

# Stephan Rudykh

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/4582785/publications.pdf>

Version: 2024-02-01

64  
papers

2,209  
citations

172386

29  
h-index

233338

45  
g-index

67  
all docs

67  
docs citations

67  
times ranked

1336  
citing authors

#	ARTICLE	IF	CITATIONS
1	Magnetoelastic instabilities in soft laminates with ferromagnetic hyperelastic phases. <i>International Journal of Mechanical Sciences</i> , 2022, 213, 106862.	3.6	13
2	Deformation activated negative group velocity state in soft laminates. <i>Extreme Mechanics Letters</i> , 2022, 51, 101592.	2.0	8
3	Structural and material electro-mechanical instabilities in microstructured dielectric elastomer plates. <i>European Journal of Mechanics, A/Solids</i> , 2022, 94, 104534.	2.1	8
4	Magneto-deformation and transverse elastic waves in hard-magnetic soft laminates. <i>Mechanics of Materials</i> , 2022, 169, 104325.	1.7	18
5	Emergence of instability-driven domains in soft stratified materials. <i>Npj Computational Materials</i> , 2022, 8, .	3.5	7
6	Tunable buckling configurations via in-plane periodicity in soft 3D-fiber composites: Simulations and experiments. <i>International Journal of Solids and Structures</i> , 2022, 250, 111711.	1.3	4
7	Low-frequency tunable topological interface states in soft phononic crystal cylinders. <i>International Journal of Mechanical Sciences</i> , 2021, 191, 106098.	3.6	46
8	Elastic instabilities, microstructure transformations, and pattern formations in soft materials. <i>Current Opinion in Solid State and Materials Science</i> , 2021, 25, 100898.	5.6	22
9	Multiscale analysis of elastic waves in soft materials: From molecular chain networks to fiber composites. <i>International Journal of Mechanical Sciences</i> , 2021, 200, 106433.	3.6	9
10	3D printed recoverable honeycomb composites reinforced by continuous carbon fibers. <i>Composite Structures</i> , 2021, 268, 113974.	3.1	30
11	Macro- and micro-instabilities in incompressible bioinspired composite materials with nacre-like microstructure. <i>Composite Structures</i> , 2021, 269, 114004.	3.1	27
12	Research on drop-weight impact of continuous carbon fiber reinforced 3D printed honeycomb structure. <i>Materials Today Communications</i> , 2021, 29, 102869.	0.9	12
13	Mechanical behavior of bio-inspired nacre-like composites: A hybrid multiscale modeling approach. <i>Composite Structures</i> , 2020, 233, 111625.	3.1	65
14	Fault-tolerant elastic-plastic lattice material. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2020, 378, 20190107.	1.6	11
15	Microscopic and long-wave instabilities in 3D fiber composites with non-Gaussian hyperelastic phases. <i>International Journal of Engineering Science</i> , 2020, 157, 103408.	2.7	13
16	Mechanical characterization and constitutive modeling of visco-hyperelasticity of photocured polymers. <i>Additive Manufacturing</i> , 2020, 36, 101511.	1.7	8
17	Effect of Process Parameters on Tensile Mechanical Properties of 3D Printing Continuous Carbon Fiber-Reinforced PLA Composites. <i>Materials</i> , 2020, 13, 3850.	1.3	85
18	Tunable permittivity in dielectric elastomer composites under finite strains: Periodicity, randomness, and instabilities.. <i>International Journal of Mechanical Sciences</i> , 2020, 186, 105880.	3.6	18

