

Miguel Cervera

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132
papers

5,002
citations

42
h-index

66
g-index

137
ext. papers

5,672
ext. citations

4.3
avg, IF

6.01
L-index

#	Paper	IF	Citations
132	Structural Analysis of Masonry Historical Constructions. Classical and Advanced Approaches. <i>Archives of Computational Methods in Engineering</i> , 2010 , 17, 299-325	7.8	362
131	A strain-based plastic viscous-damage model for massive concrete structures. <i>International Journal of Solids and Structures</i> , 1998 , 35, 1533-1558	3.1	291
130	Strong discontinuities and continuum plasticity models: the strong discontinuity approach. <i>International Journal of Plasticity</i> , 1999 , 15, 319-351	7.6	169
129	Non-random dispersal in the butterfly <i>Maniola jurtina</i> : implications for metapopulation models. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2000 , 267, 1505-10	4.4	141
128	Finite element modeling of multi-pass welding and shaped metal deposition processes. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2010 , 199, 2343-2359	5.7	134
127	Thermo-Chemo-Mechanical Model for Concrete. I: Hydration and Aging. <i>Journal of Engineering Mechanics - ASCE</i> , 1999 , 125, 1018-1027	2.4	122
126	Numerical prediction of temperature and density distributions in selective laser sintering processes. <i>Rapid Prototyping Journal</i> , 1999 , 5, 21-26	3.8	118
125	Seismic evaluation of concrete dams via continuum damage models. <i>Earthquake Engineering and Structural Dynamics</i> , 1995 , 24, 1225-1245	4	115
124	A RATE-DEPENDENT ISOTROPIC DAMAGE MODEL FOR THE SEISMIC ANALYSIS OF CONCRETE DAMS. <i>Earthquake Engineering and Structural Dynamics</i> , 1996 , 25, 987-1010	4	103
123	Smearred crack approach: back to the original track. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2006 , 30, 1173-1199	4	100
122	Mixed stabilized finite element methods in nonlinear solid mechanics. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2010 , 199, 2559-2570	5.7	93
121	An orthotropic damage model for the analysis of masonry structures. <i>Construction and Building Materials</i> , 2013 , 41, 957-967	6.7	91
120	Mixed stabilized finite element methods in nonlinear solid mechanics: Part II: Strain localization. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2010 , 199, 2571-2589	5.7	88
119	Numerical modeling of friction stir welding processes. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2013 , 254, 353-369	5.7	83
118	Numerical modelling of concrete curing, regarding hydration and temperature phenomena. <i>Computers and Structures</i> , 2002 , 80, 1511-1521	4.5	82
117	A finite volume format for structural mechanics. <i>International Journal for Numerical Methods in Engineering</i> , 1994 , 37, 181-201	2.4	81
116	Mixed linear/linear simplicial elements for incompressible elasticity and plasticity. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2003 , 192, 5249-5263	5.7	78

