Erkan Oterkus

List of Publications by Year
in descending order

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145 papers	4,045 citations	126907 33 h-index	175258 52 g-index
145 all docs	145 docs citations	145 times ranked	1081 citing authors

#	Article	IF	Citations
1	Peridynamic Theory and Its Applications. , 2014, , .		417
2	Peridynamics review. Mathematics and Mechanics of Solids, 2019, 24, 3714-3739.	2.4	189
3	Peridynamic analysis of fiber-reinforced composite materials. Journal of Mechanics of Materials and Structures, 2012, 7, 45-84.	0.6	185
4	Combined finite element and peridynamic analyses for predicting failure in a stiffened composite curved panel with a central slot. Composite Structures, 2012, 94, 839-850.	5.8	167
5	A non-ordinary state-based peridynamics formulation for thermoplastic fracture. International Journal of Impact Engineering, 2016, 87, 83-94.	5.0	133
6	Peridynamics for bending of beams and plates with transverse shear deformation. International Journal of Solids and Structures, 2015, 69-70, 152-168.	2.7	109
7	Peridynamic modeling of composite laminates under explosive loading. Composite Structures, 2016, 144, 14-23.	5.8	106
8	Fully coupled poroelastic peridynamic formulation for fluid-filled fractures. Engineering Geology, 2017, 225, 19-28.	6.3	93
9	Displacement and stress monitoring of a Panamax containership using inverse finite element method. Ocean Engineering, 2016, 119, 16-29.	4.3	92
10	An enhanced inverse finite element method for displacement and stress monitoring of multilayered composite and sandwich structures. Composite Structures, 2017, 179, 514-540.	5.8	82
11	Displacement and stress monitoring of a chemical tanker based on inverse finite element method. Ocean Engineering, 2016, 112, 33-46.	4.3	80
12	Modelling of stress-corrosion cracking by using peridynamics. International Journal of Hydrogen Energy, 2016, 41, 6593-6609.	7.1	75
13	Peridynamic Modeling of Granular Fracture in Polycrystalline Materials. Journal of Engineering Materials and Technology, Transactions of the ASME, 2016, 138, .	1.4	69
14	Three dimensional shape and stress monitoring of bulk carriers based on iFEM methodology. Ocean Engineering, 2018, 147, 256-267.	4.3	66
15	A quadrilateral inverse-shell element with drilling degrees of freedom for shape sensing and structural health monitoring. Engineering Science and Technology, an International Journal, 2016, 19, 1299-1313.	3.2	65
16	Predicting fracture evolution during lithiation process using peridynamics. Engineering Fracture Mechanics, 2018, 192, 176-191.	4.3	58
17	A computational model of peridynamic theory for deflecting behavior of crack propagation with micro-cracks. Computational Materials Science, 2019, 162, 33-46.	3.0	54
18	Dynamic crack arrest analysis by ordinary state-based peridynamics. International Journal of Fracture, 2020, 221, 155-169.	2.2	53

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19	A computational approach based on ordinary state-based peridynamics with new transition bond for dynamic fracture analysis. Engineering Fracture Mechanics, 2019, 206, 359-374.	4.3	52
20	Peridynamic Theory. , 2014, , 19-43.		52
21	Topology optimization of cracked structures using peridynamics. Continuum Mechanics and Thermodynamics, 2019, 31, 1645-1672.	2.2	51
22	Finite element implementation of a peridynamic pitting corrosion damage model. Ocean Engineering, 2017, 135, 76-83.	4.3	50
23	Structural health monitoring of an offshore wind turbine tower using iFEM methodology. Ocean Engineering, 2020, 204, 107291.	4.3	49
24	Modelling of Granular Fracture in Polycrystalline Materials Using Ordinary State-Based Peridynamics. Materials, 2016, 9, 977.	2.9	48
25	Vibration suppression of offshore wind turbine foundations using tuned liquid column dampers and tuned mass dampers. Ocean Engineering, 2019, 172, 286-295.	4.3	48
26	An Eulerâ€“Bernoulli beam formulation in an ordinary state-based peridynamic framework. Mathematics and Mechanics of Solids, 2019, 24, 361-376.	2.4	48
27	Dynamic fracture analysis of functionally graded materials using ordinary state-based peridynamics. Composite Structures, 2020, 244, 112296.	5.8	48
28	Dynamic propagation of a macrocrack interacting with parallel small cracks. AIMS Materials Science, 2017, 4, 118-136.	1.4	47
29	A Kirchhoff plate formulation in a state-based peridynamic framework. Mathematics and Mechanics of Solids, 2020, 25, 727-738.	2.4	46
30	Implementation of peridynamic beam and plate formulations in finite element framework. Continuum Mechanics and Thermodynamics, 2019, 31, 301-315.	2.2	45
31	An energy-based peridynamic model for fatigue cracking. Engineering Fracture Mechanics, 2021, 241, 107373.	4.3	44
32	Peridynamic Modeling of Diffusion by Using Finite-Element Analysis. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2017, 7, 1823-1831.	2.5	43
33	Isogeometric iFEM Analysis of Thin Shell Structures. Sensors, 2020, 20, 2685.	3.8	43
34	Fatigue failure model with peridynamic theory. , 2010, , .		42
35	Peridynamic wetness approach for moisture concentration analysis in electronic packages. Microelectronics Reliability, 2017, 70, 103-111.	1.7	42
36	Modeling of the Onset, Propagation, and Interaction of Multiple Cracks Generated From Corrosion Pits by Using Peridynamics. Journal of Engineering Materials and Technology, Transactions of the ASME, 2017, 139, .	1.4	41

