

Jaehyung Ju

List of Publications by Year in descending order

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Version: 2024-02-01

82
papers

1,260
citations

516710

16
h-index

454955

30
g-index

83
all docs

83
docs citations

83
times ranked

791
citing authors

#	ARTICLE	IF	CITATIONS
1	Compliant hexagonal periodic lattice structures having both high shear strength and high shear strain. <i>Materials & Design</i> , 2011, 32, 512-524.	5.1	133
2	Flexible cellular solid spokes of a non-pneumatic tire. <i>Composite Structures</i> , 2012, 94, 2285-2295.	5.8	115
3	Compliant cellular structures: Application to a passive morphing airfoil. <i>Composite Structures</i> , 2013, 106, 560-569.	5.8	85
4	Design of Cellular Shear Bands of a Non-Pneumatic Tire -Investigation of Contact Pressure. <i>SAE International Journal of Passenger Cars - Mechanical Systems</i> , 0, 3, 598-606.	0.4	53
5	Optimisation of geometry and material properties of a non-pneumatic tyre for reducing rolling resistance. <i>International Journal of Vehicle Design</i> , 2014, 66, 193.	0.3	50
6	Indirect additive manufacturing based casting of a periodic 3D cellular metal " Flow simulation of molten aluminum alloy. <i>Journal of Manufacturing Processes</i> , 2015, 17, 28-40.	5.9	49
7	Rolling Resistance of a Nonpneumatic Tire Having a Porous Elastomer Composite Shear Band. <i>Tire Science and Technology</i> , 2013, 41, 154-173.	0.4	43
8	Characterization of Microcrack Development in BMI-Carbon Fiber Composite under Stress and Thermal Cycling. <i>Journal of Composite Materials</i> , 2004, 38, 2007-2024.	2.4	38
9	Design of Honeycomb Mesostructures for Crushing Energy Absorption. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2012, 134, .	2.9	37
10	Design of Honeycombs for Modulus and Yield Strain in Shear. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2012, 134, .	1.4	35
11	Hyperelastic Constitutive Modeling of Hexagonal Honeycombs Subjected to In-Plane Shear Loading. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2011, 133, .	1.4	30
12	Static Contact Behaviors of a Non-Pneumatic Tire with Hexagonal Lattice Spokes. <i>SAE International Journal of Passenger Cars - Mechanical Systems</i> , 0, 6, 1518-1527.	0.4	29
13	Design of Honeycomb Meta-Materials for High Shear Flexure. , 2009, , .		28
14	Multiscale modeling of a natural rubber: Bridging a coarse-grained molecular model to the rubber network theory. <i>Polymer</i> , 2016, 101, 34-47.	3.8	28
15	Thermoviscoelastic modeling of a nonpneumatic tire with a lattice spoke. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2017, 231, 241-252.	1.9	22
16	A mechanism-based architected material: A hierarchical approach to design Poisson's ratio and stiffness. <i>Mechanics of Materials</i> , 2018, 125, 14-25.	3.2	22
17	Mechanical metamaterials with 3D compliant porous structures. <i>Composite Structures</i> , 2015, 132, 874-884.	5.8	21
18	A Passive Thermal Switch with Kirigami-Inspired Mesostructures. <i>Advanced Engineering Materials</i> , 2019, 21, 1900225.	3.5	20

