf, L.; Söffker, D.: Multi-classifier fusion method based on the reliability of the individual classifiers statements. 8th Int. Workshop on Structural Health Monitoring, Stanford University, Stanford, CA, Sept. 13-15, 2011, accepted.
- Al-Shrouf, L.; Saadawia, M.; Szczepanski, N.; Söffker, D.: Adaptive classification based on multisensoric decision fusion. 8th Int. Workshop on Structural Health Monitoring, Stanford University, Stanford, CA, Sept. 13-15, 2011, accepted.
- Saadawia, M.; Söffker, D.: Wavelet-based SVM system for evaluation of wear states and remaining life time. 8th Int. Workshop on Structural Health Monitoring, Stanford University, Stanford, CA, Sept. 13-15, 2011, accepted.
- Baccar, D.; Dettmann, K.-U.; Söffker, D.: FPGA-based realization of online damage state and wear detection using acoustic emission. 5th ECCOMAS Thematic Conference on Smart Structures and Materials SMART'11, Saarbrücken, July 6-8, 2011, accepted.
- Marx, M.; Wei, C.; Söffker, D.: Optimization loops applied to dynamic systems. ASME 2011 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE), Washington, USA, August 28-31, 2011, submitted.

Marx, M.; Söffker, D.: Integrated Optimization of the Powermanagement System of a Hybrid Electric Powertrain System. 7th IEEE Vehicle Power and Propulsion Conference, Chicago, IL, September 6-9, 2011, submitted.

Conference articles:

Söffker, D.; Bajkowski, J.: Crack Detection of a Rotor by State Observers. Proceedings 8th IFToMM World Conference of the Theory of Machines and Mechanism, Vol. 3, Prag, August 26-31, 1991, pp. 771-774.

Söffker, D.; Gürgöze, M.; Müller, P.C.: Modeling, Simulation and Control of Elastic Robot Arms with Prismatic Joints. Proceedings 8th IFToMM World Conference of the Theory of Machines and Mechanism, Vol. 4, Prag, August, 26-31, 1991, pp. 1249-1252.

Söffker, D.; Bajkowski, J.; Müller, P.C.: Analysis and Detection of the Cracked Rotor. GAMM '92, ZAMM 73 (1992), T87-T91.

Söffker, D.: Kleiner Beitrag zur Dynamik der 'Möwe Jonathan'. ZAMM 74 (1994), T88-T90.

Seibold, S.; Söffker, D.; Fritzen, C.P.: Modellgestützte Detektion von Wellenrissen. in: Natke, H.G.; Tönshoff, H.K.; Meltzer, G.: Dynamische Probleme - Modellierung und Wirklichkeit - , Berichte aus dem Curt-Risch-Institut der Universität Hannover, Oktober 1993, S. 309-328.

Söffker, D.: Ein finites Balkenelement zur Modellbildung längenvariabler, elastischer Roboterarme. Zeitschrift für Mathematik und Mechanik 75 (1995), S131-S132.

Söffker, D.; Müller, P.C.: Modeling and Control of Elastic Robot Arms with Varying Length. Zeitschrift für Angewandte Mathematik und Mechanik 76 (1996), S5, Seiten 489 - 490.

Söffker, D.; Müller, P.C.: Robust Control of Flexible Structures - A New PI-Observer-based Approach. Proc. IFAC - Workshop Motion Control, October, 9-11, 1995, Munich, Germany, pp. 904-912.

Söffker, D.: Kopplungen in Balkenelementen - Systematische nichtlineare finite Modellbildung und Simulation interner Kopplungen höherer Ordnung. GAMM Tagung 1996, Prag, CS, 1996, ZAMM-GAMM Sonderheft, 1997, S317-S318.

Rakowsky, U.K.; Söffker, D.: Verknüpfung von Methoden der Regelungstheorie und der Technischen Zuverlässigkeit zur Modellierung dynamischer Systeme. Jahrestagung der Gesellschaft für Meß- und Automatisierungstechnik, Baden - Baden, September 1996. GMA Bericht 1282, Seiten 753-763.

Söffker, D.: Der PI-Beobachter zur robusten Schätzung von nichtlinearen Kraft- und Momentenverläufen unbekannter Charakteristik in elastischen mechanischen Strukturen. Tagungsband des Workshops 'Simulation und Praxis der Kraftschlußausnutzung von Hochleistungs-Triebfahrzeugen'. Institut für Elektrische Energietechnik - TU Berlin, Forschungsverbund Bahntechnik - Berlin, 27./28. Juni 1996, Seiten 133-144.

Söffker, D.; Hoffmann, P.; Müller, P.C.: Schätzen der Kontaktkräfte im Rad-Schiene Kontakt. GAMM Beitrag 1997, Regensburg, ZAMM-GAMM Sonderheft, 1997, S739-S740.

Söffker, D.; Rakowsky, U.K.; Müller, P.C.; Peters, O.H.: Perspektiven regelungstheoretischer Methoden zur Überwachung dynamischer Systeme aus sicherheitstechnischer Sicht. VDI-GMA Tagung Sicherheitstechnik und Automatisierung, Langen, 1997, VDI-Bericht 1336, Sicherheitstechnik und Automatisierung, VDI-Verlag, Düsseldorf, 1997, Seiten 223-232.

Söffker, D.: Automatic generation of the equations of motion of the moving nonlinear elastic beam. IMACS World Conference, Berlin, 1997, Sydow, A. (Ed.): Proc. 15th IMACS World Congress on Scientific Computation, Modelling and Applied Mathematics, Vol. 5, Berlin, 1997, 10 pages.

Söffker, D.: Modeling of human errors of the 'human - complex technical system' - interaction: a first qualitative engineering approach. Sydow, A. (Ed.): Proc. 15th IMACS World Congress on Scientific Computation, Modelling and Applied Mathematics, Vol. 5, Berlin, 1997, pp. 167-172.

