Gilles Pijaudier-Cabot

List of Publications by Year
in descending order

139 papers	7,810 citations	76196 40 h-index	49773 87 g-index
156 all docs	156 docs citations	156 times ranked	3482 citing authors

#	Article	IF	Citations
1	Nonlocal Damage Theory. Journal of Engineering Mechanics - ASCE, 1987, 113, 1512-1533.	1.6	1,551
2	Continuum Damage Theoryâ€"Application to Concrete. Journal of Engineering Mechanics - ASCE, 1989, 115, 345-365.	1.6	809
3	Nonlocal Continuum Damage, Localization Instability and Convergence. Journal of Applied Mechanics, Transactions ASME, 1988, 55, 287-293.	1.1	708
4	Random Particle Model for Fracture of Aggregate or Fiber Composites. Journal of Engineering Mechanics - ASCE, 1990, 116, 1686-1705.	1.6	442
5	Measurement of Characteristic Length of Nonlocal Continuum. Journal of Engineering Mechanics - ASCE, 1989, 115, 755-767.	1.6	349
6	Experimental characterization of the self-healing of cracks in an ultra high performance cementitious material: Mechanical tests and acoustic emission analysis. Cement and Concrete Research, 2007, 37, 519-527.	4.6	262
7	From damage to fracture mechanics and conversely: A combined approach. International Journal of Solids and Structures, 1996, 33, 3327-3342.	1.3	212
8	Effects and interactions of temperature and stress-level related damage on permeability of concrete. Cement and Concrete Research, 2007, 37, 79-88.	4.6	201
9	Meso-scale modelling of the size effect on the fracture process zone of concrete. International Journal of Solids and Structures, 2012, 49, 1818-1827.	1.3	149
10	An elastic plastic damage formulation for concrete: Application to elementary tests and comparison with an isotropic damage model. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 7077-7092.	3.4	141
11	Coupled diffusion-damage modelling and the implications on failure due to strain localisation. International Journal of Solids and Structures, 1998, 35, 4107-4120.	1.3	116
12	Strain localization and bifurcation in a nonlocal continuum. International Journal of Solids and Structures, 1993, 30, 1761-1775.	1.3	114
13	Rate Dependent Damage Model for Concrete in Dynamics. Journal of Engineering Mechanics - ASCE, 1996, 122, 939-947.	1.6	109
14	Calibration of nonlocal damage model from size effect tests. European Journal of Mechanics, A/Solids, 2003, 22, 33-46.	2.1	109
15	Isotropic and anisotropic descriptions of damage in concrete structures. International Journal for Numerical and Analytical Methods in Geomechanics, 1999, 4, 339-359.	1.2	105
16	Failure and size effect for notched and unnotched concrete beams. International Journal for Numerical and Analytical Methods in Geomechanics, 2013, 37, 1434-1452.	1.7	100
17	Chemo-Mechanical Effects in Mortar Beams Subjected to Water Hydrolysis. Journal of Engineering Mechanics - ASCE, 2000, 126, 266-272.	1.6	93
18	Coupled damage and plasticity modelling in transient dynamic analysis of concrete. International Journal for Numerical and Analytical Methods in Geomechanics, 2002, 26, 1-24.	1.7	93

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19	Progressive damage in discrete models and consequences on continuum modelling. Journal of the Mechanics and Physics of Solids, 1996, 44, 99-136.	2.3	91
20	Non-local damage model with evolving internal length. International Journal for Numerical and Analytical Methods in Geomechanics, 2004, 28, 633-652.	1.7	84
21	Experimental study on an alternative oil stimulation technique for tight gas reservoirs based on dynamic shock waves generated by Pulsed Arc Electrohydraulic Discharges. Journal of Petroleum Science and Engineering, 2012, 88-89, 67-74.	2.1	76