#	ARTICLE	IF	CITATIONS
19	Optimization of Nonpneumatic Tire with Hexagonal Lattice Spokes for Reducing Rolling Resistance. , 0, , .		19
20	Method to Design Honeycombs for a Shear Flexible Structure. SAE International Journal of Passenger Cars - Mechanical Systems, 0, 3, 588-597.	0.4	18
21	Compliant cellular materials with compliant porous structures: A mechanism based materials design. International Journal of Solids and Structures, 2014, 51, 3889-3903.	2.7	18
22	Nonreciprocal Linear Transmission of Sound in a Viscous Environment with Broken P Symmetry. Physical Review Letters, 2018, 120, 204501.	7.8	18
23	Micropolar homogenization of wavy tetra-chiral and tetra-achiral lattices to identify axial shear coupling and directional negative Poisson's ratio. Materials and Design, 2021, 201, 109483.	7.0	17
24	Thermomechanically Triggered Reversible Multi-Transformability of a Single Material System by Energy Swapping and Shape Memory Effects. Advanced Functional Materials, 2021, 31, 2101395.	14.9	17
25	Porous materials with high negative Poisson's ratios a mechanism based material design. Smart Materials and Structures, 2013, 22, 084007.	3.5	15
26	A Computational Study of the Flow Around an Isolated Non-Pneumatic Tire. SAE International Journal of Passenger Cars - Mechanical Systems, 0, 7, 405-412.	0.4	15
27	Design of Chiral Honeycomb Meso-Structures for High Shear Flexure. , 2010, , .		14
28	Design of thermal diodes using asymmetric thermal deformation of a Kirigami structure. Materials and Design, 2020, 193, 108734.	7.0	14
29	An Initial and Progressive Failure Analysis for Cryogenic Composite Fuel Tank Design. Journal of Composite Materials, 2007, 41, 2545-2568.	2.4	13
30	Design of Sinusoidal Auxetic Structures for High Shear Flexure. , 2010, , .		13
31	Enhanced Coarse-Graining of Thermoplastic Polyurethane Elastomer for Multiscale Modeling. Journal of Engineering Materials and Technology, Transactions of the ASME, 2017, 139, .	1.4	13
32	Effect of crosslinking agents on drug distribution in chitosan hydrogel for targeted drug delivery to treat cancer. Journal of Polymer Research, 2020, 27, 1.	2.4	13
33	Compliant Cellular Materials With Elliptical Holes for Extremely High Positive and Negative Poisson's Ratios. Journal of Engineering Materials and Technology, Transactions of the ASME, 2015, 137, .	1.4	12
34	Encoding of direct 4D printing of isotropic single-material system for double-curvature and multimodal morphing. Extreme Mechanics Letters, 2022, 54, 101779.	4.1	12
35	Reconfigurable mesostructures with prestressing, reverse stiffness and shape memory effects. Extreme Mechanics Letters, 2020, 35, 100625.	4.1	11
36	The Dynamic Properties of a Non-Pneumatic Tire With Flexible Auxetic Honeycomb Spokes. , 2012, , .		10

#	ARTICLE	IF	CITATIONS
37	Continuum Model for Effective Properties of Orthotropic Octet-Truss Lattice Materials. , 2014, , .		10
38	Contact Pressure of a Non-Pneumatic Tire With Three-Dimensional Cellular Spokes. , 2011, , .		8
39	Thermomechanically Tunable Elastic Metamaterials With Compliant Porous Structures. Journal of Engineering Materials and Technology, Transactions of the ASME, 2018, 140, 021004.	1.4	8
40	Aluminum Taper Bristle-Shaped Shear Band for a Nonpneumatic Tire. Tire Science and Technology, 2012, 40, 152-170.	0.4	8
41	Transverse Cracking of M40J/PMR-II-50 Composites under Thermal Mechanical Loading. Journal of Composite Materials, 2007, 41, 1067-1086.	2.4	7
42	Topologically reconfigurable mechanical metamaterials with motion structures. Mechanics of Materials, 2020, 143, 103317.	3.2	7
43	Cyclic Energy Loss of Honeycombs Under In-Plane Shear Loading. , 2009, , .		6
44	Experimental Damage Characterization of Hexagonal Honeycombs Subjected to In-Plane Shear Loading. , 2010, , .		6
45	Compliant Hexagonal Meso-Structures Having Both High Shear Strength and High Shear Strain. , 2010, , .		6
46	Shear Compliant Hexagonal Cellular Solids With a Shape Memory Alloy. , 2011, , .		6
47	Vibration Analysis of Non-Pneumatic Tires With Hexagonal Lattice Spokes. , 2012, , .		6
48	A non-centrosymmetric square lattice with an axial bending coupling. Materials and Design, 2022, 216, 110532.	7.0	6
49	Effects of Cellular Shear Bands on Interaction between a Non-pneumatic Tire and Sand. , 2010, , .		5
50	Optimization of a Non-Pneumatic Tire for Reduced Rolling Resistance. , 2011, , .		5
51	Effects of geometric and material properties on electrical power harvested from a bimorph piezoelectric cantilever beam. Multidiscipline Modeling in Materials and Structures, 2013, 9, 391-409.	1.3	5
52	Hyperelastic Multi-Scale Modeling of a Thermoplastic Polyurethane Elastomer Using Molecular Mechanics. , 2015, , .		5
53	Acoustic Metasurface-Aided Broadband Noise Reduction in Automobile Induced by Tire-Pavement Interaction. Materials, 2021, 14, 4262.	2.9	5
54	Effect of disconnection of deformable units on the mobility and stiffness of 3D prismatic modular origami structures using angular kinematics. Scientific Reports, 2021, 11, 18259.	3.3	5

