

# A Amine Benzerga

## List of Publications by Citations

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96  
papers

4,282  
citations

34  
h-index

64  
g-index

103  
ext. papers

4,864  
ext. citations

4.5  
avg, IF

6.21  
L-index

#	Paper	IF	Citations
96	Failure of metals I: Brittle and ductile fracture. <i>Acta Materialia</i> , <b>2016</b> , 107, 424-483	8.4	488
95	Ductile Fracture by Void Growth to Coalescence. <i>Advances in Applied Mechanics</i> , <b>2010</b> , 44, 169-305	10	395
94	Plastic potentials for anisotropic porous solids. <i>European Journal of Mechanics, A/Solids</i> , <b>2001</b> , 20, 397-434	3.7	243
93	Anisotropic ductile fracture. <i>Acta Materialia</i> , <b>2004</b> , 52, 4639-4650	8.4	200
92	Anisotropic ductile fracture. <i>Acta Materialia</i> , <b>2004</b> , 52, 4623-4638	8.4	188
91	A constitutive model for plastically anisotropic solids with non-spherical voids. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2010</b> , 58, 874-901	5	148
90	Incorporating three-dimensional mechanisms into two-dimensional dislocation dynamics. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2004</b> , 12, 159-196	2	134
89	Ductile failure modeling. <i>International Journal of Fracture</i> , <b>2016</b> , 201, 29-80	2.3	123
88	Coalescence-Controlled Anisotropic Ductile Fracture. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , <b>1999</b> , 121, 221-229	1.8	122
87	Failure of metals III: Fracture and fatigue of nanostructured metallic materials. <i>Acta Materialia</i> , <b>2016</b> , 107, 508-544	8.4	119
86	Effect of Stress Triaxiality on the Flow and Fracture of Mg Alloy AZ31. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2014</b> , 45, 3292-3307	2.3	99
85	On the path-dependence of the fracture locus in ductile materials I: Analysis. <i>International Journal of Plasticity</i> , <b>2012</b> , 37, 157-170	7.6	88
84	Size effects under homogeneous deformation of single crystals: A discrete dislocation analysis. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2008</b> , 56, 132-156	5	83
83	Power-law creep from discrete dislocation dynamics. <i>Physical Review Letters</i> , <b>2012</b> , 109, 265504	7.4	81
82	The stored energy of cold work: Predictions from discrete dislocation plasticity. <i>Acta Materialia</i> , <b>2005</b> , 53, 4765-4779	8.4	80
81	Scale dependence of mechanical properties of single crystals under uniform deformation. <i>Scripta Materialia</i> , <b>2006</b> , 54, 1937-1941	5.6	76
80	Work hardening in micropillar compression: In situ experiments and modeling. <i>Acta Materialia</i> , <b>2011</b> , 59, 3825-3840	8.4	73

79	Effective Yield Criterion Accounting for Microvoid Coalescence. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>2014</b> , 81,	2.7	70
78	Void growth and coalescence in anisotropic plastic solids. <i>International Journal of Solids and Structures</i> , <b>2011</b> , 48, 1696-1710	3.1	70
77	Effect of strain rate and temperature on fracture of magnesium alloy AZ31B. <i>Acta Materialia</i> , <b>2016</b> , 112, 194-208	8.4	70
76	An analysis of exhaustion hardening in micron-scale plasticity. <i>International Journal of Plasticity</i> , <b>2008</b> , 24, 1128-1157	7.6	63
75	Synergistic effects of plastic anisotropy and void coalescence on fracture mode in plane strain. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2002</b> , 10, 73-102	2	63
74	Finite-strain elasto-viscoplastic behavior of an epoxy resin: Experiments and modeling in the glassy regime. <i>International Journal of Plasticity</i> , <b>2014</b> , 62, 138-161	7.6	51
73	Micro-pillar plasticity: 2.5D mesoscopic simulations. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2009</b> , 57, 1459-1469	5	50
72	On the path-dependence of the fracture locus in ductile materials: Experiments. <i>International Journal of Solids and Structures</i> , <b>2015</b> , 71, 79-90	3.1	46
71	Coalescence of voids by internal necking: Theoretical estimates and numerical results. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2015</b> , 75, 140-158	5	39
70	An approximate yield criterion for anisotropic porous media. <i>Comptes Rendus - Mecanique</i> , <b>2008</b> , 336, 685-692	2.1	39
69	On Void Coalescence Under Combined Tension and Shear. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>2015</b> , 82,	2.7	37
68	High-temperature discrete dislocation plasticity. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2015</b> , 82, 1-22	5	37
67	Interplay between the effects of deformation mechanisms and dynamic recrystallization on the failure of Mg-3Al-1Zn. <i>Acta Materialia</i> , <b>2019</b> , 168, 448-472	8.4	37
66	Effects of Manufacturing-Induced Voids on Local Failure in Polymer-Based Composites. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , <b>2008</b> , 130,	1.8	35
65	On plastic flow in notched hexagonal close packed single crystals. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2016</b> , 94, 273-297	5	34
64	Smaller is softer: an inverse size effect in a cast aluminum alloy. <i>Acta Materialia</i> , <b>2001</b> , 49, 3071-3083	8.4	34
63	A mechanism of failure in shear bands. <i>Extreme Mechanics Letters</i> , <b>2018</b> , 23, 67-71	3.9	34
62	Three dimensional simulations of texture and triaxiality effects on the plasticity of magnesium alloys. <i>Acta Materialia</i> , <b>2017</b> , 127, 54-72	8.4	33