Söffker, D.: Schadensdiagnose bei elastischen mechanischen Strukturen - Entwicklung eines modellbasierten Ansatzes ohne Verwendung schadensspezifischer Information. GMA-Kongreß '98 Meß- und Automatisierungstechnik - Neue Entwicklungen, Technologie, Anwendungen. VDI-Berichte 1397, VDI-Verlag, Düsseldorf, 1998, Seiten 479-486.

Söffker, D.; Seelecke, S.: Shape Memory Alloy Actuators - Thermomechanical Modeling and Control Aspects. in: Wallaschek, J.; Lückel, J.; Littmann, W. (eds.): Mechatronics and Advanced Motion Control, Proc. 3rd International Heinz Nixdorf, HNI-Verlagsschriftenreihe, Band 49, pp. 145-160.

Söffker, D.: Observer-based measurement of contact forces of the nonlinear rail-wheel contact as a base for advanced traction control. in: Wallaschek, J.; Lückel, J.; Littmann, W. (eds.): Mechatronics and Advanced Motion Control, Proc. 3rd International Heinz Nixdorf, HNI-Verlagsschriftenreihe, Band 49, pp. 305-320.

Söffker, D.: Regelungstechnische Methoden zur Überwachung technischer Komponenten und zur lebensdaueroptimierten Betriebsführung in der Stromerzeugung. in: VDI-GET (Hrsg.): Technische Konzepte zur Kostendämpfung in der Stromerzeugung. VDI-Berichte 1474, 1999, Seiten 199-213.

Söffker, D.: Überwachung, Diagnose und lebensdaueroptimierte Betriebsführung schwingungsfähiger Maschinen - Teil 1: Prinzipvergleich bestehender modellgestützter und signalanalytischer Verfahren am Beispiel der Wellenrissdetektion bei Turborotoren. VDI-EKV Schwingungstagung, Frankenthal, 27./28. Mai 1999, in: VDI-Berichte 1466, 1999, Seiten 609-626.

Söffker, D.: Überwachung, Diagnose und lebensdaueroptimierte Betriebsführung schwingungsfähiger Maschinen - Teil 2: Entwicklung lebensdauer- und belastungsabhängiger Ausfallraten im *SRCE*-Konzept. VDI-EKV Schwingungstagung, Frankenthal, 27./28. Mai 1999, in: VDI-Berichte 1466, 1999, Seiten 627-638.

Söffker, D.: Modeling the Human-Machine Interaction: Relations between Human Planning, Cognition, Mental Representation and Action. in: Biswas, G.; McIlraith, S.: Hybrid Systems and AI: Modeling Analysis and Control of Discrete plus Continuous Systems. Technical Report SS-99-04 Knowledge System Lab, Stanford University, California. Paper from the AAAI 1999 Spring Symposium, Stanford University, California, March 22-24, 1999.

Söffker, D.: Applications of the PIO-technique to elastic mechanical structures. in: Hofer, E.P.; Weber, H.I.; Pamplona, D.: Dynamic Problems in Mechanics and Mechatronics, Proc. Int. Symp. EUROdynam'99: Ulm Research Conferences, 1999, Seiten 119-124.

Söffker, D.; Müller, P.C.; Sampaio, R.; Weber, H.I.: Ermittlung von Kontaktkräften stoßbehafteter elastischer Systeme: Simulation und Experiment. GAMM 2000, Göttingen, April 2-7, 2000, 2 Seiten.

Söffker, D.: Beobachtergestützte Kraftschlussregelung für elektrische Triebfahrzeuge: Konzeption und Simulation. VDI-Berichte 1568 'Dynamik von Fahrzeug und Fahrweg', 2000, Seiten 333-352.

Söffker, D.: Zur Online-Bestimmung von Zuverlässigkeits- und Nutzungskenngrößen innerhalb des *SRCE*-Konzeptes. XIX. Sicherheitswissenschaftliches Symposium 'Instandhaltung'. Gesellschaft für Sicherheitswissenschaft, Weltkonferenz für Sicherheitswissenschaft, Wuppertal, 6./7. November 2000, Verlag TÜV Rheinland.

Söffker, D.; Kirchenkamp, S.: A scheme for validation of dynamic vehicle-wheel-track-subgrade models. 17th IAVSD (International Association for Vehicle System Dynamics) Symposium 'Dynamics of Vehicles on Road and Tracks', TU Denmark, Lyngby, Denmark, August 20-24, 2001, 3 pages.

Söffker, D.: Monitoring and Controlling Reliability Characteristics as a Base for Safe and Economical Operating of Technical Systems. Proc. of 3rd Int. Workshop on Structural Health Monitoring, Stanford University, Stanford, CA, Sept. 12-14, 2001, 10 pages.

Kirchenkamp, S.; Söffker, D.: A virtual measurement device for improving the wheel-rail-subgrade modeling. GAMM Jahreskonferenz 2002, Augsburg, March 2002.

Söffker, D.: A modeling approach for open interacting systems like human-machine-interactions and autonomous systems. Proc. of IAR Workshop 2002, German French Institute for Automation and Robotics, November 20-21, 2002, Grenoble, France, 8 pages.

Söffker, D.; Ulbrich, H.: Model-based estimation of contact forces. Proc. Diname - X Symposium on dynamics problems of mechanics. Ubatuba, Sao Paulo, BR, March 10-14, 2003.

Wolters, K.; Söffker, D.: The *SRCE*-concept - A probabilistic avoidance of failures. IAR Annual Meeting 2003, Duisburg, November 27-28 2003, pp. 229-234.