22	Compaction and tensile damage in concrete: constitutive modelling and application to dynamics. Computer Methods in Applied Mechanics and Engineering, 2000, 183, 291-308.	3.4	75
23	Experimental analysis of compaction of concrete and mortar. International Journal for Numerical and Analytical Methods in Geomechanics, 2001, 25, 1467-1486.	1.7	75
24	Electrohydraulic shock wave generation as a means to increase intrinsic permeability of mortar. Cement and Concrete Research, 2010, 40, 1631-1638.	4.6	74
25	Boundary effect on weight function in nonlocal damage model. Engineering Fracture Mechanics, 2009, 76, 2217-2231.	2.0	72
26	Finite element analysis of bifurcation in nonlocal strain softening solids. Computer Methods in Applied Mechanics and Engineering, 1991, 90, 905-919.	3.4	60
27	Cracking Tendency of Self-Compacting Concrete Subjected to Restrained Shrinkage: Experimental Study and Modeling. Journal of Materials in Civil Engineering, 2006, 18, 46-54.	1.3	60
28	Continuum Damage Approach to Asphalt Concrete Fatigue Modeling. Journal of Engineering Mechanics - ASCE, 2004, 130, 700-708.	1.6	58
29	Discretization Influence on Regularization by Two Localization Limiters. Journal of Engineering Mechanics - ASCE, 1994, 120, 1198-1218.	1.6	56
30	Permeability due to the Increase of Damage in Concrete: From Diffuse to Localized Damage Distributions. Journal of Engineering Mechanics - ASCE, 2009, 135, 1022-1028.	1.6	56
31	Coupled Mechanical and Chemical Damage in Calcium Leached Cementitious Structures. Journal of Engineering Mechanics - ASCE, 2003, 129, 333-341.	1.6	55
32	Coupling between progressive damage and permeability of concrete: analysis with a discrete model. International Journal for Numerical and Analytical Methods in Geomechanics, 2005, 29, 1005-1018.	1.7	49
33	Creep-Damage Coupled Effects: Experimental Investigation on Bending Beams with Various Sizes. Journal of Materials in Civil Engineering, 2009, 21, 65-72.	1.3	48
34	Size effect and continuous damage in cementitious materials. International Journal of Fracture, 1991, 51, 159-173.	1.1	48
35	Experimental and numerical analysis of crack evolution in concrete through acoustic emission technique and mesoscale modelling. Engineering Fracture Mechanics, 2016, 167, 123-137.	2.0	47
36	Arbitrary Lagrangian-Eulerian finite element analysis of strain localization in transient problems. International Journal for Numerical Methods in Engineering, 1995, 38, 4171-4191.	1.5	45

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37	Continuum damage modelling: Approximation of crack induced anisotropy. Mechanics Research Communications, 1997, 24, 109-114.	1.0	45
38	Mesoscale analysis of failure in quasi-brittle materials: comparison between lattice model and acoustic emission data. International Journal for Numerical and Analytical Methods in Geomechanics, 2015, 39, 1639-1664.	1.7	45
39	Numerical modelling of concrete flow: homogeneous approach. International Journal for Numerical and Analytical Methods in Geomechanics, 2005, 29, 395-416.	1.7	44
40	Extraction of a crack opening from a continuous approach using regularized damage models. Computers and Concrete, 2008, 5, 375-388.	0.7	44
41	Steelâ€Concrete Bond Analysis with Nonlocal Continuous Damage. Journal of Structural Engineering, 1991, 117, 862-882.	1.7	43
42	Damage and localisation in elastic materials with voids. International Journal for Numerical and Analytical Methods in Geomechanics, 1996, 1, 129-144.	1.2	37
43	Damage cascade in a softening interface. International Journal of Solids and Structures, 1999, 36, 1403-1426.	1.3	37