#	ARTICLE	IF	CITATIONS
19	Rupture of 3D-printed hyperelastic composites: Experiments and phase field fracture modeling. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 140, 103941.	2.3	45
20	Instability-Induced Pattern Formations in Soft Magnetoactive Composites. <i>Physical Review Letters</i> , 2020, 124, 158002.	2.9	35
21	A Review of Physically Based and Thermodynamically Based Constitutive Models for Soft Materials. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2020, 87, .	1.1	41
22	Investigation of Microscopic Instabilities in Fiber-Reinforced Composite Materials by Using Multiscale Modeling Strategies. <i>Lecture Notes in Mechanical Engineering</i> , 2020, , 571-582.	0.3	6
23	Microscopic instabilities and elastic wave propagation in finitely deformed laminates with compressible hyperelastic phases. <i>European Journal of Mechanics, A/Solids</i> , 2019, 73, 126-136.	2.1	35
24	Tunable microstructure transformations and auxetic behavior in 3D-printed multiphase composites: The role of inclusion distribution. <i>Composites Part B: Engineering</i> , 2019, 172, 352-362.	5.9	32
25	On the Influence of Inhomogeneous Interphase Layers on Instabilities in Hyperelastic Composites. <i>Materials</i> , 2019, 12, 763.	1.3	22
26	Domain Formations and Pattern Transitions via Instabilities in Soft Heterogeneous Materials. <i>Advanced Materials</i> , 2019, 31, e1807309.	11.1	21
27	Elastic wave propagation in smooth and wrinkled stratified polymer films. <i>Nanotechnology</i> , 2019, 30, 045709.	1.3	6
28	Soft Magnetoactive Laminates: Large Deformations, Transverse Elastic Waves and Band Gaps Tunability by a Magnetic Field. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2019, 86, .	1.1	19
29	Instabilities and pattern formations in 3D-printed deformable fiber composites. <i>Composites Part B: Engineering</i> , 2018, 148, 114-122.	5.9	27
30	Oblique shear wave propagation in finitely deformed layered composites. <i>Mechanics Research Communications</i> , 2018, 87, 21-28.	1.0	14
31	Towards mechanical characterization of soft digital materials for multimaterial 3D-printing. <i>International Journal of Engineering Science</i> , 2018, 123, 62-72.	2.7	66
32	Hybrid metamaterials combining pentamode lattices and phononic plates. <i>Applied Physics Letters</i> , 2018, 113, .	1.5	27
33	Auxetic multiphase soft composite material design through instabilities with application for acoustic metamaterials. <i>Soft Matter</i> , 2018, 14, 6171-6180.	1.2	48
34	Foreshadowing elastic instabilities by negative group velocity in soft composites. <i>Applied Physics Letters</i> , 2018, 113, .	1.5	18
35	Instability-Induced Pattern Transformation in Soft Metamaterial with Hexagonal Networks for Tunable Wave Propagation. <i>Scientific Reports</i> , 2018, 8, 11834.	1.6	25
36	Strategies to Control Performance of 3D-Printed, Cable-Driven Soft Polymer Actuators: From Simple Architectures to Gripper Prototype. <i>Polymers</i> , 2018, 10, 846.	2.0	24