Kashi, K.; Wolters, K.; Söffker, D.: An Integrated Concept for Failure Avoidance System Design. IAR Annual Meeting 2004, Karlsruhe, Nov 17-18, 2004, pp. 15-19.

Söffker, D.; Kashi, K.; Wolters, K.: Entwurf ausfallsicherer Systeme durch die Integration von zuverlässigkeitstechnischen Konzepten, Diagnoseverfahren und modernen Regelungsstrategien. 7. GMA-Kongress 2005 - Automation als interdisziplinäre Herausforderung. Baden-Baden, 7.-8. Juni 2005, pp. 275-283.

Ahle, E.; Söffker, D.: Entwurf eines Überwachungsautomaten für Überholvorgänge von Kraftfahrzeugen. 7. GMA-Kongress 2005 - Automation als interdisziplinäre Herausforderung. Baden-Baden, 7.-8. Juni 2005, pp. 53-60.

Söffker, D.; Ahle, E.: Idea, Conception, and Realization of Learning Abilities for Robot Control using a Situation-Operator-Model. Proc. of the Workshop on Automatic Learning and RealTime ALART05, University of Siegen, September 7-8, 2005, pp. 131-141.

Söffker, D.: Integration von Diagnose, Zuverlässigkeit und modellgestützten Methoden zur Realisierung sicherer mechatronischer Systeme. Tagungsband ASB Kongress der Antriebstechnik, Forschungsvereinigung Antriebstechnik, 21./22. Februar 2006, Stuttgart.

Söffker, D.; Wolters, K.: Ein Ansatz zur ausfallvermeidenden Betriebsführung hochintegrierter adaptiver mechatronischer Systeme. DVM-Bericht 901, Zuverlässigkeit mechatronischer und

adaptronischer Systeme, 1. Tagung DVM-Arbeitskreis Zuverlässigkeit mechatronischer und adaptronischer Systeme, Fraunhofer-Institut für Betriebsfestigkeit und Systemzuverlässigkeit LBF, 15.-16. März 2006, S. 135-145.

Ahle, E.; Söffker, D.: Entwurf komplexer Automatisierungssysteme am Beispiel eines Überwachungsautomaten für Überholvorgänge von Kraftfahrzeugen. Tagungsband EKA 2006 Entwurf komplexer Automatisierungssysteme, 9. Fachtagung, TU Braunschweig, 29.-31. Mai 2006, S. 259-276.

Söffker, D.; Wolters, K.: Konzept zum Entwurf ausfallsicherer mechatronischer Systeme. Tagungsband EKA 2006 Entwurf komplexer Automatisierungssysteme, 9. Fachtagung, TU Braunschweig, 29.-31. Mai 2006, S. 161-174.

Kashi, K.; Nissing, D.; Kesselgruber, D.; Söffker, D.: Diagnosis of active dynamic control systems using virtual sensors and observers. in: Proc. of the 3rd IEEE International Conference on Mechatronics (ICM06), Budapest, Hungary, July 3-5, 2006, 8 pages.

Özbek, M.; Söffker, D.: Feature-based fault detection approaches. in Proc. of the 3rd IEEE International Conference on Mechatronics (ICM06), Budapest, Hungary, July 3-5, 2006, pp. 342-347.

Heidtmann, F.; Söffker, D.: Model-based diagnosis of elastic mechanical 2D-/3D-structures. Symposium Diagnosis and Control of Smart Structures and Multifunctional Materials. Proc. 2nd International Conference on Dynamics, Vibration, and Control, August 23-26th 2006, Beijing, China, 4 pages.

Söffker, D.; Krajcin, I.; Heidtmann, F.: Observer-based control and disturbance compensation of elastic mechanical 2D-/3D-structures. Symposium Diagnosis and Control of Smart Structures and Multifunctional Materials. Proc. 2nd International Conference on Dynamics, Vibration, and Control, August 23-26th 2006, Beijing, China, 4 pages.

Wolters, K.; Söffker, D.: Active supervision of structural integrity of smart structures using reliability-based approaches. Symposium Diagnosis and Control of Smart Structures and Multifunctional Materials. Proc. 2nd International Conference on Dynamics, Vibration, and Control, August 23-26th 2006, Beijing, China, 4 pages.

Özbek, M.; Schramm, D.; Söffker, D.: Fault detection on a plating bearing using acoustic information. Proc. IAR Annual Meeting 2006, Nancy, Nov. 16-17th, 2006.

Söffker, D.; Zhang, F.; Liu, Y., Qiu, Z.: A novel approach controlling uncertain systems. Proc. IAR Annual Meeting 2006, Nancy, Nov. 16-17th, 2006.

Söffker, D.; Wolters, K.; Özbek, M.; Dettmann, K.-U.: Überwachung und Diagnose technischer Systeme auf Basis eines neuen, integrierten qualitativen Ansatzes. VDI-Bericht 1982 Schwingungsüberwachung und Diagnose von Maschinen, 2007, S. 251-267.

Gamrad, D.; Söffker, D.: Konzeption und Implementierung eines kognitiven Fahrer-Fahrzeugüberwachungs- und Assistenzsystems. Fahrer im 21. Jahrhundert. VDI-Bericht 2015, 2007, S. 285-290.

Dettmann, K.-U.; Wolters, K.; Kirchenkamp, S.; Söffker, D.: Diagnose und Prognose: modell- und signalbasierte Ansätze zum Einsatz im Antriebsstrang. Aussprachetag GMA FA 7.61 auf der RailTEC, Dortmund 14. Nov. 2007.

Liu, Y.; Söffker, D.: A robust control design for nonlinear SISO systems. Proc. IAR Annual Meeting 2007, Nov. 15-16th, 2007.