44	Ductility, Snapback, Size Effect, and Redistribution in Softening Beams or Frames. Journal of Structural Engineering, 1987, 113, 2348-2364.	1.7	35
45	Revisiting poromechanics in the context of microporous materials. Comptes Rendus - Mecanique, 2011, 339, 770-778.	2.1	35
46	Hydraulic behaviour of a representative structural volume for containment buildings. Nuclear Engineering and Design, 2007, 237, 1259-1274.	0.8	34
47	Non local damage model. European Journal of Environmental and Civil Engineering, 2010, 14, 729-749.	1.0	32
48	Monitoring of cracking and healing in an ultra high performance cementitious material using the time reversal technique. Cement and Concrete Research, 2009, 39, 296-302.	4.6	29
49	Enhanced continuum poromechanics to account for adsorption induced swelling of saturated isotropic microporous materials. European Journal of Mechanics, A/Solids, 2014, 44, 148-156.	2.1	26
50	Correlations between the internal length, the fracture process zone and size effect in mortar and model materials. Materials and Structures/Materiaux Et Constructions, 2005, 38, 201-210.	1.3	24
51	Avalanche Statistics of Interface Crack Propagation in Fiber Bundle Model: Characterization of Cohesive Crack. Journal of Engineering Mechanics - ASCE, 2001, 127, 646-652.	1.6	21
52	Experimental and numerical study of shock wave propagation in water generated by pulsed arc electrohydraulic discharges. Heat and Mass Transfer, 2014, 50, 673-684.	1.2	20
53	Capillary bundle model for the computation of the apparent permeability from pore size distributions. European Journal of Environmental and Civil Engineering, 2015, 19, 168-183.	1.0	20
54	Cracks Interacting with Particles or Fibers in Composite Materials. Journal of Engineering Mechanics - ASCE, 1991, 117, 1611-1630.	1.6	19

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55	Poromechanics of adsorption-induced swelling in microporous materials: a new poromechanical model taking into account strain effects on adsorption. Continuum Mechanics and Thermodynamics, 2015, 27, 195-209.	1.4	18
56	On the prediction of permeability and relative permeability from pore size distributions. Cement and Concrete Research, 2020, 133, 106074.	4.6	18
57	Estimation of crack opening from a twoâ€dimensional continuumâ€based finite element computation. International Journal for Numerical and Analytical Methods in Geomechanics, 2012, 36, 1813-1830.	1.7	16
58	Tensile Damage in Concrete: Analysis of Experimental Technique. Journal of Engineering Mechanics - ASCE, 1999, 125, 906-913.	1.6	15
59	A thermostated coupled apparatus for the simultaneous determination of adsorption isotherms and differential enthalpies of adsorption at high pressure and high temperature. Journal of Thermal Analysis and Calorimetry, 2012, 109, 1077-1087.	2.0	15
60	Simulation of damageâ€“permeability coupling for mortar under dynamic loads. International Journal for Numerical and Analytical Methods in Geomechanics, 2014, 38, 457-474.	1.7	15
61	Size effect regarding fatigue evaluation of asphalt mixtures. Road Materials and Pavement Design, 2006, 7, 181-200.	2.0	14
62	Note: Temperature derivative of the refractive index of binary mixtures measured by using a new thermodiffusion cell. Review of Scientific Instruments, 2011, 82, 126105.	0.6	14
63	Damage at heterogeneous interfaces. Physica A: Statistical Mechanics and Its Applications, 1999, 270, 35-41.	1.2	13
64	Analysis by Ripleyâ€™s function of the correlations involved during failure in quasi-brittle materials: Experimental and numerical investigations at the mesoscale. Engineering Fracture Mechanics, 2015, 147, 449-467.	2.0	13
