

# Wojciech Sumelka

## List of Publications by Year in descending order

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Version: 2024-02-01

92  
papers

1,266  
citations

394390

19  
h-index

454934

30  
g-index

97  
all docs

97  
docs citations

97  
times ranked

666  
citing authors

#	ARTICLE	IF	CITATIONS
1	Fractional viscoplasticity. <i>Mechanics Research Communications</i> , 2014, 56, 31-36.	1.8	104
2	Fractional Euler-Bernoulli beams: Theory, numerical study and experimental validation. <i>European Journal of Mechanics, A/Solids</i> , 2015, 54, 243-251.	3.7	66
3	Thermoelasticity in the Framework of the Fractional Continuum Mechanics. <i>Journal of Thermal Stresses</i> , 2014, 37, 678-706.	2.0	65
4	Non-normality and induced plastic anisotropy under fractional plastic flow rule: a numerical study. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2016, 40, 651-675.	3.3	51
5	A hyperelastic fractional damage material model with memory. <i>International Journal of Solids and Structures</i> , 2017, 124, 151-160.	2.7	43
6	Brain modelling in the framework of anisotropic hyperelasticity with time fractional damage evolution governed by the Caputo-Almeida fractional derivative. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2019, 89, 209-216.	3.1	42
7	The Development of a New Shock Absorbing Uniaxial Graded Auxetic Damper (UGAD). <i>Materials</i> , 2019, 12, 2573.	2.9	36
8	The Numerical Analysis of the Intrinsic Anisotropic Microdamage Evolution in Elasto-Viscoplastic Solids. <i>International Journal of Damage Mechanics</i> , 2009, 18, 205-231.	4.2	34
9	Non-local Kirchhoff-Love plates in terms of fractional calculus. <i>Archives of Civil and Mechanical Engineering</i> , 2015, 15, 231-242.	3.8	33
10	Modelling of AAA in the framework of time-fractional damage hyperelasticity. <i>International Journal of Solids and Structures</i> , 2020, 206, 30-42.	2.7	31
11	Application of fractional continuum mechanics to rate independent plasticity. <i>Acta Mechanica</i> , 2014, 225, 3247-3264.	2.1	30
12	On fractional non-local bodies with variable length scale. <i>Mechanics Research Communications</i> , 2017, 86, 5-10.	1.8	29
13	On a general numerical scheme for the fractional plastic flow rule. <i>Mechanics of Materials</i> , 2018, 116, 120-129.	3.2	29
14	A theoretical analysis of the free axial vibration of non-local rods with fractional continuum mechanics. <i>Meccanica</i> , 2015, 50, 2309-2323.	2.0	28
15	Study and control of thermoelastic damping of in-plane vibration of the functionally graded nano-plate. <i>JVC/Journal of Vibration and Control</i> , 2019, 25, 2850-2862.	2.6	23
16	Fractional viscoplastic model for soils under compression. <i>Acta Mechanica</i> , 2019, 230, 3365-3377.	2.1	22
17	A New Blast Absorbing Sandwich Panel with Unconnected Corrugated Layers—Numerical Study. <i>Energies</i> , 2021, 14, 214.	3.1	22
18	Reduction of the number of material parameters by ANN approximation. <i>Computational Mechanics</i> , 2013, 52, 287-300.	4.0	21