Gamrad, D.; Söffker, D.: Formalisierung menschlicher Interaktionen durch Situations-Operator-Modelle. VDI GMA Fachausschuss 5.15 Proc. Computational Intelligence, GI Fachgruppe Fuzzy-Systeme und Soft-Computing, Bommerholz, 2007, S. 253-259.

Wolters, K.; Kock, B.; Söffker, D.: Einsatz der Telediagnose zur Maschinenzustandsüberwachung. 7. Aachener Kolloquium für Instandhaltung, Diagnose und Anlagenüberwachung AKIDA, Aachen, 2008, S. 57-64.

Söffker, D.; Aljoumaa, H.; Saadawia, M.; Dettmann, K.-U.: Beschreibung des Maschinenzustandes durch komplexe Merkmale zur Schadenfrüherkennung und zum Condition Monitoring. 7. Aachener Kolloquium für Instandhaltung, Diagnose und Anlagenüberwachung AKIDA, Aachen, 2008, S. 33-50.

Söffker, D.; Dettmann, K.-U.: Lebensdauerabschätzung technischer Komponenten und Systeme auf Basis online-identifizierter Schadensmodelle. VDI Bericht 2065, 24. Tagung Technische Zuverlässigkeit 2009, S. 99-110.

Fu, X.; Söffker, D.: Modeling of personalized Human Driver Model for Cognitive Supervision and Autonomous Driving. VDI-Bericht 2085 'Der Fahrer im 21. Jahrhundert: Fahrer, Fahrerunterstützung und Bedienbarkeit', 2009, S. 45-52.

Oberheid, H.; Söffker, D.: Incentives in Arrival Management: Agents' Interests vs. Designers' Expectations. In: Baloian, N. Luther, W.; Söffker, D.; Urano, Y. (Eds.): Interface and Interaction Design for Learning and Simulation Environments. Logos Wissenschaftsverlag, Berlin, 2009, pp. 27-32.

Gamrad, D.; Söffker, D.: Modeling and Analysis of Interaction for the Realization of Cognitive Technical Systems. In: Baloian, N. Luther, W.; Söffker, D.; Urano, Y. (Eds.): Interface and Interaction Design for Learning and Simulation Environments. Logos Wissenschaftsverlag, Berlin, 2009.

Fu, X.; Söffker, D.: Cognitive-based Driving Supervision and Assistance. In: Baloian, N. Luther, W.; Söffker, D.; Urano, Y. (Eds.): Interface and Interaction Design for Learning and Simulation Environments. Logos Wissenschaftsverlag, Berlin, 2009.

Ertle, P.; Söffker, D.: Towards Risk Analysis and Cognitive Systems to Enable Safe Service Robots. In: Baloian, N. Luther, W.; Söffker, D.; Urano, Y. (Eds.): Interface and Interaction Design for Learning and Simulation Environments. Logos Wissenschaftsverlag, Berlin, 2009.

Söffker, D.: From Action to Intelligent Interaction: Cognitive Architectures realizing Flexible Behavior. In: Baloian, N. Luther, W.; Söffker, D.; Urano, Y. (Eds.): Interface and Interaction Design for Learning and Simulation Environments. Logos Wissenschaftsverlag, Berlin, 2009.

Dettmann, K.-U.; Söffker, D.: Adaptive modeling of reliability properties for control and supervision purposes. Proc. IAR/ACD Workshop on Advanced Control and Diagnosis, Zielona Góra, Poland, November 19-20th, 2009.

Fu, X.; Söffker, D.: Modeling and supervision of human operations within driver-vehicle interactions. Proc. IAR/ACD Workshop on Advanced Control and Diagnosis, Zielona Góra, Poland, November 19-20th, 2009.

Gamrad, D.; Söffker, D.: Architecture for Cognitive Technical Systems allowing Learning from Interaction with Unknown Environments. Proc. IAR/ACD Workshop on Advanced Control and Diagnosis, Zielona Góra, Poland, November 19-20th, 2009.

Hasselberg, A.; Oberheid, H.; Söffker, D.: State-Space-based Analysis of Human Decision Making in Air Traffic Control. Proc. IAR/ACD Workshop on Advanced Control and Diagnosis, Zielona Góra, Poland, November 19-20th, 2009.

Dettmann, K.-U.; Hockmann, D. T.; Söffker, D.: Detection and Classification of wear. Proc. IAR/ACD Workshop on Advanced Control and Diagnosis, Zielona Góra, Poland, November 19-20th, 2009.

Marx, M.; Özbek, M.; Söffker, D.: Comparison and Evaluation of Power Management Approaches applied to a Fuel Cell-based Hybrid HiL Powertrain. Proc. IAR/ACD Workshop on Advanced Control and Diagnosis, Zielona Góra, Poland, November 19-20th, 2009.

Saadawia, M.; Söffker, D.: SVM-based Fault Diagnosis System for Materials Change Detection. Proc. IAR/ACD Workshop on Advanced Control and Diagnosis, Zielona Góra, Poland, November 19-20th, 2009.

Fu, X.; Söffker, D.: Cognitive Awareness of Intelligent Vehicles. In: Intelligent Vehicle Initiative (IVI), Technology Advanced Control and Navigation, SAE 2010 World Congress, Detroit, April 2010.

Fu, X.; Söffker, D.: Modeling of Individualized Human-Driver Models for Automated Personalized Supervision. In: Intelligent Vehicle Initiative (IVI), Technology Advanced Control and Navigation, SAE 2010 World Congress, Detroit, April 2010.

Junglas, M.; Kazeminia, A.; Eick, R.; Söffker, D.: Reliability-oriented mechatronic system structures: Optimizing of system parameters during design stage. In: Reliability and Robust Design in Automotive Engineering, SAE 2010 World Congress, Detroit, April 2010.