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37	Dent damage identification in stiffened cylindrical structures using inverse Finite Element Method. Ocean Engineering, 2020, 198, 106944.	4.3	41
38	Peridynamics for Failure Prediction in Composites. , 2012, , .		33
39	Impact damage assessment by using peridynamic theory. Open Engineering, 2012, 2, 523-531.	1.6	30
40	An ordinary state-based peridynamic model for the fracture of zigzag graphene sheets. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20180019.	2.1	30
41	Peridynamic model for visco-hyperelastic material deformation in different strain rates. Continuum Mechanics and Thermodynamics, 2022, 34, 977-1011.	2.2	27
42	Conceptual Design and Numerical Analysis of a Novel Floating Desalination Plant Powered by Marine Renewable Energy for Egypt. Journal of Marine Science and Engineering, 2020, 8, 95.	2.6	27
43	Hygro-thermo-mechanical analysis and failure prediction in electronic packages by using peridynamics. , 2014, , .		26
44	Peridynamic investigation of the effect of porosity on fatigue nucleation for additively manufactured titanium alloy Ti6Al4V. Theoretical and Applied Fracture Mechanics, 2021, 112, 102925.	4.7	24
45	Damage Growth Prediction from Loaded Composite Fastener Holes by Using Peridynamic Theory. , 2010, , .		23
46	Three-Dimensional Peridynamic Model for Predicting Fracture Evolution during the Lithiation Process. Energies, 2018, 11, 1461.	3.1	23
47	Dynamic Crack Propagation and Its Interaction With Micro-Cracks in an Impact Problem. Journal of Engineering Materials and Technology, Transactions of the ASME, 2021, 143, .	1.4	23
48	An ordinary state-based peridynamic model for toughness enhancement of brittle materials through drilling stop-holes. International Journal of Mechanical Sciences, 2020, 182, 105773.	6.7	21
49	Fatigue analysis of polycrystalline materials using Peridynamic Theory with a novel crack tip detection algorithm. Ocean Engineering, 2021, 222, 108572.	4.3	21
50	Nonlocal strong forms of thin plate, gradient elasticity, magneto-electro-elasticity and phase-field fracture by nonlocal operator method. Engineering With Computers, 2023, 39, 23-44.	6.1	21
51	Coupling of peridynamics and inverse finite element method for shape sensing and crack propagation monitoring of plate structures. Computer Methods in Applied Mechanics and Engineering, 2022, 391, 114520.	6.6	21
52	Determination of horizon size in state-based peridynamics. Continuum Mechanics and Thermodynamics, 2023, 35, 705-728.	2.2	20
53	Peridynamic Modelling of Fracture in Polycrystalline Ice. Journal of Mechanics, 2020, 36, 223-234.	1.4	20
54	Numerical hydrodynamics-based design of an offshore platform to support a desalination plant and a wind turbine in Egypt. Ocean Engineering, 2021, 229, 108598.	4.3	19

