Ahmed Benallal

List of Publications by Year
in descending order

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76 papers	2,321 citations	236612 25 h-index	223531 46 g-index
76 all docs	76 docs citations	76 times ranked	1410 citing authors

#	Article	IF	Citations
1	Flow and fracture characteristics of aluminium alloy AA5083â€“H116 as function of strain rate, temperature and triaxiality. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 364, 260-272.	2.6	298
2	Constitutive Equations for Nonproportional Cyclic Elasto-Viscoplasticity. Journal of Engineering Materials and Technology, Transactions of the ASME, 1987, 109, 326-336.	0.8	214
3	An experimental and numerical investigation of the behaviour of AA5083 aluminium alloy in presence of the Portevinâ€“Le Chatelier effect. International Journal of Plasticity, 2008, 24, 1916-1945.	4.1	149
4	Strain localization and bifurcation in a nonlocal continuum. International Journal of Solids and Structures, 1993, 30, 1761-1775.	1.3	114
5	Theoretical and computational aspects of a thermodynamically consistent framework for geometrically linear gradient damage. Computer Methods in Applied Mechanics and Engineering, 2001, 190, 6555-6576.	3.4	91
6	An integration algorithm and the corresponding consistent tangent operator for fully coupled elastoplastic and damage equations. Communications in Applied Numerical Methods, 1988, 4, 731-740.	0.5	80
7	An experimental investigation of cyclic hardening of 316 stainless steel and of 2024 aluminium alloy under multiaxial loadings. Nuclear Engineering and Design, 1989, 114, 345-353.	0.8	79
8	Anisotropic failure modes of high-strength aluminium alloy under various stress states. International Journal of Plasticity, 2013, 48, 34-53.	4.1	77
9	Dynamic strain aging and related instabilities: experimental, theoretical and numerical aspects. European Journal of Mechanics, A/Solids, 2006, 25, 397-424.	2.1	69
10	Bifurcation and stability issues in gradient theories with softening. Modelling and Simulation in Materials Science and Engineering, 2007, 15, S283-S295.	0.8	69
11	Continuum damage mechanics and local approach to fracture: Numerical procedures. Computer Methods in Applied Mechanics and Engineering, 1991, 92, 141-155.	3.4	65
12	On the plastic anisotropy of an aluminium alloy and its influence on constrained multiaxial flow. International Journal of Plasticity, 2011, 27, 2005-2025.	4.1	56
13	Towards Humanlike Social Touch for Sociable Robotics andÂProsthetics: Comparisons onÂtheÂCompliance, Conformance and Hysteresis of Synthetic and Human Fingertip Skins. International Journal of Social Robotics, 2009, 1, 29-40.	3.1	53
14	Nonlocal continuum effects on bifurcation in the plane strain tension-compression test. Journal of the Mechanics and Physics of Solids, 1995, 43, 741-770.	2.3	52
15	Effects of temperature and thermo-mechanical couplings on material instabilities and strain localization of inelastic materials. Journal of the Mechanics and Physics of Solids, 2004, 52, 725-753.	2.3	46
16	A numerical study on the influence of the Portevinâ€“Le Chatelier effect on necking in an aluminium alloy. Modelling and Simulation in Materials Science and Engineering, 2007, 15, 747-772.	0.8	44
17	Localization analysis via a geometrical method. International Journal of Solids and Structures, 1996, 33, 99-119.	1.3	41
18	Spatial and Temporal Characteristics of Propagating Deformation Bands in AA5182 Alloy at Room Temperature. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 3358-3369.	1.1	39