115	Mesh objective tensile cracking via a local continuum damage model and a crack tracking technique. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006 , 196, 304-320	5.7	77
114	A stabilized formulation for incompressible elasticity using linear displacement and pressure interpolations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2002 , 191, 5253-5264	5.7	76
113	Continuum damage model for orthotropic materials: Application to masonry. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011 , 200, 917-930	5.7	74
112	Residual stress and distortion of rectangular and S-shaped Ti-6Al-4V parts by Directed Energy Deposition: Modelling and experimental calibration. <i>Additive Manufacturing</i> , 2019 , 26, 166-179	6.1	73
111	The intrinsic time for the streamline upwind/Petrov-Galerkin formulation using quadratic elements. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1992 , 94, 239-262	5.7	73
110	Numerical modelling and experimental validation in Selective Laser Melting. <i>Additive Manufacturing</i> , 2017 , 18, 171-185	6.1	71
109	On the computational efficiency and implementation of block-iterative algorithms for nonlinear coupled problems. <i>Engineering Computations</i> , 1996 , 13, 4-30	1.4	69
108	DERIVATION OF THIN PLATE BENDING ELEMENTS WITH ONE DEGREE OF FREEDOM PER NODE: A SIMPLE THREE NODE TRIANGLE. <i>Engineering Computations</i> , 1993 , 10, 543-561	1.4	66
107	A crack-tracking technique for localized damage in quasi-brittle materials. <i>Engineering Fracture Mechanics</i> , 2010 , 77, 2431-2450	4.2	65
106	Continuum FE models for the analysis of Mallorca Cathedral. <i>Engineering Structures</i> , 2013 , 46, 653-670	4.7	62
105	Numerical simulation and experimental calibration of additive manufacturing by blown powder technology. Part I: thermal analysis. <i>Rapid Prototyping Journal</i> , 2017 , 23, 448-463	3.8	59
104	Thermo-Chemo-Mechanical Model for Concrete. II: Damage and Creep. <i>Journal of Engineering Mechanics - ASCE</i> , 1999 , 125, 1028-1039	2.4	58
103	Numerical modeling of the electron beam welding and its experimental validation. <i>Finite Elements in Analysis and Design</i> , 2016 , 121, 118-133	2.2	55
102	An apropos kinematic framework for the numerical modeling of friction stir welding. <i>Computers and Structures</i> , 2013 , 117, 48-57	4.5	53
101	Mixed stabilized finite element methods in nonlinear solid mechanics. Part III: Compressible and incompressible plasticity. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015 , 285, 752-775	5.7	52
100	A stabilized formulation for incompressible plasticity using linear triangles and tetrahedra. <i>International Journal of Plasticity</i> , 2004 , 20, 1487-1504	7.6	52
99	A fast and accurate two-stage strategy to evaluate the effect of the pin tool profile on metal flow, torque and forces in friction stir welding. <i>International Journal of Mechanical Sciences</i> , 2017 , 122, 215-227	5.5	51
98	Antibiotic prevention of acute exacerbations of COPD. <i>New England Journal of Medicine</i> , 2012 , 367, 340-349	39.2	51

97	Finite element analysis and experimental validation of the thermomechanical behavior in laser solid forming of Ti-6Al-4V. <i>Additive Manufacturing</i> , 2018 , 21, 30-40	6.1	49
96	Numerical analysis of stereolithography processes using the finite element method. <i>Rapid Prototyping Journal</i> , 1995 , 1, 13-23	3.8	49
95	Shear band localization via local J2 continuum damage mechanics. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2004 , 193, 849-880	5.7	47
94	Mesh objective modeling of cracks using continuous linear strain and displacement interpolations. <i>International Journal for Numerical Methods in Engineering</i> , 2011 , 87, 962-987	2.4	46
93	Enhanced friction model for Friction Stir Welding (FSW) analysis: Simulation and experimental validation. <i>International Journal of Mechanical Sciences</i> , 2017 , 133, 555-567	5.5	45
92	On the formulation of coupled thermoplastic problems with phase-change. <i>International Journal of Plasticity</i> , 1999 , 15, 1-34	7.6	43
91	Nonlinear analysis of reinforced concrete plate and shell structures using 20-noded isoparametric brick elements. <i>Computers and Structures</i> , 1987 , 25, 845-869	4.5	43
90	On the orthogonal subgrid scale pressure stabilization of finite deformation J2 plasticity. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006 , 195, 1224-1251	5.7	41
89	Challenges in Thermo-mechanical Analysis of Friction Stir Welding Processes. <i>Archives of Computational Methods in Engineering</i> , 2017 , 24, 189-225	7.8	39
88	A novel positive/negative projection in energy norm for the damage modeling of quasi-brittle solids. <i>International Journal of Solids and Structures</i> , 2018 , 139-140, 250-269	3.1	36
87	Finite element modelling of internal and multiple localized cracks. <i>Computational Mechanics</i> , 2017 , 59, 299-316	4	36
86	Thermo-mechanical analysis of industrial solidification processes. <i>International Journal for Numerical Methods in Engineering</i> , 1999 , 46, 1575-1591	2.4	35
85	In situ measurements and thermo-mechanical simulation of Ti6Al4V laser solid forming processes. <i>International Journal of Mechanical Sciences</i> , 2019 , 153-154, 119-130	5.5	34
84	Effect of the Tool Tilt Angle on the Heat Generation and the Material Flow in Friction Stir Welding. <i>Metals</i> , 2019 , 9, 28	2.3	34
83	Simulation of Construction of RCC Dams. I: Temperature and Aging. <i>Journal of Structural Engineering</i> , 2000 , 126, 1053-1061	3	34
82	Modeling of Microstructure Evolution of Ti6Al4V for Additive Manufacturing. <i>Metals</i> , 2018 , 8, 633	2.3	34
81	On the equivalence between traction- and stress-based approaches for the modeling of localized failure in solids. <i>Journal of the Mechanics and Physics of Solids</i> , 2015 , 82, 137-163	5	32
80	Softening, localization and stabilization: capture of discontinuous solutions in J2 plasticity. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2004 , 28, 373-393	4	32