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55	Crack growth modeling and simulation of a peridynamic fatigue model based on numerical and analytical solution approaches. Theoretical and Applied Fracture Mechanics, 2021, 114, 103026.	4.7	19
56	Lightweight design of direct-drive wind turbine electrical generators: A comparison between steel and composite material structures. Ocean Engineering, 2019, 181, 330-341.	4.3	18
57	Ordinary state-based peridynamic homogenization of periodic micro-structured materials. Theoretical and Applied Fracture Mechanics, 2021, 113, 102960.	4.7	17
58	Influence of Different Types of Small-Size Defects on Propagation of Macro-cracks in Brittle Materials. Journal of Peridynamics and Nonlocal Modeling, 2020, 2, 289-316.	2.9	16
59	An In-depth Investigation of Bimaterial Interface Modeling Using Ordinary State-based Peridynamics. Journal of Peridynamics and Nonlocal Modeling, 2022, 4, 112-138.	2.9	16
60	Modelling and parameter identification of electromechanical systems for energy harvesting and sensing. Mechanical Systems and Signal Processing, 2019, 121, 890-912.	8.0	15
61	A physics-guided machine learning model for two-dimensional structures based on ordinary state-based peridynamics. Theoretical and Applied Fracture Mechanics, 2021, 112, 102872.	4.7	15
62	Peridynamic analysis of fatigue crack growth in fillet welded joints. Ocean Engineering, 2021, 235, 109348.	4.3	15
63	Dynamic structural design of offshore direct-drive wind turbine electrical generators. Ocean Engineering, 2018, 161, 1-19.	4.3	14
64	Experimental investigation on the motion response of a novel floating desalination plant for Egypt. Ocean Engineering, 2020, 210, 107535.	4.3	14
65	Calculation of Stress Intensity Factor using Displacement Extrapolation Method in Peridynamic Framework. Journal of Mechanics, 2020, 36, 235-243.	1.4	14
66	In-Plane and Out-of Plane Failure of an Ice Sheet using Peridynamics. Journal of Mechanics, 2020, 36, 265-271.	1.4	14
67	Modelling of cracks with frictional contact based on peridynamics. Theoretical and Applied Fracture Mechanics, 2021, 116, 103082.	4.7	14
68	Peridynamic simulation of dynamic fracture in functionally graded materials subjected to impact load. Engineering With Computers, 2023, 39, 253-267.	6.1	14
69	A comprehensive investigation on macroâ€“micro crack interactions in functionally graded materials using ordinary-state based peridynamics. Composite Structures, 2022, 287, 115299.	5.8	14
70	Titanium alloy corrosion fatigue crack growth rates prediction: Peridynamics based numerical approach. International Journal of Fatigue, 2022, 162, 107023.	5.7	14
71	Thermally-induced fracture analysis of polycrystalline materials by using peridynamics. Engineering Analysis With Boundary Elements, 2020, 117, 167-187.	3.7	13
72	Representative Volume Element Homogenization of a Composite Material by Using Bond-Based Peridynamics. Journal of Composites and Biodegradable Polymers, 0, 7, 51-56.	0.3	13

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73	Buckling analysis of cracked plates using peridynamics. Ocean Engineering, 2020, 214, 107817.	4.3	12
74	An in-depth investigation of critical stretch based failure criterion in ordinary state-based peridynamics. International Journal of Fracture, 2020, 226, 97-119.	2.2	12
75	Two-dimensional implementation of the coarsening method for linear peridynamics. AIMS Materials Science, 2019, 6, 252-275.	1.4	12
76	A computational homogenization framework for non-ordinary state-based peridynamics. Engineering With Computers, 2023, 39, 461-487.	6.1	12
77	A dynamic ice-structure interaction model for ice-induced vibrations by using van der pol equation. Ocean Engineering, 2016, 128, 147-152.	4.3	11
78	Free vibration analysis of cracked plates using peridynamics. Ships and Offshore Structures, 2020, 15, S220-S229.	1.9	11
79	Peridynamic Model for a Mindlin Plate Resting on a Winkler Elastic Foundation. Journal of Peridynamics and Nonlocal Modeling, 2020, 2, 229-242.	2.9	11
80	Mixed-mode stress intensity factors evaluation of flat shells under in-plane loading employing ordinary state-based peridynamics. Theoretical and Applied Fracture Mechanics, 2021, 112, 102841.	4.7	11
81	Thermal diffusion analysis by using dual horizon peridynamics. Journal of Thermal Stresses, 2021, 44, 51-74.	2.0	11
82	Peridynamic Higher-Order Beam Formulation. Journal of Peridynamics and Nonlocal Modeling, 2021, 3, 67-83.	2.9	11
83	Fracture parameter analysis of flat shells under out-of-plane loading using ordinary state-based peridynamics. Engineering Fracture Mechanics, 2021, 244, 107560.	4.3	11
84	Thermomechanical analysis of porous solid oxide fuel cell by using peridynamics. AIMS Energy, 2017, 5, 585-600.	1.9	11
85	Family Member Search Algorithms for Peridynamic Analysis. Journal of Peridynamics and Nonlocal Modeling, 2020, 2, 59-84.	2.9	10
86	Derivation of dual-horizon state-based peridynamics formulation based on Eulerâ€“Lagrange equation. Continuum Mechanics and Thermodynamics, 2023, 35, 841-861.	2.2	10
87	Shape Sensing of Aerospace Structures by Coupling Isogeometric Analysis and Inverse Finite Element Method. , 2017, , .		9
88	Microstructural Investigation of Plasma Sprayed Ceramic Coatings Using Peridynamics. Journal of Mechanics, 2020, 36, 183-196.	1.4	9
89	Experimental study on the motion response of an integrated floating desalination plant and offshore wind turbine on a non-ship platform. Ocean Engineering, 2021, 234, 109275.	4.3	9
90	A smoothed variable horizon peridynamics and its application to the fracture parameters evaluation. Acta Mechanica, 2021, 232, 533-553.	2.1	8