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19	A new fractional nonlocal model and its application in free vibration of Timoshenko and Euler-Bernoulli beams. <i>European Physical Journal Plus</i> , 2017, 132, 1.	2.6	21
20	Space-fractional Euler-Bernoulli beam model - Theory and identification for silver nanobeam bending. <i>International Journal of Mechanical Sciences</i> , 2020, 186, 105902.	6.7	21
21	Phenomenological fractional stress-dilatancy model for granular soil and soil-structure interface under monotonic and cyclic loads. <i>Acta Geotechnica</i> , 2021, 16, 3115-3132.	5.7	19
22	Discrete mass-spring structure identification in nonlocal continuum space-fractional model. <i>European Physical Journal Plus</i> , 2019, 134, 1.	2.6	18
23	The influence of the initial microdamage anisotropy on macrodamage mode during extremely fast thermomechanical processes. <i>Archive of Applied Mechanics</i> , 2011, 81, 1973-1992.	2.2	17
24	Linear and non-linear free vibration of nano beams based on a new fractional non-local theory. <i>Engineering Computations</i> , 2017, 34, 1754-1770.	1.4	17
25	Multiaxial stress-fractional plasticity model for anisotropically overconsolidated clay. <i>International Journal of Mechanical Sciences</i> , 2021, 205, 106598.	6.7	16
26	Theoretical and computational analysis of nonlinear fractional integro-differential equations via collocation method. <i>Chaos, Solitons and Fractals</i> , 2021, 151, 111252.	5.1	16
27	Field test and probabilistic analysis of irregular steel debris casualty risks from a person-borne improvised explosive device. <i>Defence Technology</i> , 2021, 17, 1852-1863.	4.2	15
28	Advancement of Non-Newtonian Fluid with Hybrid Nanoparticles in a Convective Channel and Prabhakar's Fractional Derivative Analytical Solution. <i>Fractal and Fractional</i> , 2021, 5, 99.	3.3	15
29	Advantages and limitations of an $\hat{\pm}$ -plasticity model for sand. <i>Acta Geotechnica</i> , 2020, 15, 1423-1437.	5.7	14
30	Improving the Blast Resistance of Large Steel Gates Numerical Study. <i>Materials</i> , 2020, 13, 2121.	2.9	14
31	Numerical investigation on ballistic resistance of aluminium multi-layered panels impacted by improvised projectiles. <i>Archive of Applied Mechanics</i> , 2018, 88, 51-63.	2.2	13
32	On selected aspects of space-fractional continuum mechanics model approximation. <i>International Journal of Mechanical Sciences</i> , 2020, 167, 105287.	6.7	13
33	Three-dimensional analysis of nonlocal plate vibration in the framework of space-fractional mechanics Theory and validation. <i>Thin-Walled Structures</i> , 2021, 163, 107645.	5.3	13
34	Plane strain and plane stress elasticity under fractional continuum mechanics. <i>Archive of Applied Mechanics</i> , 2015, 85, 1527-1544.	2.2	12
35	Fractional calculus for continuum mechanics anisotropic non-locality. <i>Bulletin of the Polish Academy of Sciences: Technical Sciences</i> , 2016, 64, 361-372.	0.8	12
36	A non-local fractional stress-strain gradient theory. <i>International Journal of Mechanics and Materials in Design</i> , 2020, 16, 265-278.	3.0	12