79	Modeling Material Failure in Concrete Structures under Cyclic Actions. <i>Journal of Structural Engineering</i> , 2004 , 130, 1997-2005	3	32
78	Material flow visualization in Friction Stir Welding via particle tracing. <i>International Journal of Material Forming</i> , 2015 , 8, 167-181	2	31
77	A crack-tracking technique for localized cohesive frictional damage. <i>Engineering Fracture Mechanics</i> , 2015 , 150, 96-114	4.2	31
76	A localized mapped damage model for orthotropic materials. <i>Engineering Fracture Mechanics</i> , 2014 , 124-125, 196-216	4.2	30
75	A thermodynamically consistent plastic-damage framework for localized failure in quasi-brittle solids: Material model and strain localization analysis. <i>International Journal of Solids and Structures</i> , 2016 , 88-89, 227-247	3.1	29
74	Size effect and localization in J2 plasticity. <i>International Journal of Solids and Structures</i> , 2009 , 46, 3301-3312	3.1	29
73	Defect formation and material flow in Friction Stir Welding. <i>European Journal of Mechanics, A/Solids</i> , 2020 , 80, 103912	3.7	28
72	Tracking multi-directional intersecting cracks in numerical modelling of masonry shear walls under cyclic loading. <i>Meccanica</i> , 2018 , 53, 1757-1776	2.1	27
71	Computational Modeling and Sub-Grid Scale Stabilization of Incompressibility and Convection in the Numerical Simulation of Friction Stir Welding Processes. <i>Archives of Computational Methods in Engineering</i> , 2014 , 21, 3-37	7.8	26
70	Finite element modeling of quasi-brittle cracks in 2D and 3D with enhanced strain accuracy. <i>Computational Mechanics</i> , 2017 , 60, 767-796	4	26
69	On the conformity of strong, regularized, embedded and smeared discontinuity approaches for the modeling of localized failure in solids. <i>International Journal of Solids and Structures</i> , 2015 , 71, 19-38	3.1	23
68	A mixed three-field FE formulation for stress accurate analysis including the incompressible limit. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015 , 283, 1095-1116	5.7	23
67	Challenges, Tools and Applications of Tracking Algorithms in the Numerical Modelling of Cracks in Concrete and Masonry Structures. <i>Archives of Computational Methods in Engineering</i> , 2019 , 26, 961-1005	7.8	23
66	Comparison of a Fluid and a Solid Approach for the Numerical Simulation of Friction Stir Welding with a Non-Cylindrical Pin. <i>Steel Research International</i> , 2014 , 85, 968-979	1.6	23
65	An Enhanced Finite Element Macro-Model for the Realistic Simulation of Localized Cracks in Masonry Structures: A Large-Scale Application. <i>International Journal of Architectural Heritage</i> , 2018 , 12, 432-447	2.1	22
64	Explicit mixed strain-displacement finite element for dynamic geometrically non-linear solid mechanics. <i>Computational Mechanics</i> , 2015 , 55, 543-559	4	20
63	On the constitutive modeling of coupled thermomechanical phase-change problems. <i>International Journal of Plasticity</i> , 2001 , 17, 1565-1622	7.6	20
62	Substrate design to minimize residual stresses in Directed Energy Deposition AM processes. <i>Materials and Design</i> , 2021 , 202, 109525	8.1	19