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91	A state-based peridynamic formulation for functionally graded Kirchhoff plates. Mathematics and Mechanics of Solids, 2021, 26, 530-551.	2.4	8
92	Fracture parameter investigations of functionally graded materials by using ordinary state based peridynamics. Engineering Analysis With Boundary Elements, 2022, 139, 180-191.	3.7	8
93	Analysis of Functionally Graded Timoshenko Beams by Using Peridynamics. Journal of Peridynamics and Nonlocal Modeling, 2021, 3, 148-166.	2.9	7
94	Static condensation of peridynamic heat conduction model. Mathematics and Mechanics of Solids, 2022, 27, 2689-2714.	2.4	7
95	Peridynamic modeling of toughening enhancement in unidirectional fiber-reinforced composites with micro-cracks. Composite Structures, 2022, 297, 115950.	5.8	7
96	A peridynamic-based machine learning model for one-dimensional and two-dimensional structures. Continuum Mechanics and Thermodynamics, 2023, 35, 741-773.	2.2	6
97	Model order reduction of linear peridynamic systems using static condensation. Mathematics and Mechanics of Solids, 2021, 26, 552-569.	2.4	6
98	Peridynamic Formulation for Higher-Order Plate Theory. Journal of Peridynamics and Nonlocal Modeling, 2021, 3, 185-210.	2.9	6
99	Peridynamic formulation for higher order functionally graded beams. Thin-Walled Structures, 2021, 160, 107343.	5.3	6
100	Parametric lightweight design of a direct-drive wind turbine electrical generator supporting structure for minimising dynamic response. Ships and Offshore Structures, 2021, 16, 266-274.	1.9	6
101	Evaluation of stress intensity factors under thermal effect employing domain integral method and ordinary state based peridynamic theory. Continuum Mechanics and Thermodynamics, 2023, 35, 1021-1040.	2.2	6
102	Experimental investigation on a towing assessment for a floating desalination plant for Egypt. Ocean Engineering, 2021, 238, 109746.	4.3	6
103	Peridynamic modelling of periodic microstructured materials. Procedia Structural Integrity, 2020, 28, 820-828.	0.8	6
104	Static and dynamic mechanical behaviors of cracked Mindlin plates in ordinary state-based peridynamic framework. Acta Mechanica, 2022, 233, 299-316.	2.1	6
105	Experimental investigation on the influence of interceptor plate on the motion performance of a cylindrical FPSO. Ocean Engineering, 2022, 243, 110339.	4.3	6
106	Thermomechanical phase change peridynamic model for welding analysis. Engineering Analysis With Boundary Elements, 2022, 140, 371-385.	3.7	6
107	Mechanical characterization of ultra-thin films by combining AFM nanoindentation tests and peridynamic simulations. , 2009, , .		5
108	Peridynamic Simulations of Nanoindentation Tests to Determine Elastic Modulus of Polymer Thin Films. Journal of Peridynamics and Nonlocal Modeling, 2019, 1, 36-44.	2.9	5

