

Florin Bobaru

List of Publications by Year in descending order

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77
papers

6,501
citations

71061

41
h-index

82499

72
g-index

79
all docs

79
docs citations

79
times ranked

1907
citing authors

#	ARTICLE	IF	CITATIONS
1	A peridynamic model for crevice corrosion damage. <i>Electrochimica Acta</i> , 2022, 401, 139512.	2.6	28
2	A general and fast convolution-based method for peridynamics: Applications to elasticity and brittle fracture. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 392, 114666.	3.4	27
3	Analytical Solutions of Peridynamic Equations. Part I: Transient Heat Diffusion. <i>Journal of Peridynamics and Nonlocal Modeling</i> , 2022, 4, 303-335.	1.4	5
4	Crack nucleation in brittle and quasi-brittle materials: A peridynamic analysis. <i>Theoretical and Applied Fracture Mechanics</i> , 2021, 112, 102855.	2.1	51
5	A coupled mechano-chemical peridynamic model for pit-to-crack transition in stress-corrosion cracking. <i>Journal of the Mechanics and Physics of Solids</i> , 2021, 146, 104203.	2.3	71
6	The Role of Boundary Conditions on Convergence Properties of Peridynamic Model for Transient Heat Transfer. <i>Journal of Scientific Computing</i> , 2021, 87, 1.	1.1	14
7	A reformulated rate-dependent visco-elastic model for dynamic deformation and fracture of PMMA with peridynamics. <i>International Journal of Impact Engineering</i> , 2021, 149, 103791.	2.4	26
8	A fast convolution-based method for peridynamic transient diffusion in arbitrary domains. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 375, 113633.	3.4	35
9	Connections Between the Meshfree Peridynamics Discretization and Graph Laplacian for Transient Diffusion Problems. <i>Journal of Peridynamics and Nonlocal Modeling</i> , 2021, 3, 307-326.	1.4	5
10	Stochastically homogenized peridynamic model for dynamic fracture analysis of concrete. <i>Engineering Fracture Mechanics</i> , 2021, 253, 107863.	2.0	25
11	A peridynamic model for galvanic corrosion and fracture. <i>Electrochimica Acta</i> , 2021, 391, 138968.	2.6	23
12	An ordinary state-based peridynamic elastoplastic 2D model consistent with J2 plasticity. <i>International Journal of Solids and Structures</i> , 2021, 229, 111146.	1.3	24
13	On validating peridynamic models and a phase-field model for dynamic brittle fracture in glass. <i>Engineering Fracture Mechanics</i> , 2020, 240, 107355.	2.0	44
14	Validation of a stochastically homogenized peridynamic model for quasi-static fracture in concrete. <i>Engineering Fracture Mechanics</i> , 2020, 237, 107293.	2.0	33
15	A stochastic multiscale peridynamic model for corrosion-induced fracture in reinforced concrete. <i>Engineering Fracture Mechanics</i> , 2020, 229, 106969.	2.0	39
16	Efficient Solutions for Nonlocal Diffusion Problems Via Boundary-Adapted Spectral Methods. <i>Journal of Peridynamics and Nonlocal Modeling</i> , 2020, 2, 85-110.	1.4	35
17	Additive manufacturing of magnesium alloys. <i>Bioactive Materials</i> , 2020, 5, 44-54.	8.6	158
18	The Effect of Solder Joint Microstructure on the Drop Test Failure—A Peridynamic Analysis. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2019, 9, 58-71.	1.4	21