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19	A thermo-elasto-viscoplastic constitutive model for polymers. Journal of the Mechanics and Physics of Solids, 2019, 124, 681-701.	2.3	39
20	Gradient constitutive relations: numerical aspects and application to gradient damage. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 5191-5220.	3.4	36
21	An implicit BEM formulation for gradient plasticity and localization phenomena. International Journal for Numerical Methods in Engineering, 2002, 53, 1853-1869.	1.5	34
22	Perturbation growth and localization in fluid-saturated inelastic porous media under quasi-static loadings. Journal of the Mechanics and Physics of Solids, 2003, 51, 851-899.	2.3	32
23	BEM applied to damage models emphasizing localization and associated regularization techniques. Engineering Analysis With Boundary Elements, 2005, 29, 814-827.	2.0	29
24	A study of the influence of precipitate-free zones on the strain localization and failure of the aluminium alloy AA7075-T651. Philosophical Magazine, 2015, 95, 3278-3304.	0.7	28
25	Effects of strain rate on the characteristics of PLC deformation bands for AA5083-H116 aluminium alloy. Philosophical Magazine, 2008, 88, 3311-3338.	0.7	27
26	Experimental and numerical study on the behaviour of PVC and HDPE in biaxial tension. Mechanics of Materials, 2012, 54, 18-31.	1.7	26
27	An assessment of the role of the third stress invariant in the Gurson approach for ductile fracture. European Journal of Mechanics, A/Solids, 2014, 47, 400-414.	2.1	25
28	On the description of ductile fracture in metals by the strain localization theory. International Journal of Fracture, 2018, 209, 27-51.	1.1	24
29	Bifurcation and Localization in Rate-Independent Materials. Some General Considerations. , 1993, , 1-44.		24
30	Failure criteria with unilateral conditions for simulation of plate perforation. European Journal of Mechanics, A/Solids, 2011, 30, 468-476.	2.1	23
31	On the description of localization and failure phenomena by the boundary element method. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 5833-5856.	3.4	22
32	Material instabilities in inelastic saturated porous media under dynamic loadings. International Journal of Solids and Structures, 2002, 39, 3693-3716.	1.3	21
33	The Uncanny Valley and the Search for Human Skin-Like Materials for a Prosthetic Fingertip. , 2006, , .		19
34	Uniqueness, loss of ellipticity and localization for the timeâ€discretized, rateâ€dependent boundary value problem with softening. International Journal for Numerical Methods in Engineering, 2010, 84, 864-882.	1.5	18
35	The Conformance Test for Robotic/Prosthetic Fingertip Skins. , 0, , .		16
36	Anisotropic tensile failure of metals by the strain localization theory: An application to a high-strength aluminium alloy. European Journal of Mechanics, A/Solids, 2018, 69, 99-112.	2.1	16

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37	A two-field finite element formulation for elasticity coupled to damage. Computer Methods in Applied Mechanics and Engineering, 1994, 114, 193-212.	3.4	15
38	A Gradient-Enhanced Damage Approach to Fracture. European Physical Journal Special Topics, 1996, 06, C6-491-C6-502.	0.2	14
39	Numerical study of ductile failure under non-proportional loading. European Journal of Mechanics, A/Solids, 2019, 74, 221-241.	2.1	14
40	On crystallographic aspects of heterogeneous plastic flow during ductile tearing: 3D measurements and crystal plasticity simulations for AA7075-T651. International Journal of Plasticity, 2021, 144, 103028.	4.1	14
41	On numerical analyses in the presence of unstable saturated porous materials. International Journal for Numerical Methods in Engineering, 2003, 56, 883-910.	1.5	12
42	Effect of strain rate and dynamic strain ageing on work-hardening for aluminium alloy AA5182-O. International Journal of Materials Research, 2012, 103, 1035-1041.	0.1	12
43	A note on ill-posedness for rate-dependent problems and its relation to the rate-independent case. Computational Mechanics, 2008, 42, 261-269.	2.2	11
44	Strain-Rate Sensitivity of Aluminum Alloys AA1200 and AA3103. Journal of Engineering Materials and Technology, Transactions of the ASME, 2010, 132, .	0.8	11
45	Effective behaviour of porous ductile solids with a non-quadratic isotropic matrix yield surface. Journal of the Mechanics and Physics of Solids, 2019, 130, 56-81.	2.3	11
46	Structural analysis in quasiâ€static elastoâ€viscoplasticity. Engineering Computations, 1986, 3, 323-330.	0.7	10
47	Consolidation of elasticâ€“plastic saturated porous media by the boundary element method. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 4626-4644.	3.4	10
48	Lifetime prediction of structures in anisothermal viscoplasticity coupled to damage. Nuclear Engineering and Design, 1992, 133, 345-360.	0.8	9
49	Aspects of bifurcation in an isotropic elastic continuum with orthotropic inelastic interface. European Journal of Mechanics, A/Solids, 2008, 27, 532-547.	2.1	9
50	Effects of nonâ€proportional loadings in cyclic elastoâ€viscoplasticity: experimental, theoretical and numerical aspects. Engineering Computations, 1988, 5, 241-247.	0.7	8
51	Validation of structural computation codes in elastoviscoplasticity. International Journal for Numerical Methods in Engineering, 1990, 29, 1109-1130.	1.5	8
52	FAILURE ANALYSIS OF STRUCTURES BY CONTINUUM DAMAGE MECHANICS. , 1984, , 3669-3676.		7
53	Influence of specimen geometry on the Portevinâ€“Le ChÃ¢telier effect due to dynamic strain aging for the AA5083-H116 aluminum alloy. Journal of Mechanics of Materials and Structures, 2011, 6, 951-968.	0.4	7
54	Some remarks on gradient and nonlocal damage theories. Studies in Applied Mechanics, 1998, , 223-236.	0.4	6