61	Determination of the intrinsic behavior of polymers using digital image correlation combined with video-monitored testing. <i>International Journal of Solids and Structures</i> , <b>2013</b> , 50, 1869-1878	3.1	32
60	On the notch ductility of a magnesium-rare earth alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2015</b> , 647, 74-83	5.3	31
59	Fracture Strains, Damage Mechanisms and Anisotropy in a Magnesium Alloy Across a Range of Stress Triaxialities. <i>Experimental Mechanics</i> , <b>2014</b> , 54, 493-499	2.6	30
58	Modeling damage accumulation to fracture in a magnesium-rare earth alloy. <i>Acta Materialia</i> , <b>2017</b> , 124, 225-236	8.4	30
57	Size Effects in the Charpy V-Notch Test. <i>International Journal of Fracture</i> , <b>2002</b> , 116, 275-296	2.3	29
56	On fracture loci of ductile materials under non-proportional loading. <i>International Journal of Mechanical Sciences</i> , <b>2016</b> , 117, 135-151	5.5	29
55	Void growth and coalescence in hexagonal close packed crystals. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2019</b> , 125, 198-224	5	29
54	Evolution of the 3D plastic anisotropy of HCP metals: Experiments and modeling. <i>International Journal of Plasticity</i> , <b>2019</b> , 117, 71-92	7.6	29
53	Towards designing anisotropy for ductility enhancement: A theory-driven investigation in Mg-alloys. <i>Acta Materialia</i> , <b>2017</b> , 131, 349-362	8.4	28
52	Theoretical and numerical analysis of void coalescence in porous ductile solids under arbitrary loadings. <i>International Journal of Plasticity</i> , <b>2017</b> , 91, 160-181	7.6	27
51	Size effects in aluminium alloy castings. <i>Acta Materialia</i> , <b>2010</b> , 58, 3006-3013	8.4	24
50	A unified criterion for the growth and coalescence of microvoids. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2016</b> , 97, 19-36	5	22
49	A discrete dislocation analysis of the Bauschinger effect in microcrystals. <i>Acta Materialia</i> , <b>2008</b> , 56, 5477-5491	8.4	21
48	Discrete dislocation simulations of compression of tapered micropillars. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2017</b> , 101, 223-234	5	20
47	Plastic flow anisotropy drives shear fracture. <i>Scientific Reports</i> , <b>2019</b> , 9, 1425	4.9	20
46	Creep crack growth by grain boundary cavitation under monotonic and cyclic loading. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2017</b> , 108, 68-84	5	20
45	Void growth and coalescence in a magnesium alloy studied by synchrotron radiation laminography. <i>Acta Materialia</i> , <b>2018</b> , 155, 80-94	8.4	20
44	A phenomenological model of size-dependent hardening in crystal plasticity. <i>Philosophical Magazine</i> , <b>2008</b> , 88, 3585-3601	1.6	17

43	A micromechanical model for the dynamic behavior of porous media in the void coalescence stage. <i>International Journal of Solids and Structures</i> , <b>2015</b> , 71, 1-18	3.1	15
42	Discrete shear-transformation-zone plasticity modeling of notched bars. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2018</b> , 111, 18-42	5	15
41	Environmentally enhanced creep crack growth by grain boundary cavitation under cyclic loading. <i>Acta Materialia</i> , <b>2018</b> , 153, 136-146	8.4	14
40	An analysis of impact-induced deformation and fracture modes in amorphous glassy polymers. <i>Engineering Fracture Mechanics</i> , <b>2008</b> , 75, 3328-3342	4.2	14
39	Effect of UV-aging on the mechanical and fracture behavior of low density polyethylene. <i>Polymer Degradation and Stability</i> , <b>2020</b> , 180, 109185	4.7	14
38	On the modeling of asymmetric yield functions. <i>International Journal of Solids and Structures</i> , <b>2016</b> , 80, 486-500	3.1	13
37	On the localization of plastic flow in glassy polymers. <i>European Journal of Mechanics, A/Solids</i> , <b>2013</b> , 39, 251-267	3.7	12
36	Finite element implementation of a macromolecular viscoplastic polymer model. <i>International Journal for Numerical Methods in Engineering</i> , <b>2013</b> , 94, 895-919	2.4	12
35	A discrete dislocation analysis of strengthening in bilayer thin films. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2007</b> , 15, S239-S254	2	12
34	Constitutive relations and their time integration for anisotropic elasto-plastic porous materials. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2016</b> , 310, 495-534	5.7	12
33	Microstructural Origin of Residual Stress Relief in Aluminum. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2019</b> , 50, 5038-5055	2.3	10
32	Numerical assessment of an anisotropic porous metal plasticity model. <i>Mechanics of Materials</i> , <b>2015</b> , 90, 212-228	3.3	10
31	A computational framework for analyzing the dynamic response of glassy polymers. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2008</b> , 197, 4485-4502	5.7	10
30	Ductile failure as a constitutive instability in porous plastic solids. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2020</b> , 139, 103917	5	8
29	Orientation-dependent plastic deformation in transformer steel: Experiments and dislocation dynamics simulations. <i>Acta Materialia</i> , <b>2015</b> , 84, 256-264	8.4	7
28	Discrete shear transformation zone plasticity. <i>Extreme Mechanics Letters</i> , <b>2016</b> , 9, 21-29	3.9	7
27	Computational Methodology for Modeling Fracture in Fiber-Reinforced Polymer Composites. <i>Journal of Aerospace Engineering</i> , <b>2009</b> , 22, 296-303	1.4	7
26	Incorporating three-dimensional mechanisms into two-dimensional dislocation dynamics. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2004</b> , 12, 557-559	2	7