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55	Optimization of Honeycomb Cellular Meso-Structures for High Speed Impact Energy Absorption. , 2011, , .		4
56	A Study on the Aerodynamic Drag of a Non-Pneumatic Tire. , 2012, , .		4
57	Indirect Additive Manufacturing Based Casting (I AM Casting) of a Lattice Structure. , 2014, , .		4
58	Deformation and Heat Generation in a Nonpneumatic Tire with Lattice Spokes. , 0, , .		4
59	Understanding the shape memory behavior of thermoplastic polyurethane elastomers with coarse-grained molecular dynamics simulations. MRS Advances, 2017, 2, 375-380.	0.9	4
60	Transverse Cracking of M40J/PMR-II-50 Composites under Thermal"Mechanical Loading: Part I " Characterization of Main and Interaction Effects using Statistical Design of Experiments. Journal of Composite Materials, 2007, 41, 1009-1031.	2.4	3
61	Nonlinear Elastic Constitutive Relations of Auxetic Honeycombs. , 2009, , .		3
62	Cellular Materials With Extremely High Negative and Positive Poisson’s Ratios: A Mechanism Based Material Design. , 2013, , .		3
63	Indirect Fabrication of Lattice Metals with Thin Sections Using Centrifugal Casting. Journal of Visualized Experiments, 2016, , .	0.3	3
64	Non Linear Viscoelastic Constitutive Relation of Elastomers for Hysteresis Behavior. Transactions of the Korean Society of Mechanical Engineers, A, 2016, 40, 353-362.	0.2	3
65	Passive Morphing Airfoil With Honeycombs. , 2011, , .		2
66	Nonlinear Material Modeling of a Truck Tire, Pavement and its Effect on Contact Stresses. , 2012, , .		2
67	Separable Polyurethane Solid Tires for a Folding Bike. , 2011, , .		1
68	Lateral Stiffness and Dynamic Properties of Separable Polyurethane Tires for a Folding Bike. , 2012, , .		1
69	A Numerical Study of a Molten Aluminum for Investment Casting of 3D Cellular Metals. , 2013, , .		1
70	Reconfigurable Compliant Cellular Material With Programmable Compliant Cellular Structure. , 2015, , .		1
71	Multilevel Metal Flow-Fill Analysis of Centrifugal Casting for Indirect Additive Manufacturing of Lattice Structures. , 2015, , .		1
72	Shape control of a beam consisting of triangular meso-structure segments with multiple V-shaped flexure springs. International Journal of Mechanisms and Robotic Systems, 2015, 2, 144.	0.1	1

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73	Prediction of Hysteresis of a Thermoplastic Polyurethane Using Coarse-Grained Molecular Dynamics. , 2016, , .		1
74	Thermo-Mechanical Analysis of Composites Under Combined Conduction Heating and Large Deflection Bending. , 2005, , 243.		0
75	Effects of Geometric and Material Properties on Electrical Power Harvested From a Bimorph Piezoelectric Cantilever Beam. , 2011, , .		0
76	Finite Element Analysis of Tire and Pavement Interaction. , 2011, , .		0
77	A Novel Compliant Fixation Plate for Bone Fractures. , 2012, , .		0
78	An Experimental Study on the Mode I Fracture Behavior of Hexagonal Honeycombs. , 2013, , .		0
79	Three-Dimensional Compliant Cellular Materials: A Mechanism Based Material Design. , 2014, , .		0
80	Thermal Stress Analysis of Gypsum Shell Cracking in Polyjet-Based Rapid Casting of Cellular Metals. , 2015, , .		0
81	2D Motion Structures of N-Fold Rotational Symmetry. , 2017, , .		0
82	Tunable Triangular Cellular Structures by Pneumatic Control of Dual Channel Actuators. , 2017, , .		0