

Pedro Areias

List of Publications by Year in descending order

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105
papers

6,083
citations

94381

37
h-index

69214

77
g-index

105
all docs

105
docs citations

105
times ranked

2772
citing authors

#	ARTICLE	IF	CITATIONS
1	A method for dynamic crack and shear band propagation with phantom nodes. International Journal for Numerical Methods in Engineering, 2006, 67, 868-893.	1.5	628
2	A meshfree thin shell method for non-linear dynamic fracture. International Journal for Numerical Methods in Engineering, 2007, 72, 524-548.	1.5	429
3	Analysis of three-dimensional crack initiation and propagation using the extended finite element method. International Journal for Numerical Methods in Engineering, 2005, 63, 760-788.	1.5	323
4	An extended isogeometric thin shell analysis based on Kirchhoff's Love theory. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 265-291.	3.4	301
5	Damage and fracture algorithm using the screened Poisson equation and local remeshing. Engineering Fracture Mechanics, 2016, 158, 116-143.	2.0	257
6	Fracture properties prediction of clay/epoxy nanocomposites with interphase zones using a phase field model. Engineering Fracture Mechanics, 2018, 188, 287-299.	2.0	249
7	Finite strain fracture of plates and shells with configurational forces and edge rotations. International Journal for Numerical Methods in Engineering, 2013, 94, 1099-1122.	1.5	228
8	Phase-field analysis of finite-strain plates and shells including element subdivision. Computer Methods in Applied Mechanics and Engineering, 2016, 312, 322-350.	3.4	223
9	Isogeometric analysis of large-deformation thin shells using RHT-splines for multiple-patch coupling. Computer Methods in Applied Mechanics and Engineering, 2017, 316, 1157-1178.	3.4	210
10	Element-wise fracture algorithm based on rotation of edges. Engineering Fracture Mechanics, 2013, 110, 113-137.	2.0	209
11	Abaqus implementation of phase-field model for brittle fracture. Computational Materials Science, 2015, 96, 472-484.	1.4	203
12	A simplified mesh-free method for shear bands with cohesive surfaces. International Journal for Numerical Methods in Engineering, 2007, 69, 993-1021.	1.5	195
13	Finite strain fracture of 2D problems with injected anisotropic softening elements. Theoretical and Applied Fracture Mechanics, 2014, 72, 50-63.	2.1	155
14	Non-linear analysis of shells with arbitrary evolving cracks using XFEM. International Journal for Numerical Methods in Engineering, 2005, 62, 384-415.	1.5	149
15	Effective 2D and 3D crack propagation with local mesh refinement and the screened Poisson equation. Engineering Fracture Mechanics, 2018, 189, 339-360.	2.0	149
16	A non-ordinary state-based peridynamics formulation for thermoplastic fracture. International Journal of Impact Engineering, 2016, 87, 83-94.	2.4	133
17	Steiner-point free edge cutting of tetrahedral meshes with applications in fracture. Finite Elements in Analysis and Design, 2017, 132, 27-41.	1.7	125
18	Analysis of fracture in thin shells by overlapping paired elements. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 5343-5360.	3.4	113