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37	Karlsruhe fine sand under monotonic and cyclic loads: Modelling and validation. <i>Soil Dynamics and Earthquake Engineering</i> , 2020, 133, 106119.	3.8	12
38	Blast Test and Failure Mechanisms of Soft-Core Sandwich Panels for Storage Halls Applications. <i>Materials</i> , 2021, 14, 70.	2.9	12
39	Mechanism of Solute and Thermal Characteristics in a Casson Hybrid Nanofluid Based with Ethylene Glycol Influenced by Soret and Dufour Effects. <i>Energies</i> , 2021, 14, 6818.	3.1	12
40	Role of Covariance in Continuum Damage Mechanics. <i>Journal of Engineering Mechanics - ASCE</i> , 2013, 139, 1610-1620.	2.9	11
41	Nonlocal vibration analysis of microstretch plates in the framework of space-fractional mechanics theory and validation. <i>European Physical Journal Plus</i> , 2021, 136, 1.	2.6	11
42	Formulation and experimental validation of space-fractional Timoshenko beam model with functionally graded materials effects. <i>Computational Mechanics</i> , 2021, 68, 697-708.	4.0	11
43	Dynamic failure of the aluminium plate under air-blast loading in the framework of the fractional viscoplasticity model - theory and validation. <i>International Journal of Impact Engineering</i> , 2021, 158, 104024.	5.0	11
44	Numerical simulation of a Caputo fractional epidemic model for the novel coronavirus with the impact of environmental transmission. <i>AEJ - Alexandria Engineering Journal</i> , 2022, 61, 5083-5095.	6.4	11
45	Close Range Explosive Loading on Steel Column in the Framework of Anisotropic Viscoplasticity. <i>Metals</i> , 2019, 9, 454.	2.3	10
46	Reformulated fractional plasticity for soil-structure interface. <i>Mechanics Research Communications</i> , 2020, 108, 103580.	1.8	10
47	Thermal Stresses in Metallic Materials Due to Extreme Loading Conditions. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2013, 135, .	1.4	9
48	Designing of Blast Resistant Lightweight Elevation System - Numerical Study. <i>Procedia Engineering</i> , 2017, 172, 991-998.	1.2	9
49	Fractional strain energy and its application to the free vibration analysis of a plate. <i>Microsystem Technologies</i> , 2019, 25, 2229-2238.	2.0	8
50	Enhanced Fractional Model for Soil-Structure Interface Considering 3D Stress State and Fabric Effect. <i>Journal of Engineering Mechanics - ASCE</i> , 2022, 148, .	2.9	8
51	One-dimensional dispersion phenomena in terms of fractional media. <i>European Physical Journal Plus</i> , 2016, 131, 1.	2.6	7
52	Effects of the slip boundary condition on dynamics and pull-in instability of carbon nanotubes conveying fluid. <i>Microfluidics and Nanofluidics</i> , 2018, 22, 1.	2.2	7
53	Numerical Study of Dynamic Properties of Fractional Viscoplasticity Model. <i>Symmetry</i> , 2018, 10, 282.	2.2	7
54	Bounding surface plasticity for sand using fractional flow rule and modified critical state line. <i>Archive of Applied Mechanics</i> , 2020, 90, 2561-2577.	2.2	7

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55	Approximation and application of the Riesz-Caputo fractional derivative of variable order with fixed memory. <i>Meccanica</i> , 2022, 57, 861-870.	2.0	7
56	Mathematical assessment of constant and time-dependent control measures on the dynamics of the novel coronavirus: An application of optimal control theory. <i>Results in Physics</i> , 2021, 31, 104971.	4.1	7
57	Fabrication and Mechanical Testing of the Uniaxial Graded Auxetic Damper. <i>Materials</i> , 2022, 15, 387.	2.9	7
58	A COMPUTATIONAL ALGORITHM FOR THE NUMERICAL SOLUTION OF NONLINEAR FRACTIONAL INTEGRAL EQUATIONS. <i>Fractals</i> , 2022, 30, .	3.7	7
59	Plastic strain localization in an extreme dynamic tension test of steel sheet in the framework of fractional viscoplasticity. <i>Thin-Walled Structures</i> , 2020, 149, 106522.	5.3	5
60	Dynamics of Space-Fractional Euler-Bernoulli and Timoshenko Beams. <i>Materials</i> , 2021, 14, 1817.	2.9	5
61	Towards the Modelling of Anisotropic Solids. <i>Computational Methods in Science and Technology</i> , 2010, 16, 73-84.	0.3	5
62	Identification of mechanical properties of 1D deteriorated non-local bodies. <i>Structural and Multidisciplinary Optimization</i> , 2019, 59, 185-200.	3.5	4
63	Fractional Euler-Bernoulli Beam Theory Based on the Fractional Strain-Displacement Relation and its Application in Free Vibration, Bending and Buckling Analyses of Micro/Nanobeams. <i>Acta Physica Polonica A</i> , 2018, 134, 574-582.	0.5	4
64	Analysis of the process of wood plasticization by hot rolling. <i>Journal of Theoretical and Applied Mechanics</i> , 0, , 503.	0.5	4
65	Experimental Analysis of Mechanical Anisotropy of Selected Roofing Felts. <i>Materials</i> , 2021, 14, 6907.	2.9	4
66	Space-fractional small-strain plasticity model for microbeams including grain size effect. <i>International Journal of Engineering Science</i> , 2022, 175, 103672.	5.0	4
67	Application verification of blast mitigation through the use of thuja hedges. <i>International Journal of Protective Structures</i> , 2022, 13, 363-378.	2.3	4
68	Role of the Virtual Boundary Layer in One-Dimensional Fractional Elasticity Problems. <i>Journal of Engineering Mechanics - ASCE</i> , 2017, 143, .	2.9	3
69	A Mechanical Model Based on Conformal Strain Energy and Its Application to Bending and Buckling of Nanobeam Structures. <i>Journal of Computational and Nonlinear Dynamics</i> , 2019, 14, .	1.2	3
70	Numerical algorithm for predicting wheel flange wear in trams – Validation in a curved track. <i>Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit</i> , 2020, 234, 1156-1169.	2.0	3
71	On numerical approximation of the Riesz-Caputo operator with the fixed/short memory length. <i>Journal of King Saud University - Science</i> , 2021, 33, 101220.	3.5	3
72	Thermoelastic damping in orthotropic and isotropic NEMS resonators accounting for double nonlocal thermoelastic effects. <i>Journal of Thermal Stresses</i> , 0, , 1-16.	2.0	3