61	Benchmarking on bifurcation and localization in J2 plasticity for plane stress and plane strain conditions. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2012 , 241-244, 206-224	5.7	17
60	On the Numerical Modeling of the Thermomechanical Contact for Metal Casting Analysis. <i>Journal of Heat Transfer</i> , 2008 , 130,	1.8	17
59	A smeared-embedded mesh-corrected damage model for tensile cracking. <i>International Journal for Numerical Methods in Engineering</i> , 2008 , 76, 1930-1954	2.4	17
58	An orthotropic mesh corrected crack model. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008 , 197, 1603-1619	5.7	17
57	Prediction of joint line remnant defect in friction stir welding. <i>International Journal of Mechanical Sciences</i> , 2019 , 151, 61-69	5.5	17
56	Out-of-plane seismic response and failure mechanism of masonry structures using finite elements with enhanced strain accuracy. <i>Engineering Failure Analysis</i> , 2019 , 97, 534-555	3.2	17
55	Modelling of Bingham and Herschel-Bulkley flows with mixed P1/P1 finite elements stabilized with orthogonal subgrid scale. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2016 , 228, 1-16	2.7	16
54	Simulation of Construction of RCC Dams. II: Stress and Damage. <i>Journal of Structural Engineering</i> , 2000 , 126, 1062-1069	3	16
53	3D numerical modelling of twisting cracks under bending and torsion of skew notched beams. <i>Engineering Fracture Mechanics</i> , 2017 , 176, 235-256	4.2	15
52	Analysis of the Effect of Provisional Ties on the Construction and Current Deformation of Mallorca Cathedral. <i>International Journal of Architectural Heritage</i> , 2016 , 10, 418-437	2.1	15
51	Numerical Modelling of Microstructure Evolution in Friction Stir Welding (FSW). <i>Metals</i> , 2018 , 8, 183	2.3	14
50	Local/global strategy for the prediction of residual stresses in FSW processes. <i>International Journal of Advanced Manufacturing Technology</i> , 2017 , 88, 3099-3111	3.2	13
49	An Energy-Equivalent d_+/d Damage Model with Enhanced Microcrack Closure-Reopening Capabilities for Cohesive-Frictional Materials. <i>Materials</i> , 2017 , 10,	3.5	13
48	Failure pressure evaluation of the containment building of a large dry nuclear power plant. <i>Nuclear Engineering and Design</i> , 1998 , 180, 251-270	1.8	13
47	Stress-accurate Mixed FEM for soil failure under shallow foundations involving strain localization in plasticity. <i>Computers and Geotechnics</i> , 2015 , 64, 32-47	4.4	12
46	Structural size effect: Experimental, theoretical and accurate computational assessment. <i>Engineering Structures</i> , 2020 , 213, 110555	4.7	12
45	High-fidelity prediction of crack formation in 2D and 3D pullout tests. <i>Computers and Structures</i> , 2016 , 172, 93-109	4.5	11
44	Numerical modelling of heat transfer and experimental validation in powder-bed fusion with the virtual domain approximation. <i>Finite Elements in Analysis and Design</i> , 2020 , 168, 103343	2.2	11

