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Peer-Reviewed Journal Articles

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Specialized Conferences

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C. Becker, N. Motsch-Eichmann, and J. Hausmann, “Charakterisierung des gutartigen transversalen Versagensverhaltens von unidirektionalem rCFRP,” presented at the DGM Verbundwerkstoffe - 24. Symposium Verbundwerkstoffe und Werkstoffverbunde, Freiburg im Breisgau, Germany, May 22, 2024.

C. Becker, N. Motsch-Eichmann, and J. Hausmann, “LH2-Flatlight- Holistic Concept Development of Flat Liquid Hydrogen Tanks,” presented at the ITHEC 2024 - 7th International Conference & Exhibition on Thermoplastic Composites, Bremen, Germany, Oct. 10, 2024.

K. Chen, “Materialsimulationen für die Wasserstoffpermeabilität von Drucktankwerkstoffen,” presented at the Deutscher Kongress für Luft- und Raumfahrt 2024 DLRK, Hamburg Germany, Oct. 02, 2024.

M. Detzel, “Influence of the process temperature in the calendaring process on the mechanical properties of rCF staple fiber tapes,” presented at the SAMPE Europe Conference 2024, Belfast, Northern Ireland, Sep. 25, 2024.

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F. Gortner and T. Neumeyer, “Development of translucent epoxy-based sheet molding compounds with flame retardant properties for aircraft applications,” presented at the ECCM21- The 21st European Conference on Composite Materials, Nantes, France, Jul. 02, 2024.

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J. Hausmann and D. Drummer, “Residual stresses in plastic-metal hybrid components: Measurement methods & Simulation,” presented at the FVA Informationstagung, Würzburg, Germany, Dec. 10, 2024.

J. Hüppauff, “Strukturelle Integrität von lasttragenden H2-Drucktanks für Kleinflugzeuge,” presented at the Deutscher Kongress für Luft- und Raumfahrt 2024 DLRK, Hamburg, Germany, Oct. 01, 2024.

A. Klingler and J.-K. Krüger, “The vitrimer transition phenomenon and its consequences for polymer composite materials,” presented at the ECCM21 - The 21st European Conference on Composite Materials, Nantes, France, Jul. 02, 2024.

D. May, T. Schmidt, D. Natarajan, S. Cassola, M. Duhovic, and M. Nuske, “Data-driven emulators for efficient microscale permeability prediction,” presented at the ECCM21 - 21st European Conference on Composite Materials, Nantes, France, Jul. 02, 2024.

B. Montero, B. Bittmann-Hennes, D. Moncada Villalobos, and A. Schmidt, “Influence of PHA microparticles on PHBV films for packaging applications,” presented at the 5th Conference on Bio-based Polymers and Composites 2024 - BiPoCo 2024, Esztergom, Hungary, Sep. 01, 2024.

B. Montero, B. Bittmann-Hennes, D. Moncada Villalobos, and A. Schmidt, “PHBV films loaded with PHA microparticles for packaging applications,” presented at the XVII Reunión del Grupo Especializado de Polímeros GEP 2024, Madrid, Spain, Sep. 16, 2024.

N. Motsch-Eichmann, “Load-bearing lightweight hydrogen tanks for optimal use of design space in commercial vehicles,” presented at the 8th International Commercial Vehicle Technology Symposium Kaiserslautern, March 13 – 14, 2024, Kaiserslautern, Germany, Mar. 14, 2024.

N. Motsch-Eichmann, “Schlanke, last-tragende Leichtbau-Wasserstofftanks - neue Möglichkeiten für Mobilität,” presented at the Speakers Corner Lightweight Construction Pavilion, HANNOVER MESSE 2024, Hannover, Germany, Apr. 23, 2024.

N. Motsch-Eichmann, “Development of an integral thermoplastic aircraft door surround structure,” presented at the 7th International Conference and Exhibition on Thermoplastic Composite Materials (ITHEC), Bremen, Germany, Oct. 02, 2024.