65	Localization of damage in a nonlocal continuum. Mechanics Research Communications, 1992, 19, 145-153.	1.0	12
66	Modelling anisotropic damage and permeability of mortar under dynamic loads. European Journal of Environmental and Civil Engineering, 2011, 15, 727-742.	1.0	12
67	From discrete to nonlocal continuum damage mechanics: Analysis of a lattice system in bending using a continualized approach. International Journal of Damage Mechanics, 2015, 24, 983-1012.	2.4	12
68	Modelling crack propagation in concrete structures with a two scale approach. International Journal for Numerical and Analytical Methods in Geomechanics, 2003, 27, 1187-1205.	1.7	11
69	Stability and dynamics of a plastic softening oscillator. International Journal of Solids and Structures, 2006, 43, 5867-5885.	1.3	11
70	On the capability of the Thick Level Set (TLS) damage model to fit experimental data of size and shape effects. Engineering Fracture Mechanics, 2017, 184, 75-87.	2.0	11
71	Determination of the fracture energy of rocks from size effect tests: Application to shales and carbonate rocks. Engineering Fracture Mechanics, 2022, 271, 108630.	2.0	11
72	Thermodiffusion of the tetrahydronaphthalene and dodecane mixture under high pressure and in porous medium. Comptes Rendus - Mecanique, 2013, 341, 340-347.	2.1	10

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73	Extended poromechanics for adsorption-induced swelling prediction in double porosity media: Modeling and experimental validation on activated carbon. International Journal of Solids and Structures, 2018, 146, 192-202.	1.3	10
74	Error estimation and adaptive finite element analysis of softening solids. Studies in Applied Mechanics, 1998, , 333-347.	0.4	8
75	A review of non local continuum damage: Modelling of failure?. Networks and Heterogeneous Media, 2014, 9, 575-597.	0.5	8
76	StabilitÃ© et dynamique d'un oscillateur endommageable. Revue EuropÃ©enne De GÃ©nie Civil, 2004, 8, 483-505.	0.0	7
77	Etude comparative du couplage endommagement-fluage. Revue EuropÃ©enne De GÃ©nie Civil, 2004, 8, 457-481.	0.0	7
78	Benchmarks for the validation of a non local damage model. Revue EuropÃ©enne De GÃ©nie Civil, 2004, 8, 303-328.	0.0	7
79	Mechanical damage, chemical damage and permeability in quasi-brittle cementitious materials. European Journal of Environmental and Civil Engineering, 2009, 13, 963-982.	1.0	7
80	An inverse analysis approach to determine fatigue performance of bituminous mixes. Mechanics of Time-Dependent Materials, 2009, 13, 357-373.	2.3	7
81	Determination of the Tortuosity of a Porous Medium by Means of A Thermodiffusion Cell. AIP Conference Proceedings, 2010, , .	0.3	7
82	Interaction-based non-local damage model for failure in quasi-brittle materials. Mechanics Research Communications, 2013, 54, 56-62.	1.0	7
83	Interface crack propagation in porous and time-dependent materials analyzed with discrete models. International Journal of Fracture, 2006, 141, 561-571.	1.1	6
84	Supercritical adsorption of nitrogen on EcoSorb-activated carbon at temperatures up to 383ÂK and pressures up to 2ÂMPa. Journal of Thermal Analysis and Calorimetry, 2012, 109, 473-479.	2.0	6
85	Size and Boundary Effects During Failure in Quasi-brittle Materials: Experimental and Numerical Investigations. , 2014, 3, 1269-1278.		6
86	A Hierarchical Model for the Computation of Permeation Properties of Porous Materials and Their Enhancement due to Microcracks. Journal of Engineering Mechanics - ASCE, 2018, 144, .	1.6	6