43	Strain Localization of Elastic-Damaging Frictional-Cohesive Materials: Analytical Results and Numerical Verification. <i>Materials</i> , 2017 , 10,	3.5	10
42	A computational model for progressive cracking in large dams due to the swelling of concrete. <i>Engineering Fracture Mechanics</i> , 1990 , 35, 573-585	4.2	9
41	Viscoelasticity and Damage Model for Creep Behavior of Historical Masonry Structures. <i>Open Civil Engineering Journal</i> , 2012 , 6, 188-199	0.8	9
40	Numerical Simulation and Visualization of Material Flow in Friction Stir Welding via Particle Tracing. <i>Computational Methods in Applied Sciences (Springer)</i> , 2014 , 157-169	0.4	9
39	An adaptive Finite Element strategy for the numerical simulation of additive manufacturing processes. <i>Additive Manufacturing</i> , 2021 , 37, 101650	6.1	9
38	Cracking of quasi-brittle structures under monotonic and cyclic loadings: A d/d damage model with stiffness recovery in shear. <i>International Journal of Solids and Structures</i> , 2018 , 135, 148-171	3.1	9
37	Explicit mixed strain/displacement finite elements for compressible and quasi-incompressible elasticity and plasticity. <i>Computational Mechanics</i> , 2016 , 58, 511-532	4	8
36	Modeling of the Effect of the Building Strategy on the Thermomechanical Response of Ti-6Al-4V Rectangular Parts Manufactured by Laser Directed Energy Deposition. <i>Metals</i> , 2020 , 10, 1643	2.3	8
35	Warpage Analysis and Control of Thin-Walled Structures Manufactured by Laser Powder Bed Fusion. <i>Metals</i> , 2021 , 11, 686	2.3	8
34	Simulation-assisted investigation on the formation of layer bands and the microstructural evolution in directed energy deposition of Ti6Al4V blocks. <i>Virtual and Physical Prototyping</i> , 1-17	10.1	8
33	Experimental Validation of an FSW Model with an Enhanced Friction Law: Application to a Threaded Cylindrical Pin Tool. <i>Metals</i> , 2017 , 7, 491	2.3	7
32	Stress, strain and dissipation accurate 3-field formulation for inelastic isochoric deformation. <i>Finite Elements in Analysis and Design</i> , 2021 , 192, 103534	2.2	7
31	Appraisal of planar, bending and twisting cracks in 3D with isotropic and orthotropic damage models. <i>International Journal of Fracture</i> , 2018 , 210, 45-79	2.3	6
30	A Computational Model for the Numerical Simulation of FSW Processes 2010 ,		6
29	Numerical and experimental analysis of the structural performance of AM components built by fused filament fabrication. <i>International Journal of Mechanics and Materials in Design</i> , 2021 , 17, 225-244	2.5	6
28	3D numerical models of FSW processes with non-cylindrical pin. <i>Advances in Materials and Processing Technologies</i> , 2015 , 1, 275-287	0.8	5
27	3D numerical models using a fluid or a solid formulation of FSW processes with a non-cylindrical pin. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , 2015 , 2,	2.7	5
26	A novel stress-accurate FE technology for highly non-linear analysis with incompressibility constraint. Application to the numerical simulation of the FSW process 2013 ,		4