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55	On the stability of some time-integration schemes in quasi-static hardening elasto-viscoplasticity. Engineering Analysis, 1987, 4, 95-99.	0.1	5
56	On localization modes in coupled thermo-hydro-mechanical problems. Comptes Rendus - Mecanique, 2005, 333, 557-564.	2.1	4
57	Finite element simulations of the Portevinâ€“Le Chatelier effect in aluminium alloy. European Physical Journal Special Topics, 2006, 134, 435-441.	0.2	4
58	Constitutive equations for porous solids with matrix behaviour dependent on the second and third stress invariants. International Journal of Impact Engineering, 2017, 108, 47-62.	2.4	4
59	On interfacial properties in gradient damaging continua. Comptes Rendus - Mecanique, 2005, 333, 319-324.	2.1	3
60	BEM modeling of saturated porous media susceptible to damage. Engineering Analysis With Boundary Elements, 2012, 36, 147-153.	2.0	3
61	Quasi-static and Dynamic Fracture of High-strength Aluminium Alloy. , 2014, 3, 51-56.		3
62	A Numerical Study on Ductile Failure of Porous Ductile Solids With Rate-Dependent Matrix Behavior. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	1.1	3
63	On localization in saturated porous continua. Comptes Rendus Mecanique, 2000, 328, 847-853.	0.2	2
64	On some features of the effective behaviour of porous solids with J2- and J3-dependent yielding matrix behaviour. Comptes Rendus - Mecanique, 2018, 346, 77-88.	2.1	2
65	Quasi-static versus dynamic failure instabilities in fluid-saturated porous media. Comptes Rendus - Mecanique, 2002, 330, 339-345.	2.1	1
66	On the fracture locus of AA7075-T651. EPJ Web of Conferences, 2010, 6, 02006.	0.1	1
67	Computational aspects in presence of negative strain-rate sensitivity with application to aluminium alloys exhibiting the Portevinâ€“Le Chatelier effect. Modelling and Simulation in Materials Science and Engineering, 2011, 19, 015007.	0.8	1
68	X-ray tomographic image post-processing and a new 2D LBM simulation for the determination of the porosity and the static airflow resistivity of an acoustic fibrous material. Applied Acoustics, 2020, 169, 107452.	1.7	1
69	The Role of Mean Strain on the Stress Response in Nonproportional Cyclic Plasticity. , 1989, , 203-206.		1
70	Some aspects of a gradient damage formulation. Revue Europeenne Des Elements, 2001, 10, 157-172.	0.1	0
71	Instabilities across the scales. Philosophical Magazine, 2006, 86, 3115-3116.	0.7	0
72	BEM applied to damage phenomena in saturated porous media. IOP Conference Series: Materials Science and Engineering, 2010, 10, 012049.	0.3	0

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73	Conditions for Localization in Plasticity and Rate-Independent Materials. , 2001, , 274-280.		0
74	On the Measurement and Evaluation of the Width of Portevinâ€“Le Chatelier Deformation Bands with Application to AA5083-H116 Aluminium Alloy. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2008, , 329-338.	0.1	0
75	Plasticity and Viscoplasticity Under Cyclic Complex Loadings. , 1988, , 545-548.		0
76	2D nonlocal versus 3D bifurcation studies for biaxially loaded plates. European Physical Journal Special Topics, 1998, 08, Pr8-29-Pr8-37.	0.2	0