

Emilio Martínez Pañeda

List of Publications by Year in descending order

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70
papers

2,693
citations

172207

29
h-index

189595

50
g-index

76
all docs

76
docs citations

76
times ranked

1138
citing authors

#	ARTICLE	IF	CITATIONS
1	A phase field formulation for hydrogen assisted cracking. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 342, 742-761.	3.4	245
2	Phase field fracture modelling using quasi-Newton methods and a new adaptive step scheme. <i>Theoretical and Applied Fracture Mechanics</i> , 2020, 107, 102446.	2.1	147
3	Phase field modelling of crack propagation in functionally graded materials. <i>Composites Part B: Engineering</i> , 2019, 169, 239-248.	5.9	136
4	Abaqus2Matlab: A suitable tool for finite element post-processing. <i>Advances in Engineering Software</i> , 2017, 105, 9-16.	1.8	121
5	Strain gradient plasticity-based modeling of hydrogen environment assisted cracking. <i>Acta Materialia</i> , 2016, 117, 321-332.	3.8	111
6	On fracture in finite strain gradient plasticity. <i>International Journal of Plasticity</i> , 2016, 80, 154-167.	4.1	90
7	A phase field formulation for dissolution-driven stress corrosion cracking. <i>Journal of the Mechanics and Physics of Solids</i> , 2021, 147, 104254.	2.3	85
8	A cohesive zone framework for environmentally assisted fatigue. <i>Engineering Fracture Mechanics</i> , 2017, 185, 210-226.	2.0	80
9	A phase field model for elastic-gradient-plastic solids undergoing hydrogen embrittlement. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 143, 104093.	2.3	79
10	Modeling damage and fracture within strain-gradient plasticity. <i>International Journal of Solids and Structures</i> , 2015, 59, 208-215.	1.3	76
11	Strain gradient plasticity modeling of hydrogen diffusion to the crack tip. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 10265-10274.	3.8	75
12	On the suitability of slow strain rate tensile testing for assessing hydrogen embrittlement susceptibility. <i>Corrosion Science</i> , 2020, 163, 108291.	3.0	63
13	Numerical analysis of quasi-static fracture in functionally graded materials. <i>International Journal of Mechanics and Materials in Design</i> , 2015, 11, 405-424.	1.7	61
14	Analysis of the influence of microstructural traps on hydrogen assisted fatigue. <i>Acta Materialia</i> , 2020, 199, 253-263.	3.8	61
15	Phase field modelling of fracture and fatigue in Shape Memory Alloys. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 373, 113504.	3.4	60
16	The role of plastic strain gradients in the crack growth resistance of metals. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 126, 136-150.	2.3	58
17	An assessment of phase field fracture: crack initiation and growth. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021, 379, 20210021.	1.6	57
18	Phase field predictions of microscopic fracture and R-curve behaviour of fibre-reinforced composites. <i>Composites Science and Technology</i> , 2021, 202, 108539.	3.8	55

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19	A generalised phase field model for fatigue crack growth in elastic-plastic solids with an efficient monolithic solver. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 388, 114286.	3.4	54
20	A Unified Abaqus Implementation of the Phase Field Fracture Method Using Only a User Material Subroutine. <i>Materials</i> , 2021, 14, 1913.	1.3	52
21	Applications of phase field fracture in modelling hydrogen assisted failures. <i>Theoretical and Applied Fracture Mechanics</i> , 2020, 110, 102837.	2.1	48
22	A mechanism-based multi-trap phase field model for hydrogen assisted fracture. <i>International Journal of Plasticity</i> , 2021, 144, 103044.	4.1	47
23	Cracking predictions of lithium-ion battery electrodes by X-ray computed tomography and modelling. <i>Journal of Power Sources</i> , 2022, 526, 231119.	4.0	47
24	A finite element framework for distortion gradient plasticity with applications to bending of thin foils. <i>International Journal of Solids and Structures</i> , 2016, 96, 288-299.	1.3	44
25	Fracture toughness characterization through notched small punch test specimens. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 657, 422-430.	2.6	43
26	A phase field model for hydrogen-assisted fatigue. <i>International Journal of Fatigue</i> , 2022, 154, 106521.	2.8	40
27	Generalised boundary conditions for hydrogen transport at crack tips. <i>Corrosion Science</i> , 2020, 173, 108698.	3.0	38
28	On the Finite Element Implementation of Functionally Graded Materials. <i>Materials</i> , 2019, 12, 287.	1.3	33
29	Gradient plasticity crack tip characterization by means of the extended finite element method. <i>Computational Mechanics</i> , 2017, 59, 831-842.	2.2	32
30	Damage modeling in Small Punch Test specimens. <i>Theoretical and Applied Fracture Mechanics</i> , 2016, 86, 51-60.	2.1	31
31	Adaptive phase field modelling of crack propagation in orthotropic functionally graded materials. <i>Defence Technology</i> , 2021, 17, 185-195.	2.1	30
32	Non-local plasticity effects on notch fracture mechanics. <i>Theoretical and Applied Fracture Mechanics</i> , 2017, 92, 276-287.	2.1	29
33	A generalised, multi-phase-field theory for dissolution-driven stress corrosion cracking and hydrogen embrittlement. <i>Journal of the Mechanics and Physics of Solids</i> , 2022, 166, 104951.	2.3	29
34	A phase field electro-chemo-mechanical formulation for predicting void evolution at the Li ⁺ electrolyte interface in all-solid-state batteries. <i>Journal of the Mechanics and Physics of Solids</i> , 2022, 167, 104999.	2.3	26
35	Size effects in elastic-plastic functionally graded materials. <i>Composite Structures</i> , 2018, 204, 43-51.	3.1	23
36	Mode I crack tip fields: Strain gradient plasticity theory versus J2 flow theory. <i>European Journal of Mechanics, A/Solids</i> , 2019, 75, 381-388.	2.1	23