25	A penalty finite element method for non-Newtonian creeping flows. <i>International Journal for Numerical Methods in Engineering</i> , 1993 , 36, 1395-1412	2.4	4
24	Bond behavior and tensile properties of FRCM composites applied on masonry panels 2016 , 323-329		4
23	Experimental, Computational, and Dimensional Analysis of the Mechanical Performance of Fused Filament Fabrication Parts. <i>Polymers</i> , 2021 , 13,	4.5	4
22	Strain localization analysis of Hill's orthotropic elastoplasticity: analytical results and numerical verification. <i>Computational Mechanics</i> , 2020 , 65, 533-554	4	4
21	A Comparative Review of XFEM, Mixed FEM and Phase-Field Models for Quasi-brittle Cracking. <i>Archives of Computational Methods in Engineering</i> ,1	7.8	4
20	Architecture of a multi-crack model with full closing, reopening and sliding capabilities. <i>Computational Mechanics</i> , 2020 , 65, 1593-1620	4	3
19	Residual Stresses Control in Additive Manufacturing. <i>Journal of Manufacturing and Materials Processing</i> , 2021 , 5, 138	2.2	3
18	Elementos finitos mixtos estabilizados para flujos confinados de Bingham y de Herschel-Bulkley. Parte I: Formulaci3n. <i>Revista Internacional De Metodos Numericos Para Calculo Y Diseno En Ingenieria</i> , 2016 , 32, 100-109	1.8	3
17	Elementos finitos mixtos estabilizados para flujos confinados de Bingham y de Herschel-Bulkley Parte II: soluciones num3ricas. <i>Revista Internacional De Metodos Numericos Para Calculo Y Diseno En Ingenieria</i> , 2016 , 32, 131-138	1.8	2
16	Preconditioned conjugate gradient method for the non-linear finite element analysis with particular reference to 3D reinforced concrete structures. <i>Engineering Computations</i> , 1986 , 3, 235-242	1.4	2
15	Mitigation of residual stresses and microstructure homogenization in directed energy deposition processes. <i>Engineering With Computers</i> ,1	4.5	2
14	Lugares rurales versus espacios naturalizados. Conocimientos y reconocimientos en las l3gicas patrimoniales de las 3reas protegidas. <i>AIBR Revista De Antropologia Iberoamericana</i> , 2013 , 08, 111-138	0.1	2
13	Accurate and locking-free analysis of beams, plates and shells using solid elements. <i>Computational Mechanics</i> , 2021 , 67, 883-914	4	2
12	Numerical analysis of the manufacturing processes of a mock-up of the ITER NHF First Wall Panel. <i>Fusion Engineering and Design</i> , 2018 , 135, 65-73	1.7	1
11	Effect of pier-spandrel geometry on the in-plane response of masonry structures 2016 , 339-346		1
10	Current Developments on the Coupled Thermomechanical Computational Modeling of Metal Casting Processes 2006 , 247-247		1
9	Strain Localization of Orthotropic Elasto-Plastic Cohesive-Frictional Materials: Analytical Results and Numerical Verification. <i>Materials</i> , 2021 , 14,	3.5	1
8	Modeling of spillage and debris floods as Newtonian and viscoplastic Bingham flows with free surface with mixed stabilized finite elements. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2021 , 290, 104512	2.7	1

7	A Phenomenological Model for the Solidification of Eutectic and Hypoeutectic Alloys Including Recalescence and Undercooling. <i>Journal of Heat Transfer</i> , 2018 , 140,	1.8	1
6	Tracking of Localized Cracks in the Finite Element Analysis of Masonry Walls. <i>RILEM Bookseries</i> , 2019 , 919-928	0.5	0
5	On site composites-to-masonry bond evaluation in presence of rising damp and salt crystallization 2016 , 365-372		0
4	Computational characterization of polymeric materials 3D-printed via fused filament fabrication. <i>Mechanics of Advanced Materials and Structures</i> ,1-11	1.8	0
3	Accurate thermal-induced structural failure analysis under incompressible conditions. <i>Engineering Structures</i> , 2022 , 261, 114213	4.7	0
2	Formulaci3n mixta estabilizada expl3cita de elementos finitos para s3lidos compresibles y quasi-incompresibles. <i>Revista Internacional De Metodos Numericos Para Calculo Y Diseno En Ingenieria</i> , 2017 , 33, 35-44	1.8	
1	Una formulaci3n mixta estabilizada expl3cita para plasticidad con localizaci3n de deformaciones. <i>Revista Internacional De Metodos Numericos Para Calculo Y Diseno En Ingenieria</i> , 2017 , 33, 250-261	1.8	