87	Lattice modelling of hydraulic fracture: Theoretical validation and interactions with cohesive joints. Engineering Fracture Mechanics, 2020, 235, 107178.	2.0	6
88	CONTINUUM TO DISCONTINUUM TRANSITION DURING FAILURE IN NONLOCAL DAMAGE MODELS. International Journal for Multiscale Computational Engineering, 2012, 10, 567-580.	0.8	6
89	Failure and scaling properties of a softening interface connected to an elastic block. International Journal of Fracture, 1999, 95, 159-174.	1.1	5
90	Continuum damage modelling and some computational issues. Revue EuropÃ©enne De GÃ©nie Civil, 2002, 6, 991-1017.	0.0	5

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91	Estimation of Fracture Energy from Hydraulic Fracture Tests on Mortar and Rocks at Geothermal Reservoir Temperatures. Rock Mechanics and Rock Engineering, 2021, 54, 4111-4119.	2.6	5
92	Ageing and durability of concrete structures. , 2004, , 255-286.		5
93	Dynamic stability analysis with nonlocal damage. Computers and Structures, 1988, 29, 503-507.	2.4	4
94	Failure Analysis of Initially Cracked Concrete Structures. Journal of Engineering Mechanics - ASCE, 1997, 123, 1153-1160.	1.6	4
95	Experimental analysis of crack evolution in concrete by the acoustic emission technique. Frattura Ed Integrita Strutturale, 2016, , .	0.5	4
96	Report on ONR Workshop on Fracture Scaling. International Journal of Fracture, 2002, 113, 345-366.	1.1	3
97	Study of avalanches during the fracture of discrete models. Engineering Fracture Mechanics, 2003, 70, 943-955.	2.0	3
98	Bifurcation and creep effects in a viscoelastic non-local damageable continuum. European Journal of Mechanics, A/Solids, 2008, 27, 548-563.	2.1	3
99	Experimental and Modeling Investigations of Adsorption-induced Swelling and Damage in Microporous Materials. , 2014, 3, 1263-1268.		3
100	Benchmarks for the validation of a non local damage model. Revue EuropÃ©enne De GÃ©nie Civil, 2004, 8, 303-328.	0.0	3
101	Couplage endommagement-dÃ©calcification du bÃ©ton. Revue EuropÃ©enne De GÃ©nie Civil, 1998, 2, 481-504.	0.0	2
102	Bridges between Damage and Fracture Mechanics. , 2001, , 542-548.		2
103	Upscaling Permeation Properties in Porous Materials from Pore Size Distributions. , 0, , 43-56.		2
104	Etude expÃ©rimentale de l'interaction endommagement-tempÃ©rature-Ã©tat de contrainte-permÃ©abilitÃ© du bÃ©ton. Revue EuropÃ©enne De GÃ©nie Civil, 2007, 11, 839-853.	0.0	2
105	Closure to â€œRate Dependent Damage Model for Concrete in Dynamicsâ€• by Jeanâ€FranÃ§ois DubÃ©, Gilles Pijaudierâ€Cabot, and Christian La Borderie. Journal of Engineering Mechanics - ASCE, 1997, 123, 1327-1328.	1.6	1
106	Error Indicator to Assess Quality of Finite-Element Frame Analyses. Journal of Structural Engineering, 2002, 128, 129-132.	1.7	1
107	Identification d'un modÃ¨le non local en utilisant les effets d'Ã©chelle. Revue EuropÃ©enne De GÃ©nie Civil, 2003, 7, 745-760.	0.0	1
108	Chaotic vibrations in a damage oscillator with crack closure effect. Journal of Mechanics of Materials and Structures, 2010, 5, 369-389.	0.4	1

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109	Enhanced Continuum Poromechanics to Account for Adsorption Induced Swelling of Saturated Isotropic Nanoporous Materials. , 2013, , .		1
110	2D-lattice modelling of crack propagation induced by fluid injection in heterogeneous quasi-brittle materials. Procedia Structural Integrity, 2016, 2, 2698-2705.	0.3	1
111	Isotropic and anisotropic descriptions of damage in concrete structures. , 1999, 4, 339.		1
112	Chemoplastic Modeling of Petroleum Cement Paste Under Coupled Conditions. , 0, , 163-180.		1
113	Current-conductance and stress-elastic modulus correlations. Journal De Physique II, 1991, 1, 265-272.	0.9	1