Marx, M.; Özbek, M.; Söffker, D.: Power Management Investigations on a Fuel Cell-based Hybrid HiL Powertrain. In: Advanced Fuel Cell Vehicle Applications, SAE 2010 World Congress, Detroit, April 2010. SAE 2010 World Congress, Detroit, April 2010.

Gamrad, D.; Söffker, D.: Representation of Knowledge for Technical Systems to Realize Cognitive Functions for Mobile Robotic Applications. Entwurf komplexer Automatisierungssysteme EKA 2010, Magdeburg, May 25-27, 2010, pp. 273-282.

Dettmann, K.-U.; Söffker, D.: Realisierung signalbasierter Diagnose zur Lebensdauerüberwachung eines mechanischen Systems. 3. Tagung des DVM-Arbeitskreises: Zuverlässigkeit mechatronischer und adaptronischer Systeme, Darmstadt, 14.-15. April 2010, In: DVM Bericht 903, Fraunhofer-Institut für Betriebsfestigkeit und Systemzuverlässigkeit (LBF) (Ed.), Seiten 103-111.

Hockmann, D.; Dettmann, K.-U.; Söffker, D.: Merkmalsbasierte Zustandsbeschreibung werkstoffseitiger Verschleißzustände. 3. Tagung des DVM-Arbeitskreises: Zuverlässigkeit mechatronischer und adaptronischer Systeme, Darmstadt, 14.-15. April 2010, In: DVM Bericht 903, Fraunhofer-Institut für Betriebsfestigkeit und Systemzuverlässigkeit (LBF) (Ed.).

Junglas, M.; Eick, R.; Kazeminia, A.; Söffker, D.: Analyse, Quantifizierung und Optimierung von sicherheitskritischen zuverlässigen mechatronischen Systemen. 3. Tagung des DVM-Arbeitskreises: Zuverlässigkeit mechatronischer und adaptronischer Systeme, Darmstadt, 14.-15. April 2010, In: DVM Bericht 903, Fraunhofer-Institut für Betriebsfestigkeit und Systemzuverlässigkeit (LBF) (Ed.), Seiten 31-40.

Liu, Y.; Söffker, D.: Robuste Regelung eines Hydraulikzylinders bei unbekanntem Eigenschaften von Reibung und dynamischer Last. VDI Tagung Schwingungsanalyse und Identifikation, Leonberg, 23.-24. März 2010, Seiten 83-90.

Dettmann, K.-U.; Söffker, D.: Überwachung und Echtzeitbestimmung des Verschleißgrades eines technischen Systems und Verwendung zur verschleißorientierten Betriebsführung. VDI Tagung Schwingungsanalyse und Identifikation, Leonberg, 23.-24. März 2010, Seiten 223-230.

Langer, M.; Söffker, D.: Bedienerzentrierte Prozessführung auf Basis einer interaktiven Mensch-Maschine-Schnittstelle zu teilautomatisierten Fertigungsprozessen. VDI-GMA Konferenz Automation 2010, Baden-Baden, 15.-16. Juni 2010.

Oberheid, H.; Hasselberg, A.; Söffker, D.: Know your options - analyzing human decision making in dynamic task environments with state-space methods ,Proc. Human Factors and Ergonomics Society (HFES) - Annual Meeting of the Europe Chapter, October 13-16, 2010, Berlin, Germany.

Al-Shrouf, L.; Saadawia, M.; Szczepanski, N.; Söffker, D.: Multisensorfusionsbasierte Prozessüberwachung. Berichtsband 8. Aachener Kolloquium für Instandhaltung, Diagnose und Anlagenüberwachung AKIDA, Aachen, Nov. 2010.

Saadawia, M.; Söffker, D.: Anwendung der Support Vector Machine für die Bewertung des Verschleisszustandes und der Restlebensdauer. Berichtsband 8. Aachener Kolloquium für Instandhaltung, Diagnose und Anlagenüberwachung AKIDA, Aachen, Nov. 2010.

Liu, Y.; Susilo, M.; Söffker, D.: Advanced Control Design for Wind Turbines. Jahrestagung Gesellschaft für angewandte Mathematik und Mechanik GAMM, Graz, Österreich, 18.-21. April, 2011, angenommen.

Marx, M.; Söffker, D.: Online powermanagement optimization of a fuel cell-based hybrid electric powertrain. Jahrestagung Gesellschaft für angewandte Mathematik und Mechanik GAMM, Graz, Österreich, 18.-21. April, 2011, angenommen.

Marx, M.; Sacher, O.; Söffker, D.: Integrated design and optimization of a complex nonlinear hybrid electric powertrain including simulations in time domain. Jahrestagung Gesellschaft für angewandte Mathematik und Mechanik GAMM, Graz, Österreich, 18.-21. April, 2011, angenommen.

Zhang, F.; Shen, X.; Söffker, D.: Stabilization of Unknown Nonlinear Systems using a Cognition-based Framework. Jahrestagung Gesellschaft für angewandte Mathematik und Mechanik GAMM, Graz, Österreich, 18.-21. April, 2011, angenommen.

Lectures without publication:

Müller, P.C.; Söffker, D.: Modelling, Simulation and Control of Elastic Robot Arms with Prismatic Joints. Euromech-Colloquium 268, München, Sept. 11-14th, 1990.

Söffker, D.; Bajkowski, J.; Müller, P.C.: Crack Detection by State Observers. 1st European Solid Mechanics Conference Euromech, München, Sept. 9-13th, 1991.

Söffker, D.: Modellgestützte Schadendiagnose. Mechanik Kolloquium, Lehrstuhl für Technische Mechanik Prof. Dr. Hahn, Universität Kaiserslautern, 25. Mai 1992.

Müller, P.C.; Bajkowski, J.; Söffker, D.: Chaotic Motions and Fault Detection in a Cracked Rotor. Symposium on Nonlinear Dynamics, Virginia Polytechnic University, Blacksborough, USA, June 1992.

