

Publikationsbericht 2007

Institut für Mechanik



Otto-von-Guericke-Universität Magdeburg

Fakultät für Maschinenbau

Institut für Mechanik

Universitätsplatz 2, 39106 Magdeburg
Tel. +49 (0)391 67 12608, Fax +49 (0)391 67 12439
ifme@mb.uni-magdeburg.de

1. Leitung

Prof. Dr.-Ing. Albrecht Bertram
Prof. Dr.-Ing.habil. Ulrich Gabbert (Geschäftsführender Institutsleiter)
Prof. Dr.-Ing.habil. Jens Strackeljan
Doz. Dr.rer.nat.habil. Friedemann Laugwitz
Prof. Dr.-Ing Michael Sinapius
Dr.-Ing. Henner Duckstein
Dipl.-Ing. Hans Georg Köllner

2. Hochschullehrer

Prof. Dr.-Ing Albrecht Bertram
Prof. Dr.-Ing.habil. Ulrich Gabbert
Prof. Dr.-Ing.habil. Lutz Sperling (im Ruhestand)
Doz. Dr.rer.nat.habil. Friedemann Laugwitz
apl. Prof. Dr.-Ing.habil. Manfred Zehn
Prof. Dr.-Ing Michael Sinapius
Prof. Dr.-Ing.habil. Klaus Rohwer (Honorarprofessor)
Prof. Dr.-Ing.habil. Thomas Böhlke

3. Veröffentlichungen

Originalartikel in begutachteten internationalen Zeitschriften

Berger, Harald; Kari, Sreedhar; Rodriguez-Ramos, Reinaldo; Bravo-Castillero, Julian; Guinovart-Diaz, Raúl
Evaluation of effective material properties of randomly distributed short cylindrical fiber composites using a numerical homogenization technique
In: Journal of mechanics of materials and structures. - Berkeley, Calif. : Mathematical Sciences Publishers, Bd. 2.2007, 8, S. 1561-1570; [Link unter URL](#)

Berger, Harald; Kurukuri, S. ; Kari, Sreedhar; Gabbert, Ulrich; Rodriguez-Ramos, Reinaldo; Bravo-Castillero, J. ; Guinovart-Diaz, R.
Numerical and analytical approaches for calculating the effective thermo-mechanical properties of three-phase composites
In: Journal of thermal stresses. - Washington, DC: Hemisphere Publ. Corp., Bd. 30.2007, 8, S. 801-817;
[Link unter URL](#)
[Imp.fact.: 0.861]

Bertram, Albrecht; Böhlke, Thomas; Silhavý, Miroslav
On the rank 1 convexity of stored energy functions of physically linear stress-strain relations
In: Journal of elasticity. - Groningen: Wolters-Noordhoff, Bd. 86.2007, 3, S. 235-243; [Link unter URL](#)
[Imp.fact.: 0.571]

Böhlke, Thomas; Glüge, Rainer; Klöden, Burghardt; Skrotzki, Werner; Bertram, Albrecht

Finite element simulation of texture evolution and swift effect in NiAl under torsion

In: Modelling and simulation in materials science and engineering. - Bristol: IOP Publ., Bd. 15.2007, 6, S. 619-637;

[Link unter URL](#)

[Imp.fact.: 1.457]

Kari, Sreedhar; Berger, Harald; Gabbert, Ulrich

Numerical evaluation of effective material properties of randomly distributed short cylindrical fibre composites

In: Computational materials science. - Amsterdam [u.a.]: Elsevier, Bd. 39.2007, 1, S. 198-204; [Link unter URL](#)

[Imp.fact.: 1.104]

Kari, Sreedhar; Berger, Harald; Rodriguez-Ramos, Reinaldo; Gabbert, Ulrich

Computational evaluation of effective material properties of composites reinforced by randomly distributed spherical particles

In: Composite structures. - London: Appl. Science Publ., Bd. 77.2007, 2, S. 223-231; [Link unter URL](#)

[Imp.fact.: 1.002]

Marinkovic, Dragan; Köppe, Heinz; Gabbert, Ulrich

Accurate modeling of the electric field within piezoelectric layers for active composite structures

In: Journal of intelligent material systems and structures. - Lancaster, Pa. : Technomic Publ., Bd. 18.2007, 5, S. 503-513; [Link unter URL](#)

[Imp.fact.: 1.076]

Nestorovic, Tamara; Köppe, Heinz; Gabbert, Ulrich

Direct model reference adaptive control (MRAC) design and simulation for the vibration suppression of piezoelectric smart structures

In: Communications in nonlinear science and numerical simulation. - Amsterdam [u.a.]: Elsevier; [Abstract unter URL](#)

Nestorovic, Tamara; Lefevre, Jean; Ringwelski, Stefan; Gabbert, Ulrich

Finite element and subspace identification approaches to model development of a smart acoustic box with experimental verification

In: Enformatika. - [S.I.], Bd. 4.2007, 2, S. 2007

Schurig, M. ; Bertram, Albrecht; Petryk, H.