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19	Pitting, lacy covers, and pit merger in stainless steel: 3D peridynamic models. <i>Corrosion Science</i> , 2019, 150, 17-31.	3.0	70
20	A stochastically homogenized peridynamic model for intraply fracture in fiber-reinforced composites. <i>Composites Science and Technology</i> , 2019, 182, 107770.	3.8	51
21	Uncovering the dynamic fracture behavior of PMMA with peridynamics: The importance of softening at the crack tip. <i>Engineering Fracture Mechanics</i> , 2019, 219, 106617.	2.0	30
22	A peridynamic mechano-chemical damage model for stress-assisted corrosion. <i>Electrochimica Acta</i> , 2019, 323, 134795.	2.6	60
23	A peridynamic model for brittle damage and fracture in porous materials. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2019, 122, 104059.	2.6	58
24	Computational modeling of pitting corrosion. <i>Corrosion Reviews</i> , 2019, 37, 419-439.	1.0	49
25	Peridynamic Functionally Graded and Porous Materials: Modeling Fracture and Damage. , 2019, , 1353-1387.		2
26	3D Peridynamic Models for Pitting Corrosion and Stress Corrosion Cracking. <i>ECS Meeting Abstracts</i> , 2019, , .	0.0	2
27	Objectivity of State-Based Peridynamic Models for Elasticity. <i>Journal of Elasticity</i> , 2018, 131, 1-17.	0.9	24
28	Surface corrections for peridynamic models in elasticity and fracture. <i>Computational Mechanics</i> , 2018, 61, 499-518.	2.2	199
29	Supershear damage propagation and sub-Rayleigh crack growth from edge-on impact: A peridynamic analysis. <i>International Journal of Impact Engineering</i> , 2018, 113, 73-87.	2.4	48
30	Corrosion-induced embrittlement in ZK60A Mg alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 713, 7-17.	2.6	30
31	Elastic vortices and thermally-driven cracks in brittle materials with peridynamics. <i>International Journal of Fracture</i> , 2018, 209, 203-222.	1.1	58
32	Construction of a peridynamic model for transient advection-diffusion problems. <i>International Journal of Heat and Mass Transfer</i> , 2018, 126, 1253-1266.	2.5	55
33	Peridynamic Modeling of Intergranular Corrosion Damage. <i>Journal of the Electrochemical Society</i> , 2018, 165, C362-C374.	1.3	53
34	Peridynamic Modeling of Repassivation in Pitting Corrosion of Stainless Steel. <i>Corrosion</i> , 2018, 74, 393-414.	0.5	48
35	Peridynamic Functionally Graded and Porous Materials: Modeling Fracture and Damage. , 2018, , 1-35.		4
36	Linearized state-based peridynamics for 2D problems. <i>International Journal for Numerical Methods in Engineering</i> , 2016, 108, 1174-1197.	1.5	92

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37	Validation of a peridynamic model for fatigue cracking. <i>Engineering Fracture Mechanics</i> , 2016, 162, 76-94.	2.0	105
38	A constructive peridynamic kernel for elasticity. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2016, 311, 356-373.	3.4	54
39	Analysis of Corrosion-Induced Diffusion Layer in ZK60A Magnesium Alloy. <i>Journal of the Electrochemical Society</i> , 2016, 163, C784-C790.	1.3	20
40	The Influence of Passive Film Damage on Pitting Corrosion. <i>Journal of the Electrochemical Society</i> , 2016, 163, C19-C24.	1.3	64
41	Peridynamic modeling of pitting corrosion damage. <i>Journal of the Mechanics and Physics of Solids</i> , 2015, 78, 352-381.	2.3	199
42	Why do cracks branch? A peridynamic investigation of dynamic brittle fracture. <i>International Journal of Fracture</i> , 2015, 196, 59-98.	1.1	215
43	A peridynamic model for dynamic fracture in functionally graded materials. <i>Composite Structures</i> , 2015, 133, 529-546.	3.1	124
44	Selecting the kernel in a peridynamic formulation: A study for transient heat diffusion. <i>Computer Physics Communications</i> , 2015, 197, 51-60.	3.0	89
45	Impact damage on a thin glass plate with a thin polycarbonate backing. <i>International Journal of Impact Engineering</i> , 2013, 62, 152-165.	2.4	101
46	Damage progression from impact in layered glass modeled with peridynamics. <i>Open Engineering</i> , 2012, 2, 551-561.	0.7	30
47	The Meaning, Selection, and Use of the Peridynamic Horizon and its Relation to Crack Branching in Brittle Materials. <i>International Journal of Fracture</i> , 2012, 176, 215-222.	1.1	152
48	The formulation and computation of the nonlocal J-integral in bond-based peridynamics. <i>International Journal of Fracture</i> , 2012, 176, 195-206.	1.1	89
49	Peridynamic model for dynamic fracture in unidirectional fiber-reinforced composites. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2012, 217-220, 247-261.	3.4	264
50	A peridynamic formulation for transient heat conduction in bodies with evolving discontinuities. <i>Journal of Computational Physics</i> , 2012, 231, 2764-2785.	1.9	223
51	PERIDYNAMICS AND MULTISCALE MODELING. <i>International Journal for Multiscale Computational Engineering</i> , 2011, 9, vii-ix.	0.8	7
52	MODELING DYNAMIC FRACTURE AND DAMAGE IN A FIBER-REINFORCED COMPOSITE LAMINA WITH PERIDYNAMICS. <i>International Journal for Multiscale Computational Engineering</i> , 2011, 9, 707-726.	0.8	94
53	Dynamic Brittle Fracture Captured With Peridynamics. , 2011, , .		4
54	The effect of rod nose shape on the internal flow fields during the ballistic penetration of sand. <i>International Journal of Impact Engineering</i> , 2011, 38, 951-963.	2.4	65

