

# Emilio Martínez Pañeda

## List of Publications by Year in descending order

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70  
papers

2,693  
citations

172457  
29  
h-index

189892  
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. Computer Methods in Applied Mechanics and Engineering, 2018, 342, 742-761.	6.6	245
2	Phase field fracture modelling using quasi-Newton methods and a new adaptive step scheme. Theoretical and Applied Fracture Mechanics, 2020, 107, 102446.	4.7	147
3	Phase field modelling of crack propagation in functionally graded materials. Composites Part B: Engineering, 2019, 169, 239-248.	12.0	136
4	Abaqus2Matlab: A suitable tool for finite element post-processing. Advances in Engineering Software, 2017, 105, 9-16.	3.8	121
5	Strain gradient plasticity-based modeling of hydrogen environment assisted cracking. Acta Materialia, 2016, 117, 321-332.	7.9	111
6	On fracture in finite strain gradient plasticity. International Journal of Plasticity, 2016, 80, 154-167.	8.8	90
7	A phase field formulation for dissolution-driven stress corrosion cracking. Journal of the Mechanics and Physics of Solids, 2021, 147, 104254.	4.8	85
8	A cohesive zone framework for environmentally assisted fatigue. Engineering Fracture Mechanics, 2017, 185, 210-226.	4.3	80
9	A phase field model for elastic-gradient-plastic solids undergoing hydrogen embrittlement. Journal of the Mechanics and Physics of Solids, 2020, 143, 104093.	4.8	79
10	Modeling damage and fracture within strain-gradient plasticity. International Journal of Solids and Structures, 2015, 59, 208-215.	2.7	76
11	Strain gradient plasticity modeling of hydrogen diffusion to the crack tip. International Journal of Hydrogen Energy, 2016, 41, 10265-10274.	7.1	75
12	On the suitability of slow strain rate tensile testing for assessing hydrogen embrittlement susceptibility. Corrosion Science, 2020, 163, 108291.	6.6	63
13	Numerical analysis of quasi-static fracture in functionally graded materials. International Journal of Mechanics and Materials in Design, 2015, 11, 405-424.	3.0	61
14	Analysis of the influence of microstructural traps on hydrogen assisted fatigue. Acta Materialia, 2020, 199, 253-263.	7.9	61
15	Phase field modelling of fracture and fatigue in Shape Memory Alloys. Computer Methods in Applied Mechanics and Engineering, 2021, 373, 113504.	6.6	60
16	The role of plastic strain gradients in the crack growth resistance of metals. Journal of the Mechanics and Physics of Solids, 2019, 126, 136-150.	4.8	58
17	An assessment of phase field fracture: crack initiation and growth. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20210021.	3.4	57
18	Phase field predictions of microscopic fracture and R-curve behaviour of fibre-reinforced composites. Composites Science and Technology, 2021, 202, 108539.	7.8	55

#	ARTICLE	IF	CITATIONS
19	A generalised phase field model for fatigue crack growth in elastic-plastic solids with an efficient monolithic solver. Computer Methods in Applied Mechanics and Engineering, 2022, 388, 114286.	6.6	54
20	A Unified Abaqus Implementation of the Phase Field Fracture Method Using Only a User Material Subroutine. Materials, 2021, 14, 1913.	2.9	52
21	Applications of phase field fracture in modelling hydrogen assisted failures. Theoretical and Applied Fracture Mechanics, 2020, 110, 102837.	4.7	48
22	A mechanism-based multi-trap phase field model for hydrogen assisted fracture. International Journal of Plasticity, 2021, 144, 103044.	8.8	47
23	Cracking predictions of lithium-ion battery electrodes by X-ray computed tomography and modelling. Journal of Power Sources, 2022, 526, 231119.	7.8	47
24	A finite element framework for distortion gradient plasticity with applications to bending of thin foils. International Journal of Solids and Structures, 2016, 96, 288-299.	2.7	44
25	Fracture toughness characterization through notched small punch test specimens. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 657, 422-430.	5.6	43
26	A phase field model for hydrogen-assisted fatigue. International Journal of Fatigue, 2022, 154, 106521.	5.7	40
27	Generalised boundary conditions for hydrogen transport at crack tips. Corrosion Science, 2020, 173, 108698.	6.6	38
28	On the Finite Element Implementation of Functionally Graded Materials. Materials, 2019, 12, 287.	2.9	33
29	Gradient plasticity crack tip characterization by means of the extended finite element method. Computational Mechanics, 2017, 59, 831-842.	4.0	32
30	Damage modeling in Small Punch Test specimens. Theoretical and Applied Fracture Mechanics, 2016, 86, 51-60.	4.7	31
31	Adaptive phase field modelling of crack propagation in orthotropic functionally graded materials. Defence Technology, 2021, 17, 185-195.	4.2	30
32	Non-local plasticity effects on notch fracture mechanics. Theoretical and Applied Fracture Mechanics, 2017, 92, 276-287.	4.7	29
33	A generalised, multi-phase-field theory for dissolution-driven stress corrosion cracking and hydrogen embrittlement. Journal of the Mechanics and Physics of Solids, 2022, 166, 104951.	4.8	29
34	A phase field electro-chemo-mechanical formulation for predicting void evolution at the Li-ion electrolyte interface in all-solid-state batteries. Journal of the Mechanics and Physics of Solids, 2022, 167, 104999.	4.8	26
35	Size effects in elastic-plastic functionally graded materials. Composite Structures, 2018, 204, 43-51.	5.8	23
36	Mode I crack tip fields: Strain gradient plasticity theory versus J2 flow theory. European Journal of Mechanics, A/Solids, 2019, 75, 381-388.	3.7	23