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19	A new approach for modelling slip lines in geological materials with cohesive models. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2006, 30, 1159-1172.	1.7	91
20	Analysis of 3D problems using a new enhanced strain hexahedral element. <i>International Journal for Numerical Methods in Engineering</i> , 2003, 58, 1637-1682.	1.5	86
21	Initially rigid cohesive laws and fracture based on edge rotations. <i>Computational Mechanics</i> , 2013, 52, 931-947.	2.2	79
22	A comment on the article "A finite element method for simulation of strong and weak discontinuities in solid mechanics" by A. Hansbo and P. Hansbo [<i>Comput. Methods Appl. Mech. Engrg.</i> , 193 (2004) 3523-3540]. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006, 195, 1275-1276.	3.4	78
23	Development of shear locking-free shell elements using an enhanced assumed strain formulation. <i>International Journal for Numerical Methods in Engineering</i> , 2002, 53, 1721-1750.	1.5	75
24	Predictions of J integral and tensile strength of clay/epoxy nanocomposites material using phase field model. <i>Composites Part B: Engineering</i> , 2016, 93, 97-114.	5.9	75
25	A consistent anisotropic damage model for laminated fiber-reinforced composites using the 3D-version of the Puck failure criterion. <i>International Journal of Solids and Structures</i> , 2017, 126-127, 37-53.	1.3	70
26	A finite-strain quadrilateral shell element based on discrete Kirchhoff-Love constraints. <i>International Journal for Numerical Methods in Engineering</i> , 2005, 64, 1166-1206.	1.5	58
27	Two-scale shear band evolution by local partition of unity. <i>International Journal for Numerical Methods in Engineering</i> , 2006, 66, 878-910.	1.5	57
28	Finite element formulation for modeling nonlinear viscoelastic elastomers. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008, 197, 4702-4717.	3.4	56
29	A novel two-stage discrete crack method based on the screened Poisson equation and local mesh refinement. <i>Computational Mechanics</i> , 2016, 58, 1003-1018.	2.2	51
30	Damage modelling in metal forming problems using an implicit non-local gradient model. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006, 195, 6646-6660.	3.4	50
31	Phase field modeling and computer implementation: A review. <i>Engineering Fracture Mechanics</i> , 2022, 262, 108234.	2.0	50
32	A constitutive-based element-by-element crack propagation algorithm with local mesh refinement. <i>Computational Mechanics</i> , 2015, 56, 291-315.	2.2	49
33	An embedded formulation with conforming finite elements to capture strong discontinuities. <i>International Journal for Numerical Methods in Engineering</i> , 2013, 93, 224-244.	1.5	47
34	A NURBS-based inverse analysis of thermal expansion induced morphing of thin shells. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 350, 480-510.	3.4	43
35	Arbitrary bi-dimensional finite strain cohesive crack propagation. <i>Computational Mechanics</i> , 2009, 45, 61-75.	2.2	42
36	Element-wise algorithm for modeling ductile fracture with the Rousselier yield function. <i>Computational Mechanics</i> , 2013, 52, 1429-1443.	2.2	39

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37	Quasi-static crack propagation in plane and plate structures using set-valued traction-separation laws. <i>International Journal for Numerical Methods in Engineering</i> , 2008, 74, 475-505.	1.5	38
38	A gradient model for finite strain elastoplasticity coupled with damage. <i>Finite Elements in Analysis and Design</i> , 2003, 39, 1191-1235.	1.7	37
39	A new semi-implicit formulation for multiple-surface flow rules in multiplicative plasticity. <i>Computational Mechanics</i> , 2012, 49, 545-564.	2.2	36
40	Analysis of Finite Strain Anisotropic Elastoplastic Fracture in Thin Plates and Shells. <i>Journal of Aerospace Engineering</i> , 2006, 19, 259-270.	0.8	34
41	A multiscale multisurface constitutive model for the thermo-plastic behavior of polyethylene. <i>Polymer</i> , 2016, 105, 327-338.	1.8	34
42	Exact corotational shell for finite strains and fracture. <i>Computational Mechanics</i> , 2011, 48, 385-406.	2.2	32
43	Two-scale method for shear bands: thermal effects and variable bandwidth. <i>International Journal for Numerical Methods in Engineering</i> , 2007, 72, 658-696.	1.5	31
44	Smooth finite strain plasticity with non-local pressure support. <i>International Journal for Numerical Methods in Engineering</i> , 2010, 81, 106-134.	1.5	29
45	Finite strain plasticity, the stress condition and a complete shell model. <i>Computational Mechanics</i> , 2010, 45, 189-209.	2.2	28
46	Quadrilateral elements for the solution of elasto-plastic finite strain problems. <i>International Journal for Numerical Methods in Engineering</i> , 2001, 51, 883-917.	1.5	24
47	Strong displacement discontinuities and Lagrange multipliers in the analysis of finite displacement fracture problems. <i>Computational Mechanics</i> , 2004, 35, 54-71.	2.2	23
48	A damage model for ductile crack initiation and propagation. <i>Computational Mechanics</i> , 2011, 47, 641-656.	2.2	21
49	Finite element studies of the mechanical behaviour of the diaphragm in normal and pathological cases. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2011, 14, 505-513.	0.9	21
50	Assumed-metric spherically interpolated quadrilateral shell element. <i>Finite Elements in Analysis and Design</i> , 2013, 66, 53-67.	1.7	19
51	Coulomb frictional contact by explicit projection in the cone for finite displacement quasi-static problems. <i>Computational Mechanics</i> , 2015, 55, 57-72.	2.2	19
52	A finite element framework for the interplay between delamination and buckling of rubber-like bi-material systems and stretchable electronics. <i>Journal of the European Ceramic Society</i> , 2016, 36, 2371-2382.	2.8	16
53	Stabilized four-node tetrahedron with nonlocal pressure for modeling hyperelastic materials. <i>International Journal for Numerical Methods in Engineering</i> , 2008, 76, 1185-1201.	1.5	15
54	Algorithms for the analysis of 3D finite strain contact problems. <i>International Journal for Numerical Methods in Engineering</i> , 2004, 61, 1107-1151.	1.5	14