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55	Characteristics of dynamic brittle fracture captured with peridynamics. <i>Engineering Fracture Mechanics</i> , 2011, 78, 1156-1168.	2.0	369
56	ADAPTIVE REFINEMENT AND MULTISCALE MODELING IN 2D PERIDYNAMICS. <i>International Journal for Multiscale Computational Engineering</i> , 2011, 9, 635-660.	0.8	176
57	Studies of dynamic crack propagation and crack branching with peridynamics. <i>International Journal of Fracture</i> , 2010, 162, 229-244.	1.1	584
58	Crack nucleation in a peridynamic solid. <i>International Journal of Fracture</i> , 2010, 162, 219-227.	1.1	201
59	The peridynamic formulation for transient heat conduction. <i>International Journal of Heat and Mass Transfer</i> , 2010, 53, 4047-4059.	2.5	302
60	Studies of dynamic crack propagation and crack branching with peridynamics. <i>IUTAM Symposium on Cellular, Molecular and Tissue Mechanics</i> , 2010, , 229-244.	0.1	8
61	Convergence, adaptive refinement, and scaling in 1D peridynamics. <i>International Journal for Numerical Methods in Engineering</i> , 2009, 77, 852-877.	1.5	391
62	Force chains and resonant behavior in bending of a granular layer on an elastic support. <i>Mechanics of Materials</i> , 2009, 41, 691-706.	1.7	11
63	Impact Mechanics and High-Energy Absorbing Materials: Review. <i>Journal of Aerospace Engineering</i> , 2008, 21, 235-248.	0.8	115
64	Peridynamics for multiscale materials modeling. <i>Journal of Physics: Conference Series</i> , 2008, 125, 012078.	0.3	151
65	Granular layers on vibrating plates: Effective bending stiffness and particle-size effects. <i>Journal of the Acoustical Society of America</i> , 2007, 121, 888-896.	0.5	15
66	Designing Optimal Volume Fractions For Functionally Graded Materials With Temperature-Dependent Material Properties. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2007, 74, 861-874.	1.1	25
67	Influence of van der Waals forces on increasing the strength and toughness in dynamic fracture of nanofibre networks: a peridynamic approach. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2007, 15, 397-417.	0.8	81
68	Optimization of multilayer wear-resistant thin films using finite element analysis on stiff and compliant substrates. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2006, 24, 146-155.	0.9	14
69	Influence of particle size on the vibration of plates loaded with granular material. , 2006, , .		0
70	E(FG)2: a new fixed-grid shape optimization method based on the element-free galerkin mesh-free analysis. <i>Structural and Multidisciplinary Optimization</i> , 2006, 32, 215-228.	1.7	16
71	Peridynamic modeling of membranes and fibers. <i>International Journal of Non-Linear Mechanics</i> , 2005, 40, 395-409.	1.4	336
72	Peridynamic 3D models of nanofiber networks and carbon nanotube-reinforced composites. <i>AIP Conference Proceedings</i> , 2004, , .	0.3	18

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73	Optimal shape profiles for cooling fins of high and low conductivity. International Journal of Heat and Mass Transfer, 2004, 47, 4953-4966.	2.5	45
74	Boundary layer in shape optimization of convective fins using a meshfree approach. International Journal for Numerical Methods in Engineering, 2004, 60, 1215-1236.	1.5	25
75	Meshless approach to shape optimization of linear thermoelastic solids. International Journal for Numerical Methods in Engineering, 2002, 53, 765-796.	1.5	44
76	Shape sensitivity analysis and shape optimization in planar elasticity using the element-free Galerkin method. Computer Methods in Applied Mechanics and Engineering, 2001, 190, 4319-4337.	3.4	59
77	Intraply Fracture in Fiber-Reinforced Composites: A Peridynamic Analysis. , 0, , .		4