114	Boundary and evolving boundary effects in non local damage models. , 2010, , 207-216.		1
115	Non local damage model. Boundary and evolving boundary effects. European Journal of Environmental and Civil Engineering, 2010, 14, 729-749.	1.0	1
116	Comment on Hyperbolicity of Wave Problem for Valanisâ€™ Global Damage Theory. Journal of Applied Mechanics, Transactions ASME, 1996, 63, 843-845.	1.1	0
117	Endommagement et rupture des bÃ©tons dÃ©gradÃ©s. Revue EuropÃ©enne De GÃ©nie Civil, 1999, 3, 367-385	0.0	0
118	Enriched damage models for continuum failure analyses. Solid Mechanics and Its Applications, 2000, , 355-366.	0.1	0
119	ModÃ¨le d'endommagement microplans. Revue EuropÃ©enne De GÃ©nie Civil, 2003, 7, 621-634.	0.0	0
120	Model-Based Simulation of Durability of Materials and Structures. Journal of Materials in Civil Engineering, 2005, 17, 239-240.	1.3	0
121	Etude expÃ©rimentale de l'interaction endommagement-tempÃ©rature-Ã©tat de contrainte-permÃ©abilitÃ© du bÃ©ton. Revue EuropÃ©enne De GÃ©nie Civil, 2007, 11, 839-853.	0.0	0
122	Comportement mÃ©canique de poutres attaquÃ©es par la corrosion. Revue EuropÃ©enne De GÃ©nie Civil, 2007, 11, 195-211.	0.0	0
123	Upscaling Permeation Properties in Porous Materials from Pore Size Distributions. , 2013, , .		0
124	Poromechanics of Swelling in Nanoporous Materials: Motivations and Introduction of Strain Effects on Adsorption. , 2013, , .		0
125	Preface of the special issue on â€˜poromechanics in honour of Arnold Verruijtâ€™. International Journal for Numerical and Analytical Methods in Geomechanics, 2015, 39, 1483-1483.	1.7	0
126	Coupled Effects between Damage and Permeability with a View to Discrete Modelling. , 2015, , .		0

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127	A New Model for Estimating Fluid Transfer Properties of Cementitious Materials. , 2017, , .		0
128	Swelling Due to Adsorption in Porous Media Presenting Different and Distinct Porosities: Model and Experimental Validation. , 2017, , .		0
129	Adsorption-induced Instantaneous Deformation in Double Porosity Media: Modeling and Experimental Validations. , 2018, , 33-59.		0
130	Fracture and permeability of concrete andÂrocks. Comptes Rendus Physique, 2020, 21, 507-525.	0.3	0
131	Fracture cleaning: Experimental study on the unclogging process within a propped fracture under a dynamic stimulation. Journal of Petroleum Science and Engineering, 2021, 206, 109028.	2.1	0
132	Understanding Failure of Heterogeneous Materials from the Analysis of Discrete Disordered Systems. Solid Mechanics and Its Applications, 2002, , 427-436.	0.1	0
133	Continuum damage modelling in geomechanics. , 2004, , 77-105.		0
134	CaractÃ©risation expÃ©rimentale de l'auto-cicatrisation des fissures dans un bÃ©ton Ã ultra-hautes performances. Revue EuropÃ©enne De GÃ©nie Civil, 2006, 10, 279-294.	0.0	0
135	Comportement mÃ©canique de poutres attaquÃ©es par la corrosion. Utilisation du code de calcul Eficos. Revue EuropÃ©enne De GÃ©nie Civil, 2007, 11, 195-211.	0.0	0
136	Mechanical damage, chemical damage and permeability in quasi-brittle cementitious materials. Revue EuropÃ©enne De GÃ©nie Civil, 2009, 13, 963-982.	0.0	0
137	Nonlocal damage based failure models, extraction of crack opening and transition to fracture. , 2010, , 301-307.		0
138	Permeability and Microcracking of Geomaterials Subjected to Dynamic Loads. Conference Proceedings of the Society for Experimental Mechanics, 2014, , 451-459.	0.3	0
139	Failure and scaling properties of a softening interface connected to an elastic block. , 1999, , 159-174.		0