25	An analysis of Lode effects in ductile failure. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2021</b> , 153, 104468	5	6
24	Material inertia and size effects in the Charpy V-notch test. <i>European Journal of Mechanics, A/Solids</i> , <b>2004</b> , 23, 373-386	3.7	4
23	Photo-oxidation of semicrystalline polymers: Damage nucleation versus growth. <i>Polymer</i> , <b>2020</b> , 188, 122090	3.9	4
22	Energy dissipation rate and kinetic relations for Eshelby transformations. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2020</b> , 136, 103699	5	4
21	A variational fast Fourier transform method for phase-transforming materials. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2021</b> , 29, 045001	2	4
20	Limits on Transformation Strains for Non-Negative Dissipation. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>2019</b> , 86, 051005	2.7	3
19	An analysis of deformation and failure in rectangular tensile bars accounting for void shape changes. <i>International Journal of Fracture</i> , <b>2021</b> , 230, 133	2.3	3
18	Micromechanics-based constitutive relations for post-localization analysis. <i>MethodsX</i> , <b>2018</b> , 5, 1431-1439.	1.9	3
17	Evolution of geometrically necessary dislocation density from computational dislocation dynamics. <i>IOP Conference Series: Materials Science and Engineering</i> , <b>2009</b> , 3, 012008	0.4	2
16	Analysis of shape memory alloy sensory particles for damage detection via substructure and continuum damage modeling <b>2016</b> ,		2
15	On the effects of dislocation density on micropillar strength. <i>Materials Research Society Symposia Proceedings</i> , <b>2009</b> , 1185, 61		1
14	Strain Localization in Determining the Constitutive Response of Polymers <b>2016</b> ,		1
13	Modeling the 3D Plastic Anisotropy of a Magnesium Alloy Processed Using Severe Plastic Deformation. <i>Minerals, Metals and Materials Series</i> , <b>2019</b> , 283-287	0.3	1
12	A Theory for Designing Ductile Materials with Anisotropy. <i>Minerals, Metals and Materials Series</i> , <b>2019</b> , 359-362	0.3	1
11	Shear Transformation Zone (STZ) plasticity analysis of constrained shear. <i>Mechanics of Materials</i> , <b>2021</b> , 160, 103935	3.3	1
10	Ductile Fracture in Plane Stress. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>2022</b> , 89,	2.7	1
9	On the micromechanics of void mediated failure in HCP crystals. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2022</b> , 104923	5	1
8	Micromechanical Models of Ductile Damage and Fracture <b>2015</b> , 939-962		0

- 7 Effects of Texture and Triaxiality on the Plasticity of Magnesium Alloys. *Minerals, Metals and Materials Series*, **2017**, 563-569 0.3
- 6 Ductility Enhancement in Mg Alloys by Anisotropy Engineering. *Minerals, Metals and Materials Series*, **2017**, 153-158 0.3
- 5 Micromechanical Models of Ductile Damage and Fracture **2013**, 1-22
- 4 A Predictive Multisurface Approach to Damage Modeling in Mg Alloys. *Minerals, Metals and Materials Series*, **2022**, 293-297 0.3
- 3 A Computational Methodology for Modeling Ductile Fracture. *IUTAM Symposium on Cellular, Molecular and Tissue Mechanics*, **2008**, 67-77 0.3
- 2 Discrete Dislocation Predictions for Single Crystal Hardening: Tension VS Bending. *Solid Mechanics and Its Applications*, **2004**, 235-242 0.4
- 1 Discrete Dislocation Simulations of Taper Effects in Micropillar Compression 701-709