Micromechanical analysis of the development of a yield vertex in polycrystal plasticity

In: Acta mechanica. - Wien: Springer, Bd. 194.2007, 1/4, S. 141-158; [Link unter URL](#)

Originalartikel in begutachteten nationalen Zeitschriften

Bertram, Albrecht; Forest, S.

Mechanics based on an objective power functional

In: Technische Mechanik. - Magdeburg: Inst., Bd. 27.2007, 1, S. 1-17; [Link unter URL](#)

Nestorovic, Tamara; Lefevre, Jean; Gabbert, Ulrich

Model-based active noise control of a piezoelectric structure

In: Mechanics. - Cracow: AGH Univ. of Science and Technology Press, Bd. 26.2007, 2, S. 71-77

Originalartikel in begutachteten zeitschriftenartigen Reihen

Barthel, Corinna

Automatisierte Abteilung und Kopplung adaptiver mechanischer Modelle

In: 15 Jahre Fraunhofer IFF. - Magdeburg: IFF, S. 305-315, 2007

[IFF-Wissenschaftstage; 10 (Magdeburg): 2007.06.27-28]

Wissenschaftliche Monografien

Kari, Sreedhar

Micromechanical modelling and numerical homogenization of fibre and particle reinforced composites. - Fortschritt-Berichte VDI
Zugl.: Magdeburg, Univ., Fak. für Maschinenbau, Diss., 2006; Düsseldorf: VDI-Verl.; XI, 140 S: Ill., graph. Darst.; 21 cm, 2007
[Literaturangaben]

Marinković, Dragan

A new finite composite shell element for piezoelectric active structures. - Fortschritt-Berichte VDI
Zugl.: Magdeburg, Univ., Fak. für Maschinenbau, Diss., 2006; Düsseldorf: VDI-Verl.; XVI, 174 S: graph. Darst.; 21 cm, 2007
[Literaturverz. S. 167 - 174]

Herausgeberschaften

Kasper, Roland; Ude, J. ; Clobes, H.-J. ; Flohr, S. ; Gabbert, Ulrich; Grote, Karl-Heinrich; Karpuschewski, Bernhard; Schenk, M. ; Schmidt, Bertram; Schmucker, U. ; Tschöke, Helmut; Vajna, Sándor
AUTOMOTIVE - Impulse für Maschinenbau; 8. Magdeburger Maschinenbau-Tage & 7. MAHREG Innovationsforum; 10. - 11. Oktober 2007; Tagungsband. - Magdeburg: Univ., 2007
Kongress: Magdeburger Maschinenbau-Tage; 8 (Magdeburg): 2007.10.10-11
MAHREG Innovationsforum; 7 (Magdeburg): 2007.10.10-11

Buchbeiträge

Barthel, Corinna

A virtual engineering approach for chatter prediction
In: Congress on Modelling and Simulation <6, 2007, Ljubljana>: Proceedings of the 6th EUROSIM Congress on Modelling and Simulation, EUROSIM 2007; Vol. 2: Full papers. - EUROSIM / SLOSIM, insges. 7 S.
[EUROSIM Congress on Modelling and Simulation; 6 (Ljubljana): 2007.09.09-13]

Barthel, Corinna; Gabbert, Ulrich

Adaptive Verfahren zur automatisierten Erstellung virtueller Mechanikmodelle
In: AUTOMOTIVE. - Magdeburg: Univ., S. 152-158, 2007
[Magdeburger Maschinenbau-Tage; 8 (Magdeburg): 2007.10.10-11]

Berger, Harald; Kari, Sreedhar; Gabbert, Ulrich; Rodriguez-Ramos, R.

Prediction of effective material properties for randomly distributed spherical particle reinforced composites using a general numerical homogenization technique
In: Sixth International Conference on Composite Science and Technology and International Conference on Modelling and Optimization of Structures, Processes and Systems. - Durban, S. 1-11, insges. 11 S., 2007
[International Conference on Composite Science and Technology; 6 (Durban): 2007.01.22-24]

Berger, Harald; Kurukuri, S. ; Kari, Sreedhar; Gabbert, Ulrich; Rodriguez-Ramos, Reinaldo

Numerical approaches for calculating the effective thermo-mechanical properties of three-phase composites
In: Thermal stresses 2007; Vol. 2. - Taipai: Univ., S. 631-634
[International Congress on Thermal Stresses; 7 (Taipai, Taiwan): 2007.06.04-07]

Bertram, Albrecht; Böhlike, T. ; Krawietz, A. ; Schulze, V.

Finite element simulation of sheet metal forming and springback using a crystal plasticity approach
In: Materials processing and design. - Melville, NY: American Inst. of Physics; AIP conference proceedings; 908, CD-ROM, 2007
[NUMIFORM '07; 9 (Porto): 2007.06.17-21]

Daniel, Christian; Woschke, Elmar; Strackeljan, Jens

Integration von Tribosystemen in MKS-Modelle am Beispiel von Motorkomponenten

In: AUTOMOTIVE. - Magdeburg: Univ., S. 72-85, 2007

[Magdeburger Maschinenbau-Tage; 8 (Magdeburg): 2007.10.10-11]

Gabbert, Ulrich; Lefèvre, Jean; Nestorovic, Tamara; Ringwelski, Stefan

Analysis and design of smart structures

In: 2007 ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, IDETC/CIE 2007. - New York, NY: ASME, insges. 8 S.

[ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference; (Las Vegas): 2007.09.04-07]

Marinkovic, Dragan; Köppe, Heinz; Gabbert, Ulrich

Modal decomposition for transient analysis of active structures

In: IX Triennial International SAUM Conference on Systems Automatic Control and Measurements, SAUM'07. - Nis:

Univ., S. 190-193, 2007

[SAUM'07; 9 (Nis): 2007.11.22-23]

Marinkovic, Dragan; Köppe, Heinz; Gabbert, Ulrich

Virtual design and simulation of advanced lightweight structures

In: AUTOMOTIVE. - Magdeburg: Univ., S. 138-144, 2007

[Magdeburger Maschinenbau-Tage; 8 (Magdeburg): 2007.10.10-11]

Nestorovic, Tamara; Gabbert, Ulrich

Overall virtual design and testing of adaptive mechatronic systems

In: Mechatronische Systeme - Entwurf, Anwendungen und Perspektiven. - Nis: UNIGRAF, S. 37-44, 2007

[REMUS '06; (Nis, Serbien): 2006.09.27-28]

Nestorovic, Tamara; Köppe, Heinz; Gabbert, Ulrich

A direct model reference adaptive control system design and simulation for the vibration suppression of a piezoelectric smart structure

In: Nonlinear science and complexity. - New Jersey [u.a.]: World Scientific, S. 375-381, 2007

Nestorovic, Tamara; Lefèvre, Jean; Gabbert, Ulrich

Model-based active noise control of a piezoelectric structure

In: 8th International conference on Active Noise and Vibration Control Methods. - Krakow: AGH, S. 259-269, 2007

[International Conference on Active Noise and Vibration Control Methods; 8 (Krakow): 2007.06.11-14]

Nestorovic, Tamara; Lefèvre, Jean; Gabbert, Ulrich

Model reference adaptive system for the noise control of an active piezoelectric acoustic box

In: 2007 ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, IDETC/CIE 2007. - New York, NY: ASME, insges. 8 S.

[ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference; (Las Vegas): 2007.09.04-07]

Nestorovic Trajkov, Tamara; Lefevre, Jean; Gabbert, Ulrich

Finite element model based controller design for the active noise control of the acoustic box

In: IX Triennial International SAUM Conference on Systems Automatic Control and Measurements, SAUM'07. - Nis:

Univ., S. 175-178, 2007

[SAUM'07; 9 (Nis): 2007.11.22-23]

Ringwelski, Stefan; Lefèvre, Jean; Nestorovic, Tamara; Gabbert, Ulrich

Active noise reduction of vibroacoustic systems using model based control

In: Fortschritte der Akustik. - Berlin: Dt. Ges. für Akustik, S. 217-218, 2007

[DAGA; 33 (Stuttgart): 2007.03.19-22]

Risy, G. ; Böhlke, Thomas; Bertram, Albrecht

Modelling of the plastic anisotropy in sheet metals on different scales

In: International Symposium on Plasticity and Impact Mechanics <9, 2007, Bochum>: Proceedings of 9th International Symposium on Plasticity and Impact Mechanics, Implast 2007. - Bochum: Univ. Press, S. 449-455
[International Symposium on Plasticity and Impact Mechanics; 9 (Bochum): 2007.08.21-24]

Woschke, Elmar; Daniel, Christian; Strackeljan, Jens

Reduktion elastischer Strukturen für MKS Anwendungen

In: AUTOMOTIVE. - Magdeburg: Univ., S. 187-195, 2007
[Magdeburger Maschinenbau-Tage; 8 (Magdeburg): 2007.10.10-11]

Dissertationen

Kari, Sreedhar

Micromechanical modelling and numerical homogenization of fibre and particle reinforced composites. - Fortschritt-Berichte VDI

Zugl.: Magdeburg, Univ., Fak. für Maschinenbau, Diss., 2006; Düsseldorf: VDI-Verl.; XI, 140 S: Ill., graph. Darst.; 21 cm, 2007
[Literaturangaben]

Marinković, Dragan

A new finite composite shell element for piezoelectric active structures. - Fortschritt-Berichte VDI

Zugl.: Magdeburg, Univ., Fak. für Maschinenbau, Diss., 2006; Düsseldorf: VDI-Verl.; XVI, 174 S: graph. Darst.; 21 cm, 2007
[Literaturverz. S. 167 - 174]

Risy, Gerrit

Modellierung der texturinduzierten plastischen Anisotropie auf verschiedenen Skalen. - Magdeburg, Univ., Fak. für Maschinenbau, Diss., 2007; [Link unter URL](#); IX, 161 S.: Ill., graph. Darst.; 30 cm