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55	A staggered approach for the coupling of Cahn-Hilliard type diffusion and finite strain elasticity. Computational Mechanics, 2016, 57, 339-351.	2.2	14
56	Coupled finite-element/topology optimization of continua using the Newton-Raphson method. European Journal of Mechanics, A/Solids, 2021, 85, 104117.	2.1	13
57	Asymmetric quadrilateral shell elements for finite strains. Computational Mechanics, 2013, 52, 81-97.	2.2	11
58	An Efficient Technique for Surface Strain Recovery from Photogrammetric Data using Meshless Interpolation. Strain, 2014, 50, 132-146.	1.4	11
59	An alternative formulation for quasi-static frictional and cohesive contact problems. Computational Mechanics, 2014, 53, 807-824.	2.2	11
60	A semi-implicit finite strain shell algorithm using in-plane strains based on least-squares. Computational Mechanics, 2015, 55, 673-696.	2.2	11
61	A finite-strain solid-shell using local \mathbb{L}^2 in frames and least-squares strains. Computer Methods in Applied Mechanics and Engineering, 2016, 311, 112-133.	3.4	11
62	Implicit solutions with consistent additive and multiplicative components. Finite Elements in Analysis and Design, 2012, 57, 15-31.	1.7	10
63	Numerical study towards the use of a SH wave ultrasonic-based strategy for crack detection in concrete structures. Engineering Structures, 2013, 49, 782-791.	2.6	10
64	A multisurface constitutive model for highly cross-linked polymers with yield data obtained from molecular dynamics simulations. International Journal of Mechanics and Materials in Design, 2018, 14, 21-36.	1.7	9
65	Finite strain quadrilateral shell using least-squares fit of relative Lagrangian in-plane strains. Finite Elements in Analysis and Design, 2015, 98, 26-40.	1.7	8
66	Least-squares finite strain hexahedral element/constitutive coupling based on parametrized configurations and the \mathbb{L}^2 in frame. Finite Elements in Analysis and Design, 2016, 108, 96-109.	1.7	8
67	Quasi-static and dynamic fracture modeling by the nonlocal operator method. Engineering Analysis With Boundary Elements, 2021, 133, 120-137.	2.0	8
68	Semi-implicit finite strain constitutive integration of porous plasticity models. Finite Elements in Analysis and Design, 2015, 104, 41-55.	1.7	7
69	Analysis of experimentally assessed EVA foams with mixed solid-shell elements capable of very large strains. Finite Elements in Analysis and Design, 2017, 128, 19-31.	1.7	7
70	A simple and robust Coulomb frictional algorithm based on 3 additional degrees-of-freedom and smoothing. Finite Elements in Analysis and Design, 2019, 167, 103321.	1.7	7
71	A damage-based temperature-dependent model for ductile fracture with finite strains and configurational forces. International Journal of Fracture, 2012, 178, 215-232.	1.1	6
72	The extended unsymmetric frontal solution for multiple-point constraints. Engineering Computations, 2014, 31, 1582-1607.	0.7	6