#	ARTICLE	IF	CITATIONS
37	Elastic instabilities and shear waves in hyperelastic composites with various periodic fiber arrangements. <i>International Journal of Engineering Science</i> , 2018, 130, 51-61.	2.7	28
38	Distinct failure modes in bio-inspired 3D-printed staggered composites under non-aligned loadings. <i>Smart Materials and Structures</i> , 2017, 26, 035053.	1.8	49
39	Electromechanical macroscopic instabilities in soft dielectric elastomer composites with periodic microstructures. <i>European Journal of Mechanics, A/Solids</i> , 2017, 65, 243-256.	2.1	37
40	Shear wave propagation in finitely deformed 3D fiber-reinforced composites. <i>International Journal of Solids and Structures</i> , 2017, 110-111, 294-304.	1.3	26
41	Stability of magnetoactive composites with periodic microstructures undergoing finite strains in the presence of a magnetic field. <i>Composites Part B: Engineering</i> , 2017, 128, 19-29.	5.9	46
42	Understanding the strength of bioinspired soft composites. <i>International Journal of Mechanical Sciences</i> , 2017, 131-132, 171-178.	3.6	29
43	Shear Wave Propagation and Band Gaps in Finitely Deformed Dielectric Elastomer Laminates: Long Wave Estimates and Exact Solution. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2017, 84, .	1.1	43
44	Elastic wave propagation in finitely deformed layered materials. <i>Journal of the Mechanics and Physics of Solids</i> , 2017, 98, 390-410.	2.3	48
45	Microscopic and macroscopic instabilities in hyperelastic fiber composites. <i>Journal of the Mechanics and Physics of Solids</i> , 2017, 99, 471-482.	2.3	61
46	On the Influence of External Fields on the Acoustic Characteristics of Phononic Crystals. , 2016, , .		0
47	Harnessing viscoelasticity and instabilities for tuning wavy patterns in soft layered composites. <i>Soft Matter</i> , 2016, 12, 3677-3682.	1.2	48
48	Manipulating pressure and shear waves in dielectric elastomers via external electric stimuli. <i>International Journal of Solids and Structures</i> , 2016, 91, 18-25.	1.3	33
49	Elastic Wave Propagation in Soft Microstructured Composites Undergoing Finite Deformations. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2016, 16, 627-628.	0.2	3
50	Micromechanics of Electro- and Magneto- active Soft Composites. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2016, 16, 473-474.	0.2	0
51	Comment on "Disentangling longitudinal and shear elastic waves by neo-Hookean soft devices" [Appl. Phys. Lett. 106, 161903 (2015)]. <i>Applied Physics Letters</i> , 2015, 107, .	1.5	15
52	Flexibility and protection by design: imbricated hybrid microstructures of bio-inspired armor. <i>Soft Matter</i> , 2015, 11, 2547-2554.	1.2	100
53	Influence of stiffening on elastic wave propagation in extremely deformed soft matter: from nearly incompressible to auxetic materials. <i>Extreme Mechanics Letters</i> , 2015, 4, 156-161.	2.0	18
54	Magnetoactive elastomers with periodic and random microstructures. <i>International Journal of Solids and Structures</i> , 2014, 51, 3012-3024.	1.3	60

#	ARTICLE	IF	CITATIONS
55	Transforming Wave Propagation in Layered Media via Instability-Induced Interfacial Wrinkling. <i>Physical Review Letters</i> , 2014, 112, 034301.	2.9	128
56	Transforming Small Localized Loading into Large Rotational Motion in Soft Anisotropically Structured Materials. <i>Advanced Engineering Materials</i> , 2014, 16, 1311-1317.	1.6	15
57	Multiscale instabilities in soft heterogeneous dielectric elastomers. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2014, 470, 20130618.	1.0	43
58	Analysis of elasmoid fish imbricated layered scale-tissue systems and their bio-inspired analogues at finite strains and bending. <i>IMA Journal of Applied Mathematics</i> , 2014, 79, 830-847.	0.8	35
59	Stability of anisotropic magnetorheological elastomers in finite deformations: A micromechanical approach. <i>Journal of the Mechanics and Physics of Solids</i> , 2013, 61, 949-967.	2.3	99
60	Wrinkling of Interfacial Layers in Stratified Composites. <i>Advanced Engineering Materials</i> , 2013, 15, 921-926.	1.6	33
61	Analysis of microstructural induced enhancement of electromechanical coupling in soft dielectrics. <i>Applied Physics Letters</i> , 2013, 102, .	1.5	57
62	Snap-through actuation of thick-wall electroactive balloons. <i>International Journal of Non-Linear Mechanics</i> , 2012, 47, 206-209.	1.4	121
63	Instabilities of Hyperelastic Fiber Composites: Micromechanical Versus Numerical Analyses. <i>Journal of Elasticity</i> , 2012, 106, 123-147.	0.9	56
64	Stability of anisotropic electroactive polymers with application to layered media. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2011, 62, 1131-1142.	0.7	62