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73	Fractional plasticity for over-consolidated soft soil. <i>Meccanica</i> , 0, , 1.	2.0	3
74	Bounding surface model refined with fractional dilatancy relation for sand. <i>Soils and Foundations</i> , 2022, 62, 101149.	3.1	3
75	A THERMODYNAMIC CONSISTENT ELASTOPLASTIC FRACTIONAL TIME-DEPENDENT DAMAGE MODEL FOR ROCK-LIKE MATERIALS. <i>Fractals</i> , 2021, 29, 2150045.	3.7	2
76	Designing of Dynamic Spectrum Shifting in Terms of Non-Local Space-Fractional Mechanics. <i>Energies</i> , 2021, 14, 506.	3.1	2
77	New prospects in non-conventional modelling of solids and structures. <i>Meccanica</i> , 2022, 57, 751-755.	2.0	2
78	Viscoplasticity. , 2018, , 1-5.		1
79	Designing of Multilayered Protective Panels Against Improvised Debris. <i>Lecture Notes in Mechanical Engineering</i> , 2017, , 561-570.	0.4	1
80	Anisotropic Damage for Extreme Dynamics. , 2015, , 1185-1220.		1
81	Identification of Aluminium Powder Properties for Modelling Free Air Explosions. <i>Materials</i> , 2022, 15, 1294.	2.9	1
82	Trends in computational material modeling. <i>Computational Mechanics</i> , 2021, 68, 459-459.	4.0	0
83	Anisotropic Damage for Extreme Dynamics. , 2013, , 1-32.		0
84	Computer estimation of plastic strain localization and failure for large strain rates using viscoplasticity. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , 2014, , 209-244.	0.6	0
85	On geometrical interpretation of the fractional strain concept. <i>Journal of Theoretical and Applied Mechanics</i> , 0, , .	0.5	0
86	Implicit Nonlocality in the Framework of Viscoplasticity. , 2017, , 1-37.		0
87	Przeciwpożarowe drzwi, bramy i otwieralne okna w świetle normy PN-EN 16034:2014-11. <i>Materiały Budowlane</i> , 2018, 1, 95-97.	0.1	0
88	Implicit Nonlocality in the Framework of Viscoplasticity. , 2019, , 743-780.		0
89	Complexity of an Identification Problem of Sharp Local Density Loss in Fractional Body. <i>Lecture Notes in Electrical Engineering</i> , 2020, , 282-293.	0.4	0
90	Auxetic Damping Systems for Blast Vulnerable Structures. , 2020, , 1-23.		0

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91	Viscoplasticity. , 2020, , 2728-2733.		0
92	Auxetic Damping Systems for Blast Vulnerable Structures. , 2022, , 353-375.		0