Söffker, D.; Bajkowski, J.; Müller, P.C.: Detection of Cracks in Turbo-Rotors - A New Observer Based Method. Euromech Colloquium 293, TU Braunschweig, Sept. 1992.

Söffker, D.: New Approaches to the Old Problem of the Detection of Shaft Cracks in Rotating Machinery. 30th Polish Solid Mechanics Conference, Zakopane, Sept. 5-9, 1994.

Söffker, D.: Modellgestützte Rißdetektion an Turborotoren. Seminar des Instituts für Luft- und Raumfahrt, Prof. Dr.-Ing. R. Gasch, Prof. Dr.-Ing. K. Knothe, TU Berlin, 2. Dez. 1994.

Söffker, D.: Schadendiagnose bei elastischen mechanischen Strukturen - Entwicklung eines modellbasierten Ansatzes zur kausalen Diagnose ohne Verwendung schadenspezifischer Information. Workshop 'Modellbasierte Prozeßdiagnose unter Nutzung qualitativer Prozeßkenntnisse', Veranstalter: GMA - Fachausschuß 1.6, Emmelndorf, 4.-6. Oktober 1995.

Söffker, D.; Müller, P.C.: Systematic representation of couplings in elastic beams - nonlinear modeling and simulation of internal, higher order effects. 31th Polish Solid Mechanics Conference, Mierki, Sept. 10-14th, 1996.

Söffker, D.: Modellbildung und Regelung längenvariabler, elastischer Balkenstrukturen. Seminar des Institutes für Verfahrenstechnik, Prof. Dr. I. Müller, TU Berlin, 7. Juli 1997.

Söffker, D.: Observer-based fault diagnosis for elastic mechanical structures: a new method applied to the classical problem of the cracked rotor. Seminario de Departamento de Engenharia Mecanica, Pontificia Universidade Catolica do Rio de Janeiro, Brasilien, Prof. R. Sampaio, Prof. H.I. Weber, Sept. 10th 1997.

Söffker, D.: Robust Observers for Fault Detection and Observer-based Control of flexible mechanical structures. Seminar of the Working Group Vibrating Structures, Departamento de Engenharia Mecanica, Pontificia Universidade Catolica do Rio de Janeiro, Brasilien, Prof. R. Sampaio (PUC), Prof. F. Rochinha (Federal University), Sept. 24th, 1997.

Söffker, D.: Ein multimediales, interaktives Praktikum: 'Modellgestützte Signalanalyse' - Motivation, Konzeption und Realisierung. Beitrag zum Multimediatag NRW, Veranstaltungsreihe des Audiovisuellen Zentrums der Bergischen Universität - Gesamthochschule Wuppertal, Wuppertal, 7. November 1997.

Söffker, D.: Ein multimediales Praktikum. AVMZ BUGH Wuppertal: Einsatz von Multimedia in der Lehre, Filmbeitrag BUGH Wuppertal anlässlich des Multimediatages der Hochschulen NRW, 7. November 1997.

Söffker, D.: Analyse der Crew-Kommunikation des verunfallten Birgenair-Flugzeuges auf der Basis eines qualitativen Beschreibungsmodelles menschlichen Handelns. Vortrag in der Flugunfalluntersuchungsstelle des Luftfahrtbundesamtes, Braunschweig, 9. März 1998.

Söffker, D.: Qualitative Beschreibung menschlichen Entscheidungsverhaltens am Beispiel eines Flugzeugunfalles. Diskussionsbeitrag mit Videovorführung. GMA - GI Workshop, Emmendorf, 16.-18. März 1998 (Veranstalter: Prof. J. Lunze, TU Hamburg-Harburg, Prof. P. Struss, TU München).

Söffker, D.: Analyse der Crew-Kommunikation des verunfallten Birgenair-Flugzeuges auf der Basis eines qualitativen Beschreibungsmodelles menschlichen Handelns. Flugunfalluntersuchungsstelle des Luftfahrtbundesamtes, Braunschweig, 9. März 1998.

Söffker, D.: Perspektiven der Regelungstechnik zur Überwachung und Regelung schwingungsfähiger mechanischer Systeme. Seminar des Fachgebietes Thermodynamik des Fachbereiches Verfahrenstechnik der Technischen Universität Berlin, Prof. Dr. Ingo Müller, 20. April 1998.

Söffker, D.: Regelungstechnische Methoden in der Mechanik. Workshop Dynamik mechanischer Systeme. (Veranstalter: Prof. C. Woernle), Universität Rostock, Fachbereich Maschinenbau und Schiffstechnik, Rostock, 7.-9. September 1998.

Söffker, D.: Regler Mensch: Menschliches Entscheidungsverhalten am Beispiel eines Flugzeugunfalles. Tag des wiss. Nachwuchses, 7. November 1998, Stadtparkasse Wuppertal - BUGH Wuppertal, schriftlicher Beitrag in: output 4/98, Seiten 22-23.

Söffker, D.: The Situation-Operator Model: from a System Theoretic Human-Machine-Interaction Modeling Approach to New Ideas for Automatic Control. Department of Mechanical Engineering, Prof. Dr.-Ing. G.F. Mauer, University of Nevada, Las Vegas, March 18, 1999.

Söffker, D.: Safety Engineering and Human Factors. Department of Mechanical Engineering, Pontificia Universidade Catolica do Rio de Janeiro PUC-Rio, Brazil, Prof. Dr.-Ing. H.I. Weber, Prof. Dr. R. Sampaio, September 22, 1999.

Söffker, D.: Observer-based Supervision and Control of Elastic Mechanical Structures. Department of Mechanical Engineering, Federal University of Espirito Santos, Vitoria, Prof. Dr. M. Mattos, Brazil, October 4, 1999.