T. Neumeyer, “Thermoplastisches Schaumspritzgießen - Leicht, effizient und nachhaltig,” presented at the Fachtagung Schäumen 2024, Luedenscheid, Germany, Jun. 04, 2024.

T. Neumeyer and M. Salmins, “Processing of polymer bead foams – State of the art, perspectives and trends,” presented at the PPS39 - 39th International Conference of the Polymer Processing Society, Cartagena, Colombia, May 20, 2024.

A. Nuhn, “Material and processing-related influences on the tensile strength of hybrid injection molded PA6-GF joints with mold contact on straight free laminate edges,” presented at the ECCM21 - The 21st European Conference on Composite Materials, Nantes, France, Jul. 02, 2024.

F. Röder, M. Eckrich, A. Krämer, D. May, and A. Gebhard, “Statische Pressversuche zur ressourcenschonenden Werkzeugauslegung für Intervallheißpressen von Preforms aus thermoplastischen Tapes,” presented at the DLRK2024 - Deutscher Luft- und Raumfahrtkongress 2024, Hamburg, Germany, Oct. 02, 2024.

M. Salmins, “Manufacturing of structural foam panels made of PES and PEI,” presented at the Fachtagung Schäumen, Kunststoff-Institut Lüdenscheid, Lüdenscheid, Jun. 04, 2024.

M. Salmins, V. Domengie, F. Gortner, and T. Neumeyer, “Manufacturing of bast fiber reinforced organic sheets with recycled PLA Matrix,” presented at the 3. Online-Fachtagung “Bioplastics,” Insitut für Kreislaufwirtschaft der Bio:Polymere der Hochschule Hof, Mar. 20, 2024.

J. Schlimbach, “Additive manufacturing of composites with continuous fiber reinforcement,” presented at the WCSM 2024 - The 8th Annual World Congress of Smart Materials, Budapest, Hungary, Jun. 13, 2024.

T. Schmidt, D. K. Natarajan, S. Cassola, M. Nuske, M. Duhovic, and D. May, “Data-driven emulators for efficient microscale permeability prediction,” Nantes, France, Jul. 02, 2024. [Online]. Available: https://gem.ec-nantes.fr/en/eccm21-proceedings/

Specialized Conferences

T. Schmidt, “Vincent van Gogh: Painter, crazy ginger, flow simulation expert,” presented at the Leibniz MMS Days 2024 - Leibniz Research Network Mathematical Modeling and Simulation, Kaiserslautern, Germany, Apr. 10, 2024. [Online]. Available: https://www.wias-berlin.de/workshops/MMSDays24/

T. Schmidt and D. May, “Guideline Development for Structural Modeling of Textile based Composites for the Numerical Permeability Prediction,” presented at the ECCM21 - The 21st European Conference on Composite Materials, Nantes, France, Jul. 02, 2024.

N. Sindhe Narayana Rao, “A double-wall CFPR hydrogen storage and distribution system as a structural component in Aircraft Applications,” presented at the ECCM21 – 21st European Conference on Composite Materials, Nantes, France, Jul. 02, 2024. [Online]. Available: https://gem.ec-nantes.fr/en/eccm21-proceedings/

M. Wolf and J. Schlimbach, “DigiTain – increasing efficiency through digitization of the winding process,” presented at the IMP-Days 2024, Ingénierie des Materériaux Polymères, 2nd Edition Thermosets, Lyon, France, Apr. 17, 2024.

