

Special Sessions of the DFG Priority Program SPP2206 'KOMMMA'

Actuator 2022, Mannheim, June 30

	Title and Authors	Abstract
KOMMMA Session 1		
1	<p>Design of an Liquid Dielectrophoresis driven Platform with Cooperative Actuation <i>Peter Conrad¹, Andrii Berdnykov¹, Martin Hoffmann¹</i> ¹<i>Microsystems Technology, Ruhr-Universität Bochum, Universitätsstraße 150, 44801 Bochum, Germany</i></p>	Oral
2	<p>A thermomechanically fully coupled finite strain shape memory alloy model applied to bistable microactuators <i>Marian Sielenkämper¹, Muhammad Babar Shamim¹, Stephan Wulfinghoff¹</i> ¹<i>Institute for Materials Science, CAU Kiel, Kiel, Germany</i></p>	Oral
3	<p>Development of Bimorph and Trimorph Microactuators Based on TiNiHf Thin Film and Si Technology <i>Gowtham Arivanandhan¹, Zixiong Li¹, Sabrina Curtis², Eckhard Quandt² and Manfred Kohl¹</i> ¹<i>Institute of Microstructure Technology, KIT, Karlsruhe, Germany</i> ²<i>Institute for Materials Science, CAU Kiel, Kiel, Germany</i></p>	Oral
4	<p>Study of the Dynamic Behavior of an Electrostatic Actuation Unit Cell for a Cooperative, Bidirectional Inchworm Motor: Design, Fabrication and Characterization <i>Almothana Albukhari^{1,2}, Prof. Dr., Ulrich Mescheder^{1,3}</i> ¹<i>Mechanical and Medical Engineering Faculty and Institute for Microsystems Technology (iMST), Furtwangen University, Robert-Gerwig-Platz 1, 78120 Furtwangen, alb@hs-furtwangen.de</i> ²<i>Department of Microsystems Engineering (IMTEK), University of Freiburg, Georges-Köhler-Allee 103, 79110 Freiburg</i> ³<i>Associated to the Faculty of Engineering, University of Freiburg, Georges-Köhler-Allee 101, 79110 Freiburg</i></p>	Oral
5	<p>Modeling and Parameter Study of a Cooperative Flexible Array of Dielectric Elastomer Actuators <i>Sipontina Croce¹, Julian Neu¹, Jonas Hubertus², Gianluca Rizzello¹, Günter Schultes²</i> ¹<i>Intelligent Material Systems Lab, Department of Systems Engineering, Saarland University, Saarbruecken, Germany</i> ²<i>Department of Sensors and Thin Films, University of Applied Sciences of Saarland, Saarbruecken, Germany</i></p>	Oral
6	<p>Design and Characterization of a Fully Polymeric and Flexible Array of Coupled Dielectric Elastomer Actuators <i>Julian Neu¹, Sipontina Croce¹, Jonas Hubertus², Gianluca Rizzello¹, Günter Schultes²</i> ¹<i>Intelligent Material Systems Lab, Department of Systems Engineering, Saarland University, Saarbruecken, Germany</i> ²<i>Department of Sensors and Thin Films, University of Applied Sciences of Saarland, Saarbruecken, Germany</i></p>	Oral

KOMMMA Session 2

7	<p>Microstructured Stimuli Responsive Hydrogel Actuators <i>T. Spratte, C. Arndt, C. Selhuber-Unkel</i> <i>Institute for Molecular Systems Engineering, Heidelberg University, 69120, Germany</i></p>	Oral
8	<p>Model Order Reduction of a Nonlinear Electromechanical Beam Actuator by Clustering Input-Nonlinearities <i>Arwed Schütz¹, Mario Farny², Martin Hoffmann², Tamara Bechtold¹</i> ¹<i>Jade Hochschule, Friedrich-Paffrath-Straße 101, 26389 Wilhelmshaven, arwed.schuetz@jade-hs.de</i> ²<i>Microsystems Technology, Ruhr-Universität Bochum, Universitätsstraße 150, 44801 Bochum</i></p>	
9	<p>Kick & Catch: Coaction of an electrostatic kick and magnetic catch system for the rotation of a sphere <i>Mario Farny¹, Martin Hoffmann¹</i> ¹<i>Microsystems Technology, Ruhr-Universität Bochum, Universitätsstraße 150, 44801 Bochum, Germany</i></p>	Oral
10	<p>Antagonistic SMA Film Actuators for Folding and Unfolding of Origami-Type Microstructures <i>Georgino Tshikwand, Frank Wendler, Lena Seigner, Manfred Kohl</i> ¹<i>Institute of , FAU, Erlangen-Fürth, Germany</i> ²<i>Institute of Microstructure Technology, KIT, Karlsruhe, Germany</i></p>	Oral
11	<p>Reduction of the Solenoid Micro-Coil Size as a Path to Transporter Micro-Actuator Array <i>Emil Mamleyev¹, Kirill Poletkin^{1,2}</i> ¹<i>Institute of Microstructure Technology, Karlsruhe Institute of Technology, Hermann-von-Helmholtz-Platz 1, 76344 Eggenstein-Leopoldshafen, Germany</i> ²<i>Innopolis University, 1, Universitetskaya Str., Innopolis, 420500, Russia</i></p>	Oral
12	<p>Calculation of magnetic force between two circular filaments arbitrary oriented in the space by using method of mutual inductance <i>Kirill Poletkin^{1,2}</i> ¹<i>Institute of Microstructure Technology, Karlsruhe Institute of Technology, Hermann-von-Helmholtz-Platz 1, 76344 Eggenstein-Leopoldshafen, kirill.poletkin@kit.edu</i> ²<i>Innopolis University, 1, Universitetskaya Str., Innopolis, 420500, Russia, k.poletkin@innopolis.ru</i></p>	Oral

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P1	<p>Calculation of mutual inductance between circular and arbitrary shaped filaments: Segmentation Method <i>Sreejith Sasi Kumar¹, Chun Him Lee¹, Emil Mamleyev¹, Kirill Poletkin^{1,2}</i> ¹ <i>Institute of Microstructure Technology, Karlsruhe Institute of Technology, Hermann-von-Helmholtz-Platz 1, 76344 Eggenstein-Leopoldshafen, Germany</i> ² <i>Innopolis University, 1, Universitetskaya Str., Innopolis, 420500, Russia</i></p>	Poster
P2	<p>Static Pull-in Effect of Hybrid Levitation Micro-actuators for Square Shape of Proof Mass <i>Chun Him Lee¹, Sreejith Sasi Kumar¹, Emil Mamleyev¹, Kirill Poletkin^{1,2}</i> ¹ <i>Institute of Microstructure Technology, Karlsruhe Institute of Technology, Hermann-von-Helmholtz-Platz 1, 76344 Eggenstein-Leopoldshafen, Germany</i> ² <i>Innopolis University, 1, Universitetskaya Str., Innopolis, 420500, Russia</i></p>	Poster