Söffker, D.: Safety and Reliability Control Engineering. Department of Mechanical Engineering, University of Nevada, Las Vegas, Graduate Seminar Series, Prof. G.F. Mauer, Sep. 18th 2001.

Söffker, D.: Systemtheoretische Modellbildung der wissensgeleiteten Mensch-Maschine-Interaktion: Seminar des 'Instituts für Mechatronik und Systemdynamik' der Gerhard-Mercator-Universität Duisburg, 14. Februar 2002.

Söffker, D.; Kirchenkamp, S.; Müller, P.C.: Model-based validation within the rail-wheel-subgrade modeling. Final Colloquium of the Priority Program 'Systemdynamik und Langzeitverhalten von Fahrwerk, Gleis und Untergrund' of the German Research Council, March 13-15, 2002.

Söffker, D.: Mechatronik Lehre in Duisburg. Arbeitskreis 'Mechatronik Lehre an deutschsprachigen Universitäten', Frankfurt, 12. April 2002.

Söffker, D.: Einsatz der Störgrößenbeobachtertechnik bei elastischen mechanischen Strukturen: Von der Wellenrissdetektion zur Kontaktmodellvalidierung. Seminar des Lehrstuhls für Angewandte Mechanik der TU München, Prof. Dr. H. Ulbrich, 9. Juli 2002.

Söffker, D.: Modellbildung der wissensgeleiteten Mensch-Maschine-Interaktion. Braunschweiger Verkehrskolloquium, DLR - Institut für Verkehrsführung und Fahrzeugsteuerung, Prof. Dr. K. Lemmer, 6. März 2003.

Söffker, D.: Control and Diagnoses of Elastic Mechanical Structures using Model-based Techniques. University of Nevada, Las Vegas, Graduate Seminar Series, Prof. G.F. Mauer, Sept. 9, 2003.

Söffker, D.: Mensch-Maschine-Systeme: Entwicklung eines Beschreibungsansatzes für wissensgeleitete Interaktionen. Institut für Mess- und Automatisierungstechnik, Universität Kassel, Prof. Dr. G. Johannsen, 27. Januar 2004.

Söffker, D.: Closing loops: Unified view from control to information science. Second International Seminar on Applied Analysis and Synthesis of Complex Dynamical Systems of the COE (Center of Excellence) Program by the Japanese Ministry of Education, Culture, Science and Technology (MEXT) at TU Munich, June 30 - Juli 1st, Invited Keynote Lecture.

Söffker, D.: From Human-Machine-Interaction to Autonomous Systems: Development of a Cognitive-Oriented Approach Describing Interaction. University of Nevada, Las Vegas, Graduate Seminar Series, Prof. G.F. Mauer, Sept. 22, 2005.

Söffker, D.: Integration von Diagnose, Zuverlässigkeit und modellgestützten Methoden zur Realisierung sicherer mechatronischer Systeme. Seminar des Instituts für Mechanik und Regelungstechnik, Universität Siegen, 25. Oktober 2005.

Söffker, D.: Mensch-Maschine-Interaktion: von der Modellbildung zum Überwachungsassistenten. Seminar der Kraftwerk-Simulator-Gesellschaft / Gesellschaft für Simulatorforschung, Essen, 25. April 2006.

Söffker, D.: Mensch-Maschine- und autonome Systeme: Von der Modellbildung zum überwachenden und autonomen Automaten. Schiffstechnisches Kolloquium, Universität Duisburg-Essen, 19. Mai 2006, eingeladener Hauptvortrag.

Söffker, D., Ahle, E.: Fahrerüberwachungsautomaten und autonome Systeme: Anwendungen eines kognitiven technischen Systems. 4. Workshop des GMA Fachausschusses 7.61 Autorail, Dresden, 30.6.2006.

Söffker, D.: Integrated monitoring and control of elastic mechanical structures. School of Mechanical Engineering (Prof. Z.P. Qiu), Beihang University (Beijing University of Aeronautics and Astronautics), Aug. 18th, 2006.

Söffker, D.: From Human-Machine to Autonomous Systems: an information-science-based approach modeling cognition. School of Mechanical Engineering (Prof. Z.P. Qiu), Beihang University (Beijing University of Aeronautics and Astronautics), Sept. 2006.

Gamrad, D.; Oberheid, H.; Söffker, D.: Simulation of cognitive technical systems with CPN tools using a situation-operator-modeling approach. 7th Workshop and Tutorial on Practical Use of Colored Petri Nets and the CPN Tools, Aarhus, Denmark, Oct. 24-26th, 2006.

Söffker, D.: Mensch und Automat: Modellbildung der Mensch-Maschine-Interaktion mit Anwendung auf die automatisierte Überwachung freier menschlicher Bedienhandlungen bei technischen Systemen. 8. Bieleeschweig Workshop Systems Engineering: Modellbasierte Entwicklung & Human-Centered Engineering, System Safety Society, German Section, DLR, Braunschweig, 8./9. November 2006.

Gamrad, D.; Oberheid, H.; Söffker, D.: Werkzeug zur Simulation und Überwachung des Verhaltens autonomer, interagierender Systeme. 5. Workshop des GMA Fachausschusses 7.61 Autorail, Fulda, 8. Dez. 2006.

Liu, Y.; Söffker, D.: Approaches improving the robustness of the control for systems with uncertainties. GAMM FA Dynamik und Regelungstheorie, 4.- 5. Mai 2007, Würzburg.

Söffker, D.: Integrated diagnosis, prognostics, and control of elastic mechanical structures for structural health monitoring. Department of Mechanical Engineering, University of Maryland Baltimore County (Prof. Weidong Zhu), USA, April 2nd, 2007.