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37	The Essential Work of Fracture parameters for 3D printed polymer sheets. Materials and Design, 2019, 181, 107968.	7.0	22
38	Modelling fatigue crack growth in shape memory alloys. Fatigue and Fracture of Engineering Materials and Structures, 2022, 45, 1243-1257.	3.4	22
39	Phase field fracture predictions of microscopic bridging behaviour of composite materials. Composite Structures, 2022, 286, 115242.	5.8	22
40	A simple and robust Abaqus implementation of the phase field fracture method. Applications in Engineering Science, 2021, 6, 100050.	0.8	19
41	Simulation of hydrogen permeation through pure iron for trapping and surface phenomena characterisation. Theoretical and Applied Fracture Mechanics, 2020, 110, 102818.	4.7	18
42	Mode II fracture of an MMA adhesive layer: Theory versus experiment. European Journal of Mechanics, A/Solids, 2021, 86, 104133.	3.7	18
43	Analysis of hydrogen permeation tests considering two different modelling approaches for grain boundary trapping in iron. International Journal of Fracture, 2020, 223, 17-35.	2.2	17
44	Essential work of fracture assessment of acrylonitrile butadiene styrene (ABS) processed via fused filament fabrication additive manufacturing. International Journal of Advanced Manufacturing Technology, 2021, 113, 771-784.	3.0	17
45	Micromechanics-based phase field fracture modelling of CNT composites. Composites Part B: Engineering, 2022, 236, 109788.	12.0	17
46	Gradient-enhanced statistical analysis of cleavage fracture. European Journal of Mechanics, A/Solids, 2019, 77, 103785.	3.7	15
47	Crack tip fields and fracture resistance parameters based on strain gradient plasticity. International Journal of Solids and Structures, 2021, 208-209, 63-82.	2.7	15
48	Crack Growth Resistance in Metallic Alloys: The Role of Isotropic Versus Kinematic Hardening. Journal of Applied Mechanics, Transactions ASME, 2018, 85, .	2.2	14
49	A mechanism-based gradient damage model for metallic fracture. Engineering Fracture Mechanics, 2021, 255, 107927.	4.3	14
50	Fracture in distortion gradient plasticity. International Journal of Engineering Science, 2020, 156, 103369.	5.0	13
51	Influence of charging conditions on simulated temperature-programmed desorption for hydrogen in metals. International Journal of Hydrogen Energy, 2020, 45, 23704-23720.	7.1	11
52	Progress and opportunities in modelling environmentally assisted cracking. RILEM Technical Letters, 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. Journal of Natural Gas Science and Engineering, 2022, 98, 104365.	4.4	11
54	Cohesive zone modelling of hydrogen assisted fatigue crack growth: The role of trapping. International Journal of Fatigue, 2022, 162, 106935.	5.7	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.	5.6	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.	2.9	10
57	Cold Isostatic Pressing to Improve the Mechanical Performance of Additively Manufactured Metallic Components. Materials, 2019, 12, 2495.	2.9	9
58	Steady-state fracture toughness of elastic-plastic solids: Isotropic versus kinematic hardening. Engineering Fracture Mechanics, 2019, 207, 254-268.	4.3	8
59	Pre-notched dog bone small punch specimens for the estimation of fracture properties. Engineering Failure Analysis, 2019, 96, 236-240.	4.0	8
60	CFD simulations of turbulent dust dispersion in the 20ÅL vessel using OpenFOAM. Powder Technology, 2022, 397, 117033.	4.2	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.	5.8	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.	4.7	6
63	Mode II Fracture of an Elastic-Plastic Sandwich Layer. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	2.2	5
64	Interaction of Void Spacing and Material Size Effect on Inter-Void Flow Localization. Journal of Applied Mechanics, Transactions ASME, 2021, 88, .	2.2	5
65	Mechanism-Based Crack Tip Characterization. Springer Theses, 2018, , 69-81.	0.1	0
66	The Role of Energetic and Dissipative Length Parameters. Springer Theses, 2018, , 97-111.	0.1	0
67	SGP-Based Modeling of HEAC. Springer Theses, 2018, , 129-153.	0.1	0
68	Gradient Plasticity Formulations. Springer Theses, 2018, , 13-31.	0.1	0
69	Hydrogen Diffusion Towards the Fracture Process Zone. Springer Theses, 2018, , 113-128.	0.1	0
70	On Fracture in Finite Strain Gradient Plasticity. Springer Theses, 2018, , 83-95.	0.1	0