

## Veröffentlichungen 2009/2010

D. BRUNNER, M. JUNGE, L. GAUL: *A comparison of FE-BE coupling schemes for large-scale problems with fluid-structure interaction*. International Journal for Numerical Methods in Engineering, John Wiley & Sons, 77, S. 664-668, 2009.

D. BRUNNER, M. JUNGE, L. GAUL: *Simulation of elastic scattering with a coupled FMBE-FE approach*. Fluid Structure Interaction V, WIT Press Southampton, Boston, S. 137-148, 2009.

D. BRUNNER, M. JUNGE, P. RAPP, M. BEBENDORF, L. GAUL : *Comparison of the Fast Multipole Method with Hierarchical Matrices for the Helmholtz-BEM*. Computer Modeling in Engineering & Sciences (CMES), 58 (2), S. 131-160, 2010.

D. BRUNNER, M. JUNGE, M. WILKEN, C. CABOS, L. GAUL : *Vibro-Acoustic Simulations of Ships by Coupled Fast BE-FE Approaches*. Conference Proceedings IMAC XXVII, Society for Experimental Mechanics (SEM), Orlando, USA, CD-ROM, 2009.

D. BRUNNER, G. OF, M. JUNGE, O. STEINBACH, L. GAUL: *A fast BE-FE coupling scheme for partly immersed bodies*. International Journal for Numerical Methods in Engineering, John Wiley & Sons, 81 (1), S. 28-47, 2010.

S. ENGELKE, C. SCHAAL, L. GAUL: *Beobachterentwurf zur Schätzung von Strukturschwingungen auf der Basis einer Output-Only-Modalanalyse*. Tagungsband der VDI-Fachtagung "Schwingungsanalyse & Identifikation", VDI-Berichte 2093, VDI/VDE-GMA, VDI-Verlag Düsseldorf, S. 363-371, 2010.

S. ENGELKE, C. SCHAAL, L. GAUL: *Model Identification for a Modal State Estimator from Output-Only Data*. Conference Proceedings IMAC XXVIII, Society for Experimental Mechanics (SEM), Jacksonville, USA, CD-ROM, 2010.

F. FLEISSNER, M. HANSS, T. HAAG, P. EBERHARD: *Uncertainty analysis for a particle model of granular chute flow*. Computer Modeling in Engineering & Sciences (CMES), Special Issue on Contact Mechanics in the Engineering Sciences II, 52 (2), S. 181-196, 2009.

L. GAUL : *Damping in Structures Assembled by Bolted Joints*. Proceedings DAGA 2010, Berlin, Vorkolloquium: Structure-borne sound – new methods and physical findings, CD-ROM, 2010.

L. GAUL : *Damping of Materials and Members* (Tutorial). Conference Proceedings IMAC XXVIII, Jacksonville, USA, Society for Experimental Mechanics, 2010.

L. GAUL: *From Newton 's Principia via Lord Rayleigh's Theory of Sound to Finite and Boundary Elements*. Proceedings of the 80<sup>th</sup> Scientific Conference of The Japan Institute of Marine Engineering (JIME), JAACC, Tokyo , Japan , S. 2-14, 2010.

L. GAUL: *Schnelle Randelementmethoden in der Fahrzeugakustik*. Powerpoint- Präsentation beim Workshop „Mess- und Analysetechnik in der Fahrzeugakustik“, Forschungsinstitut für Krafftahrwesen und Fahrzeugmotoren Stuttgart (FKFS), Universität Stuttgart, CD-ROM, 2009.

L. GAUL : *Simulation and Measurement of Structural Damping*. Book of Abstracts 7th German-Greek-Polish Symposium on Recent Advances in Mechanics, Poznań , Poland , Eds: A. Łodygowski, E. Oleszkiewicz, Poznań University of Technology , S. 17-22, 2010.

L. GAUL : *Simulation and Measurement of Structural Damping*. Handbuch zur Konferenz: Dynamiksimulation in der Fahrzeugentwicklung, Engineering Center Steyr, St. Valentin, Österreich, 2010.

L. GAUL : *Simulation and Measurement of Structural Damping*. Proceedings Konferenz: Dynamiksimulation in der Fahrzeugentwicklung, Magna Powertrain, Engineering Center Steyr, St. Valentin, Österreich, CD-ROM, 2010.

L. GAUL : *Tutorial Guideline VDI 3830: Damping of Materials and Members*. Conference Proceedings IMAC XXVII , Society for Experimental Mechanics (SEM), Orlando , USA , CD-ROM, 2009.