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37	The Essential Work of Fracture parameters for 3D printed polymer sheets. <i>Materials and Design</i> , 2019, 181, 107968.	3.3	22
38	Modelling fatigue crack growth in shape memory alloys. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2022, 45, 1243-1257.	1.7	22
39	Phase field fracture predictions of microscopic bridging behaviour of composite materials. <i>Composite Structures</i> , 2022, 286, 115242.	3.1	22
40	A simple and robust Abaqus implementation of the phase field fracture method. <i>Applications in Engineering Science</i> , 2021, 6, 100050.	0.5	19
41	Simulation of hydrogen permeation through pure iron for trapping and surface phenomena characterisation. <i>Theoretical and Applied Fracture Mechanics</i> , 2020, 110, 102818.	2.1	18
42	Mode II fracture of an MMA adhesive layer: Theory versus experiment. <i>European Journal of Mechanics, A/Solids</i> , 2021, 86, 104133.	2.1	18
43	Analysis of hydrogen permeation tests considering two different modelling approaches for grain boundary trapping in iron. <i>International Journal of Fracture</i> , 2020, 223, 17-35.	1.1	17
44	Essential work of fracture assessment of acrylonitrile butadiene styrene (ABS) processed via fused filament fabrication additive manufacturing. <i>International Journal of Advanced Manufacturing Technology</i> , 2021, 113, 771-784.	1.5	17
45	Micromechanics-based phase field fracture modelling of CNT composites. <i>Composites Part B: Engineering</i> , 2022, 236, 109788.	5.9	17
46	Gradient-enhanced statistical analysis of cleavage fracture. <i>European Journal of Mechanics, A/Solids</i> , 2019, 77, 103785.	2.1	15
47	Crack tip fields and fracture resistance parameters based on strain gradient plasticity. <i>International Journal of Solids and Structures</i> , 2021, 208-209, 63-82.	1.3	15
48	Crack Growth Resistance in Metallic Alloys: The Role of Isotropic Versus Kinematic Hardening. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2018, 85, .	1.1	14
49	A mechanism-based gradient damage model for metallic fracture. <i>Engineering Fracture Mechanics</i> , 2021, 255, 107927.	2.0	14
50	Fracture in distortion gradient plasticity. <i>International Journal of Engineering Science</i> , 2020, 156, 103369.	2.7	13
51	Influence of charging conditions on simulated temperature-programmed desorption for hydrogen in metals. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 23704-23720.	3.8	11
52	Progress and opportunities in modelling environmentally assisted cracking. <i>RILEM Technical Letters</i> , 0, 6, 70-77.	0.0	11
53	Comparison of hydrogen diffusivities measured by electrochemical permeation and temperature-programmed desorption in cold-rolled pure iron. <i>Journal of Natural Gas Science and Engineering</i> , 2022, 98, 104365.	2.1	11
54	Cohesive zone modelling of hydrogen assisted fatigue crack growth: The role of trapping. <i>International Journal of Fatigue</i> , 2022, 162, 106935.	2.8	11

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55	Computational assessment of biomass dust explosions in the 20L sphere. Chemical Engineering Research and Design, 2022, 165, 791-814.	2.7	11
56	Creep behaviour and tensile response of adhesively bonded polyethylene joints: Single-Lap and Double-Strap. International Journal of Adhesion and Adhesives, 2020, 102, 102666.	1.4	10
57	Cold Isostatic Pressing to Improve the Mechanical Performance of Additively Manufactured Metallic Components. Materials, 2019, 12, 2495.	1.3	9
58	Steady-state fracture toughness of elastic-plastic solids: Isotropic versus kinematic hardening. Engineering Fracture Mechanics, 2019, 207, 254-268.	2.0	8
59	Pre-notched dog bone small punch specimens for the estimation of fracture properties. Engineering Failure Analysis, 2019, 96, 236-240.	1.8	8
60	CFD simulations of turbulent dust dispersion in the 20L vessel using OpenFOAM. Powder Technology, 2022, 397, 117033.	2.1	8
61	Numerical study of interface cracking in composite structures using a novel geometrically nonlinear Linear Elastic Brittle Interface Model: Mixed-mode fracture conditions and application to structured interfaces. Composite Structures, 2020, 248, 112495.	3.1	6
62	Mode I and mode II stress intensity factors and dislocation density behaviour in strain gradient plasticity. Theoretical and Applied Fracture Mechanics, 2021, 116, 103128.	2.1	6
63	Mode II Fracture of an Elastic-Plastic Sandwich Layer. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	1.1	5
64	Interaction of Void Spacing and Material Size Effect on Inter-Void Flow Localization. Journal of Applied Mechanics, Transactions ASME, 2021, 88, .	1.1	5
65	Mechanism-Based Crack Tip Characterization. Springer Theses, 2018, , 69-81.	0.0	0
66	The Role of Energetic and Dissipative Length Parameters. Springer Theses, 2018, , 97-111.	0.0	0
67	SGP-Based Modeling of HEAC. Springer Theses, 2018, , 129-153.	0.0	0
68	Gradient Plasticity Formulations. Springer Theses, 2018, , 13-31.	0.0	0
69	Hydrogen Diffusion Towards the Fracture Process Zone. Springer Theses, 2018, , 113-128.	0.0	0
70	On Fracture in Finite Strain Gradient Plasticity. Springer Theses, 2018, , 83-95.	0.0	0