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73	Surface-based and solid shell formulations of the 7-parameter shell model for layered CFRP and functionally graded power-based composite structures. <i>Mechanics of Advanced Materials and Structures</i> , 2019, 26, 1271-1289.	1.5	6
74	Semi-implicit finite strain constitutive integration and mixed strain/stress control based on intermediate configurations. <i>Engineering Structures</i> , 2016, 124, 344-360.	2.6	5
75	Damage-based fracture with electro-magnetic coupling. <i>Computational Mechanics</i> , 2013, 51, 629-640.	2.2	4
76	A finite strain quadrilateral based on least-squares assumed strains. <i>Engineering Structures</i> , 2015, 100, 1-16.	2.6	4
77	Finite-strain laminates: Bending-enhanced hexahedron and delamination. <i>Composite Structures</i> , 2016, 139, 277-290.	3.1	4
78	Fully-coupled piezoelectric assumed-strain least-squares nonlinear shell. <i>Thin-Walled Structures</i> , 2018, 131, 631-645.	2.7	4
79	A finite strain Raviart-Thomas tetrahedron. <i>European Journal of Mechanics, A/Solids</i> , 2020, 80, 103911.	2.1	4
80	Extrapolation and C ₀ -based implicit integration of anisotropic constitutive behavior. <i>International Journal for Numerical Methods in Engineering</i> , 2021, 122, 3218-3240.	1.5	4
81	A simple assumed-strain quadrilateral shell element for finite strains and fracture. <i>Engineering With Computers</i> , 2015, 31, 691-709.	3.5	3
82	Finite-strain low order shell using least-squares strains and two-parameter thickness extensibility. <i>European Journal of Mechanics, A/Solids</i> , 2017, 61, 293-314.	2.1	3
83	One-dimensional model for the unsteady flow of a generalized third-grade viscoelastic fluid. <i>Neural Computing and Applications</i> , 2020, 32, 12881-12894.	3.2	3
84	Galerkin-based finite strain analysis with enriched radial basis interpolation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 394, 114873.	3.4	3
85	Experimental and Finite Element Analysis of Human Skin Elasticity. , 2003, , 303.		2
86	Active and passive behaviors of soft tissues: Pelvic floor muscles. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2010, 26, 667-680.	1.0	2
87	General constitutive updating for finite strain formulations based on assumed strains and the Jacobian. <i>Finite Elements in Analysis and Design</i> , 2018, 143, 32-45.	1.7	2
88	Finite element analysis of plasma dust-acoustic waves. <i>Finite Elements in Analysis and Design</i> , 2018, 140, 38-49.	1.7	2
89	A continuous-stress tetrahedron for finite strain problems. <i>Finite Elements in Analysis and Design</i> , 2019, 165, 52-64.	1.7	2
90	An objective and path-independent 3D finite-strain beam with least-squares assumed-strain formulation. <i>Computational Mechanics</i> , 2019, 64, 1115-1131.	2.2	2

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91	Combined sticking: a new approach for finite-amplitude Coulomb frictional contact. International Journal of Mechanics and Materials in Design, 2020, 16, 619-631.	1.7	2
92	One-step semi-implicit integration of general finite-strain plasticity models. International Journal of Mechanics and Materials in Design, 2021, 17, 73-87.	1.7	2
93	Wrinkling of finite-strain membranes with mixed solid-shell elements. Engineering With Computers, 2022, 38, 5309-5320.	3.5	2
94	Finite strain analysis of limestone / basaltic magma interaction and fracture: Low order mixed tetrahedron and remeshing. European Journal of Mechanics, A/Solids, 2019, 73, 235-247.	2.1	1
95	An engineering interpretation of Nesterov's convex minimization algorithm and time integration: application to optimal fiber orientation. Computational Mechanics, 2021, 68, 211-227.	2.2	1
96	Fully anisotropic hyperelasto-plasticity with exponential approximation by power series and scaling/squaring. Computational Mechanics, 2021, 68, 391.	2.2	1
97	Moving least-squares in finite strain analysis with tetrahedra support. Engineering Analysis With Boundary Elements, 2022, 139, 1-13.	2.0	1
98	Stable finite element analysis of viscous dusty plasma. Engineering Computations, 2018, 35, 1230-1249.	0.7	0
99	A Dimensional Reduction Algorithm and Software for Acyclically Dependent Constraints. International Journal for Computational Methods in Engineering Science and Mechanics, 2019, 20, 494-513.	1.4	0
100	Gradient-enhanced Raviart-Thomas tetrahedron for finite-strain problems. Computers and Structures, 2020, 231, 106212.	2.4	0
101	A finite strain mixed J_2 \hat{u} \hat{p} low-order tetrahedron. Finite Elements in Analysis and Design, 2020, 174, 103401.	1.7	0
102	HERK integration of finite-strain fully anisotropic plasticity models. Finite Elements in Analysis and Design, 2021, 185, 103492.	1.7	0
103	Anisotropic hyperelastic/plastic behavior on stress-constrained thin structures by iterating on the elastic Cauchy's Green tensor. Thin-Walled Structures, 2022, 170, 108512.	2.7	0
104	Simulation of a Crack Detection Method for Concrete Structures using SH Waves. , 0, , .		0
105	Modeling Permanent Deformation during Low-Cycle Fatigue: Application to the Pelvic Floor Muscles during Labor. Journal of the Mechanics and Physics of Solids, 2022, , 104908.	2.3	0