L. GAUL , J. BECKER: *Damping Prediction of Structures with Bolted Joints*. Proceedings International Conference on Structural Engineering Dynamics (ICEDyn), Ericeira , Portugal , CD-ROM, 2009.

L. GAUL , J. BECKER: *Damping Prediction of Structures with Bolted Joints*. Shock and Vibration, Special Issue: International Conference on Structural Engineering Dynamics (ICEDyn), IOS-Press Amsterdam , 17 (4-5), S. 359-371, 2010.

L. GAUL , J. BECKER: *Model-based Piezoelectric Hysteresis and Creep Compensation for Highly-Dynamic Feedforward Rest-to-Rest Motion Control of Piezoelectrically Actuated Flexible Structures*. International Journal of Engineering Science (IJES), Special Edition dedicated to the memory of A. J. M. Spencer FRS, Elsevier, 47 (11-12), S. 1193-1207, 2009

L. GAUL , J. BECKER: *Semi-active Control of Friction Dampers in Simulations and Experiments*. Proceedings European Modal Analysis Users Group (EMAUG), VDI/GESA, AK 32: Identifikation mechnischer Systeme. HEAD acoustics, Herzogenrath, 2009.

L. GAUL , S. BISCHOFF, H. SPRENGER, T. HAAG: *Numerical and experimental investigation of wave propagation in rod-systems with cracks*

(dedicated to Prof. Dietmar Gross on the occasion of his retirement).  
Engineering Fracture Mechanics, Elsevier. Online available

L. GAUL , T. HAAG, H. SPRENGER: *Crack Detection by Wave Propagation in Overhead Transmission Lines*. Proceedings / Comptes rendus, 12th International Conference on Fracture / 12e Conférence Internationale sur la rupture (ICF12), Ottawa, Kanada, CD-ROM, 2009.

L. GAUL, J. HERRMANN: *Experimentelle Untersuchungen und effiziente Simulationsmethoden für die Vibro-akustische Optimierung fluidbefüllter Kfz-Leitungen*. NAFEMS Magazin, 13 (2), S. 33-43, 2009.

L. GAUL , M. JUNGE, D. BRUNNER: *Solution of the FE-BE coupled eigenvalue problem for immersed ship-like structures*. Proceedings of the 80th Scientific Conference of The Japan Institute of Marine Engineering (JIME), JAACC, Tokyo , Japan , S. 15-25, 2010.

L. GAUL , M. JUNGE, J. HERRMANN: *Pressure-Induced Structure-Borne Sound of Automotive Components*. Tagungsband der VDI-Fachtagung "Schwingungsanalyse & Identifikation", VDI-Berichte 2093, VDI/VDEGMA, VDI-Verlag Düsseldorf, S. 105-119, 2010.

L. GAUL, M. JUNGE, J. HERRMANN, D. BRUNNER: *Schnelle BEM in der Fahrzeugakustik*. Proceedings der Tagung „Fahrzeugakustik – Berechnungen, Geräuschemission, Akustikkonzepte, Hybrid", Haus der Technik Essen, (H030-11-683-9), CD-ROM, 2009.

T. HAAG, B. M. BEADLE, H. SPRENGER, L. GAUL: *Wave-based defect detection and interwire friction modeling for overhead transmission lines*. Archive of Applied Mechanics, Special Issue, 79 (6-7), S. 517-528, 2009.

T. HAAG, M. HANSS: *Inverse fuzzy arithmetic for the identification of simplified friction models*. IV European Conference on Computational Mechanics (ECCM), Paris , France , 2010.

T. HAAG, M. HANSS: *Model assessment using inverse fuzzy arithmetic*. Information Processing and Management of Uncertainty in Knowledge-Based Systems, Communications in Computer and Information Science, Eds: E. H. Hüllermeier, R. Kruse, F. Hoffmann, 81 (5-6), S. 461-470, 2010. Online available at: doi:10.1007/978-3-642-14058-7\_48

T. HAAG, J. HERRMANN, M. HANSS: *An identification procedure for epistemic uncertainties using inverse fuzzy arithmetic*. Mechanical Systems and Signal Processing (MSSP), 24 (7), S. 2021-2034, 2010. Online available at: doi:10.1016/j.ymssp.2010.05.010

T. HAAG, P. REUß, M. HANSS: *An approach to the identification of uncertain surrogate models for complex systems*. Proceedings of the 19th Workshop Computational Intelligence, Eds: R. Hoffmann, E. H. Hüllermeier, Dortmund , S. 50-60, 2009.

T. HAAG, P. REUß, M. HANSS: *An inverse fuzzy arithmetical method for the validation, selection and optimization of models for mechanical systems*. International Conference on Uncertainty in Structural Dynamics (USD/ISMA), Leuven , Belgium , 2010.