Doctorates

January 8, 2024
Julian Weber, M.Sc.
„Co-Konsolidieren von teilkonsolidierten CF/PEEK Tape-Preforms im Thermoformen“

Chairperson:
Prof. Dr.-Ing. Ulf Breuer, IVW

Report:
Prof. Dr.-Ing. Peter Mitschang, IVW
Prof. Dr.-Ing. Peter Middendorf, Universität Stuttgart

April 5, 2024
Dipl.-Ing. Florian Mischo
“Entwicklung einer Prüfmethodik für die Bestimmung kurzzeit-dynamischer Materialkennwerte von endlosfaserverstärkten Thermoplasten”

Chairperson:
Prof. Dr.-Ing. Tilmann Beck, RPTU

Report:
Prof. Dr.-Ing. Joachim Hausmann, IVW
Prof. Dr.-Ing. habil. Frank Walther, TU Dortmund

April 22, 2024
Munehiro Chijiiwa, M.Eng.
„Experimental investigation and numerical modeling of time dependency of contact angle on laser micro-structured stainless steel“

Chairperson:
Prof. Dr.-Ing. Paul Ludwig Geiß, RPTU

Report:
Prof. Dr.-Ing. Peter Mitschang, IVW
Dr. rer. nat.habil. Johannes L‘hiullier, RPTU

Doctorates

June 17, 2024
Jan Eric Semar, M.Sc.
„Prozesstechnik für die Herstellung duroplastischer Faser-Kunststoff-Verbunde mit interlaminaren Elastomerschichten mittels Flüssigimprägnierverfahren“

Chairperson:
Prof. Dr.-Ing. Paul Ludwig Geiß, RPTU

Report:
PD Dr.-Ing. habil. David May, IVW
Prof. Dr.-Ing. Peter Mitschang, IVW
Ass. Prof. Dr. mont. Ewald Fauster, Montanuniversität Leoben, Austria

June 18, 2024
Dipl.-Ing. Julia Jungbluth
„Funktionale intrinsische Hybridverbunde mit aktiven Elementen und strukturierten Grenzflächen“

Chairperson:
Prof. Dr.-Ing. Joachim Hausmann, IVW

Report:
Prof. Dr.-Ing. Ulf Breuer, IVW
Prof. Dr. Rainer Adelung, Christian-Albrechts-Universität Kiel
PD Dr. rer. nat. habil. Martin Gurka, IVW

June 19, 2024
Marc Oliver Voltz, M.Sc.
„Oberflächenqualität von Mehrschichtlaminaten aus unidirektional kohlenstofffaserverstärktem Polycarbonat“

Chairperson:
Prof. Dr.-Ing. Thomas Neumeyer, IVW

Report:
Prof. Dr.-Ing. Peter Mitschang, IVW
Prof. Dr.-Ing. Dietmar Drummer, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)

July 26, 2024
Dipl.-Ing. Maximilian Salmins
„Entwicklung eines Heißpressprozesses zur Herstellung von flächigen Integralschaumhalbzeugen aus amorphen Hochleistungsthermoplasten“

Chairperson:
Prof. Dr.-Ing. Joachim Hausmann, IVW

Report:
Prof. Dr.-Ing. Peter Mitschang, IVW
Prof. Dr.-Ing. Holger Ruckdäschel, Universität Bayreuth
Prof. Dr.-Ing. Thomas Neumeyer, IVW

October 28, 2024
Andreas Baumann, M.Sc.
“Factors controlling damage initiation in fatigue loaded unidirectional composites under the influence of different matrix properties “

Chairperson:
Prof. Dr.-Ing. Ulf Breuer, IVW

Report:
Prof. Dr.-Ing. Joachim Hausmann, IVW
Prof. Dr.-Ing. Holger Ruckdäschel, Universität Bayreuth

December 6, 2024
Dominic Schommer, M.Sc.
„Charakterisierung und Modellierung des Materialverhaltens von kohlenstofffaserverstärkten Sheet Molding Compound während des Fließpressens“

Chairperson:
Prof. Dr.-Ing. Thomas Neumeyer, IVW

Report:
Prof. Dr.-Ing. Joachim Hausmann, IVW
Prof. Dr. Matti Schneider, Universität Duisburg-Essen
PD Dr. Heiko Andrä, Fraunhofer Institut für Techno- und Wirtschaftsmathematik ITWM