Söffker, D.: Integration von Diagnose und Prognose. 6. Workshop des GMA Fachausschusses 7.61 Autorail, Braunschweig, 29. Juni 2007.

Söffker, D.: Kognitive technische Systeme: Automatisierungstechnische Beispiele zur lernfähigen, handlungsflexiblen Interaktion mobiler Systeme sowie zur Bedienerüberwachung. VDI-VDE GMA Fachausschuss 4.63 - Steuerung und Regelung von Robotern, Frankfurt, 18. Juli 2007, eingeladener Vortrag.

Gamrad, D.; Oberheid, H.; Söffker, D.: Implementation of a situation-operator-modeling approach using tools for higher petri net formalisms. University of Nevada, Las Vegas (Prof. Georg Mauer), USA, October 4th, 2007.

Oberheid H., Söffker D.: Modeling cooperation in 4D-arrival management. Tsinghua University (Prof. Peng Cheng), Beijing, China, July 3rd, 2008.

Gamrad, D.; Oberheid, H.; Söffker, D.: Automated detection of human errors. Japan aerospace exploration agency (JAXA), Tokyo, Japan, Aug. 12th, 2008.

Söffker, D.: Modeling the human-machine-interaction in the context of the human knowledge-guided behavior. DAAD Summer Academy 2008, Aug. 29th, 2008, Universidad de Chile, Chile.

Gamrad, D.; Oberheid, H.; Söffker, D.: Simulation of human-machine-interaction for the detection of human errors. DAAD Summer Academy 2008, Aug. 29th, 2008, Universidad de Chile, Chile.

Oberheid, H.; Söffker, D.: Multi-modal human-machine interaction and cooperation in 4D-cooperative arrival management. DAAD Summer Academy 2008, Aug. 29th, 2008, Universidad de Chile, Chile.

Özbek, M.; Heinzl, A; Roes, J.; Wülbeck, L.; Söffker, D.: Development, testing and optimisation of a new power train concept with fuel cell technology. Fuell Cells Science and Technology 2008, Scientific Advances in Fuell Cell Systems, Copenhagen, Denmark Oct. 8-9th, 2008.

Söffker, D.: Aktuelle mechatronische Fragestellungen der Antriebstechnik. Workshop Mechatronik auf der Informationstagung der Forschungsvereinigung Antriebstechnik, 2. Dezember 2008.

Söffker, D.; Dettmann, K.-U.: Integration von Diagnose und Prognose zur Realisierung sicherer technischer Systeme. 2. Jahreskonferenz Condition Monitoring Forum 2009, Maritim Hotel Düsseldorf, 28./29. Januar 2009.

Roes, J.; Söffker, D.; Wülbeck, L.: Hybridisierung der Fahrzeugantriebe. 2. Workshop AiF-Brennstoffzellenallianz, Duisburg, 17. Februar 2009.

Liu, Y.; Söffker, D.: Robuster PI-Beobachter zur Schätzung unbekannter Eingänge sowie zur Anwendung bei nichtlinearen Systemen. 43. Regelungstechnisches Kolloquium, Boppard, 27. Februar 2009.

Söffker D.; Quack, U.; Wolff, H.; Langer, M.: Entwicklung einer Demonstrationseinrichtung zur teilautomatisierten Herstellung von Formen aus kaltharzgebundenem Formstoff unter besonderer Berücksichtigung einer hochentwickelten Mensch-Maschine-Schnittstelle. 8. Formstoff-Tage, 23.-24. Februar 2010, Duisburg.

Ravelin, J.; Dettmann, K.-U.; Söffker, D.: Examinations classifying wear states using signal-based approaches (Posterbeitrag). Gordon Research Conference on Tribology, Colby College, Waterville, Maine, USA, June 27-July 2, 2010.

Söffker, D.: Von der Automatisierung zur Assistenz: Ist Technik gut oder schlecht? Clustermeeting der Hans-Böckler-Stiftung mit Stipendiaten der Ingenieurwissenschaften, Greifswald, 14. August 2009.

Zhang, F.; Söffker, D.: Stabilization of a nonlinear aeroelastic system using a cognitive controller. The Third International Conference on Dynamics, Vibration and Control ICDVC-2010, Hangzhou, China, May 12-14, 2010.

Dettmann, K.-U.; Söffker, D.: Development of wear-estimation techniques for integration into monitoring and supervision concepts. Third International Conference on Dynamics, Vibration and Control ICDVC-2010, Hangzhou, China, May 12-14, 2010.

Söffker, D.: Sichere technische Systeme - Vom Systemdesign zum intelligenten sicheren und zuverlässigen System. RAMSSYS (RAMS/LCC, Quality Engineering in spurgeführten Verkehrssystemen), Institut für Verkehrsplanung und Transportsysteme (IVT), ETH Zürich, 4.-5. Oktober 2010, eingeladener Einführungsvortrag.

Oberheid, H.; Hasselberg, A.; Söffker, D.: Know your options - analyzing human decision making in dynamic task environments, Human Factors and Ergonomics Society (HFES) - Annual Meeting of the Europe Chapter, October 13-16, 2010, Berlin, Germany.

Söffker, D.; Zhang, F.: Cognition-based robust control of unknown nonlinear aeroelastic systems. 1st International Conference on Scientific Computing in Aerodynamics (IC-SCA'10), National Laboratory for Aeronautics and Astronautics, Key Laboratory of Mathematics, Informatics and Behavioral Semantics, Ministry of Education, Beijing University of Aeronautics and Astronautics (Beihang University), Beijing, China, Nov. 26-28, 2010, invited talk.

Zhang, F.; Söffker, D.: Kognitive und robuste Stabilisierung einer Klasse nichtlinearer Systeme ohne vorausgesetzte Modellkenntnis. 45. Regelungstechnisches Kolloquium, Boppard, 23.-25. Februar 2011.