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109	Peridynamic modelling of higher order functionally graded plates. Mathematics and Mechanics of Solids, 2021, 26, 1737-1759.	2.4	5
110	Evaluation of dynamic behaviour of porous media including micro-cracks by ordinary state-based peridynamics. Engineering With Computers, 2023, 39, 61-79.	6.1	5
111	Modelling of Eulerian incompressible fluid flows by using peridynamic differential operator. Ocean Engineering, 2021, 239, 109815.	4.3	5
112	Peridynamic Simulation of Fracture in Polycrystalline Graphene. Journal of Peridynamics and Nonlocal Modeling, 2023, 5, 260-274.	2.9	5
113	Some analytical solutions to peridynamic beam equations. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2022, 102, .	1.6	5
114	Peridynamic computational homogenization theory for materials with evolving microstructure and damage. Engineering With Computers, 2023, 39, 2945-2957.	6.1	5
115	Physical mechanism of ice/structure interaction. Journal of Glaciology, 2018, 64, 197-207.	2.2	4
116	A Novel Moisture Diffusion Modeling Approach Using Finite Element Analysis. Electronics (Switzerland), 2018, 7, 438.	3.1	4
117	Investigation of the effect of shape of inclusions on homogenized properties by using peridynamics. Procedia Structural Integrity, 2020, 28, 1094-1105.	0.8	4
118	Ordinary state-based peridynamic shell model with arbitrary horizon domains for surface effect correction. Theoretical and Applied Fracture Mechanics, 2021, 115, 103068.	4.7	4
119	Environmentally-driven design of a floating desalination platform (Case study: reverse osmosis) Tj ETQq1 1 0.784314 rgBT /Overlock 10	1.9	4
120	3-Dimensional Bond-Based Peridynamic Representative Volume Element Homogenization. Physical Mesomechanics, 2021, 24, 541-547.	1.9	4
121	Probabilistic ship corrosion wastage model with Bayesian inference. Ocean Engineering, 2022, 246, 110571.	4.3	4
122	Peridynamic Direct Concentration Approach by Using ANSYS. , 2016, , .		3
123	A non-simultaneous dynamic ice-structure interaction model. Ocean Engineering, 2018, 166, 278-289.	4.3	3
124	A Novel Peridynamic Mindlin Plate Formulation Without Limitation on Material Constants. Journal of Peridynamics and Nonlocal Modeling, 2021, 3, 287-306.	2.9	3
125	Peridynamic shell membrane formulation. Procedia Structural Integrity, 2020, 28, 411-417.	0.8	3
126	Peridynamic formulation for Timoshenko beam. Procedia Structural Integrity, 2020, 28, 464-471.	0.8	3

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127	Experimental investigation of motion behavior in irregular wave and site selection analysis of a hybrid offshore renewable power station for Egypt. Ocean Engineering, 2022, 249, 110858.	4.3	3
128	Peridynamics for Predicting Pit-to-Crack Transition. , 2017, , .		2
129	Closed-form dispersion relationships in bond-based peridynamics. Procedia Structural Integrity, 2020, 28, 482-490.	0.8	2
130	Application of peridynamics for rock mechanics and porous media. , 2021, , 387-401.		2
131	Peridynamic modelling of Hertzian indentation fracture. Procedia Structural Integrity, 2020, 28, 1559-1571.	0.8	2
132	Marine Structures. Journal of Marine Science and Engineering, 2019, 7, 351.	2.6	1
133	Effect of horizon shape in peridynamics. Procedia Structural Integrity, 2020, 28, 418-429.	0.8	1
134	Peridynamic Mindlin Plate Formulation for Functionally Graded Materials. Journal of Composites Science, 2020, 4, 76.	3.0	1
135	A criterion for dynamic ductile fracture initiation of tensile mode. Continuum Mechanics and Thermodynamics, 0, , 1.	2.2	1
136	Experimentally validated simplified prediction model of unloaded spar-buoy wave energy converter motionsâ€™ responses in waves. Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, 0, , 095765092210984.	1.4	1
137	Peridynamic Modelling of Propagation of Cracks in Photovoltaic Panels. Procedia Structural Integrity, 2022, 41, 305-316.	0.8	1
138	Peridynamics in dynamic fracture modeling. , 2021, , 159-181.		0
139	Prediction of fracture toughness of metallic materials. Engineering With Computers, 2023, 39, 81-88.	6.1	0
140	Beam and plate models in peridynamics. , 2021, , 97-112.		0
141	Application of artificial intelligence and machine learning in peridynamics. , 2021, , 419-435.		0
142	Investigation of the effect of porosity on intergranular brittle fracture using peridynamics. Procedia Structural Integrity, 2020, 28, 472-481.	0.8	0
143	Comparative study of offshore spar-buoy oscillating water column dynamic models for captured power estimation. Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment, 0, , 147509022110677.	0.5	0
144	Peridynamics: Past, present and future. AIP Conference Proceedings, 2021, , .	0.4	0

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145	Peridynamic Method. , 2022, , .		0