M. HANSS, J. HERRMANN, T. HAAG: *Vibration analysis of fluid-filled piping systems with epistemic uncertainties*. IUTAM Symposium on The Vibration Analysis of Structures with Uncertainties, Saint Petersburg , Russia , 2009, Springer, 2010.

M. HANSS, S. TURRIN: *A fuzzy-based approach to comprehensive modeling and analysis of systems with epistemic uncertainties*. Structural Safety, 32 (6), S. 433-441, 2010. Online available at: doi:10.1016/j.strusafe.2010.06.003.

J. HERRMANN, M. JUNGE, L. GAUL : *Model Reduction and Substructuring Techniques for the Vibro-Acoustic Simulation of Automotive Piping and Exhaust Systems*. Conference Proceedings IMAC XXVIII, Society for Experimental Mechanics (SEM), Jacksonville , USA , 2010.

J. HERRMANN, M. MAESS, L. GAUL: *Substructuring including interface reduction for the efficient vibro-acoustic simulation of fluid-filled piping systems*. Mechanical System and Signal Processing (MSSP), Elsevier, 24 (1), S. 153-163, 2010.

J. HERRMANN, M. SPITZNAGEL, L. GAUL : *Fast FE-Analysis and Measurement of the Hydraulic Transfer Function of Pipes with Non-Uniform Cross Section*. Proceedings of the NAG/DAGA, Rotterdam , Niederlande, CD-ROM, 2009.

M. JUNGE: *Model Reduction Methods for FE-BE Coupling Applied to Vibro-Acoustic Simulations and Experimental Validation*. Der Andere Verlag, Osnabrück, 2010.

M. JUNGE, D. BRUNNER, L. GAUL: *Solution of the FE-BE coupled eigenvalue problem for immersed ship-like structures*. Recent Developments in Boundary Element Methods, A Volume to honor John T. Katsikadelis, Ed: E. J. Sapountzakis, WIT Press, Ashurst , UK , S. 73-85, 2010.

F. KERBER, H. SPRENGER, M. NIETHAMMER, K. LUANGVILAI, L. J. JACOBS: *Attenuation analysis of Lamb waves using the chirplet transform*. EURASIP Journal on Advances in Signal Processing, S. 1-7, 2010.

D. MOENS, M. HANSS: *Non-probabilistic finite element analysis for parametric uncertainty treatment in applied mechanics: Recent advances*. Finite Elements in Analysis and Design, 47 (1), S. 4-16, 2011. Online available at: doi:10.1016/j.nel.2010.07.010.

U. MILLER, S. BOGRAD, A. SCHMIDT, L. GAUL: *Eigenpath following for systems with symmetric complex-valued stiffness matrices*. Shock and

Vibration, Special Issue: International Conference on Structural Engineering Dynamics 2009 (ICEDyn), 17 (4-5), S. 397-405, 2010.

H. NETZMANN, M. HANSS, L. GAUL: *Application of selected uncertainty analysis methods to NVH development of motorcycle engines*. International Conference on Uncertainty in Structural Dynamics (USD/ISMA), Leuven , Belgium , 2010.

P. REUß, J. BECKER, L. GAUL: *Prädiktion der Dämpfung flächenhafter Reibkontakte an Strukturen*. Tagungsband der VDI-Fachtagung "Schwingungsanalyse & Identifikation", VDI-Berichte 2093, VDI/VDEGMA, VDI-Verlag Düsseldorf, S. 297-309, 2010.

A. SCHMIDT, M. LOTSCH, L. GAUL: *Implementation of a new method for the computation of fractionally damped structures into the finite element method*. Shock and Vibration, Special Issue: International Conference on Structural Engineering Dynamics 2009 (ICEDyn), 17 (4-5), S. 419-428, 2010.

H. SPRENGER, S. BISCHOFF, L. GAUL: *Reflexion und Transmission von Körperschall an Unstetigkeiten in Zylinderstrukturen*. Proceedings of DAGA 2010, Fortschritte der Akustik, CD-ROM, 2010.

H. SPRENGER, S. R. RAMAN, L. GAUL: *Design of ultrasonic transducers for guided waves using non-reflecting boundary conditions*. Proceedings of the IV European Conference on Computational Mechanics (ECCM), CD-ROM, 2010.

S. TURRIN, M. HANSS, A. P. S. SELVADURAI: *An Approach to Uncertainty Analysis of Rockfall Simulation*. Computer Modeling in Engineering & Sciences (CMES), Special Issue on Contact Mechanics in the Engineering Sciences III, 52 (3), S. 237-258, 2009.