Oana Cazacu

List of Publications by Year in Descending Order

157 papers	3,890 citations	28 h-index	61 g-index
168 ext. papers	4,280 ext. citations	3.3 avg, IF	5.89 L-index

#	Paper	IF	Citations
157	Dynamic response of polycrystalline high energetic systems: Constitutive modeling and application to impact. *Journal of Applied Physics*, **2022**, 131, 145101	2.5	1
156	On the effect of the ratio between the yield stresses in shear and in uniaxial tension on forming of isotropic materials. *Mechanics Research Communications*, **2021**, 114, 103693	2.2	1
155	Tension-compression asymmetry effects on the plastic response in bending: new theoretical and numerical results. *Mechanics Research Communications*, **2021**, 114, 103596	2.2	2
154	Yield criteria for anisotropic materials **2021**, 115-208		
153	Yield criteria for isotropic materials **2021**, 37-114		
152	Forming of titanium materials **2021**, 479-537		0
151	Experimental characterization and modeling of metallic materials with cubic crystal structure **2021**, 209-263		
150	Recent Advances on Modeling Plastic Deformation of Textured Metals with Applications to Metal Forming. *Minerals, Metals and Materials Series*, **2021**, 2839-2851	0.3	
149	Experimental characterization and modeling of metallic materials with hexagonal closed-packed structure **2021**, 265-310		
148	Effect of the third invariant on the formation of necking instabilities in ductile plates subjected to plane strain tension. *Meccanica*, **2021**, 56, 1789-1818	2.1	0
147	Room-temperature plastic behavior and formability of a commercially pure titanium: Mechanical characterization, modeling, and validation. *International Journal of Solids and Structures*, **2021**, 228, 111121	3.1	2
146	Elastic/plastic behavior of metallic materials in torsion and bending **2021**, 311-424		
145	Forming of materials with cubic crystal structure **2021**, 425-478		
144	Predictive Capabilities of Non-Quadratic Orthotropic Criteria. *Procedia Manufacturing*, **2020**, 47, 1548-1551	1.3	
143	The effect of tension-compression asymmetry on the formation of dynamic necking instabilities under plane strain stretching. *International Journal of Plasticity*, **2020**, 128, 102656	7.6	9
142	Modeling the effect of notch geometry on the deformation of a strongly anisotropic aluminum alloy. *European Journal of Mechanics, A/Solids*, **2020**, 82, 104004	3.7	5
141	New expressions and calibration strategies for Karafillis and Boyce (1993) yield criterion. *International Journal of Solids and Structures*, **2020**, 185-186, 410-422	3.1	10

140	Advances in anisotropy of plastic behaviour and formability of sheet metals. *International Journal of Material Forming*, **2020**, 13, 749-787	2	19
139	Response to the letter to editor. *International Journal of Material Forming*, **2020**, 13, 855-860	2	
138	New mathematical results and explicit expressions in terms of the stress components of Barlat et al. (1991) orthotropic yield criterion. *International Journal of Solids and Structures*, **2019**, 176-177, 86-95	3.1	19
137	Effects of plastic anisotropy on localization in orthotropic materials: New explicit expressions for the orientation of localization bands in flat specimens subjected to uniaxial tension. *Journal of the Mechanics and Physics of Solids*, **2019**, 126, 272-284	5	7
136	Prediction of strain distribution and four, six, or eight ears depending on single-crystal orientation using a new single crystal criterion. *International Journal of Material Forming*, **2019**, 12, 943-954	2	2
135	Plastic Deformation of Single Crystals. *Solid Mechanics and Its Applications*, **2019**, 61-139	0.4	1
134	Constitutive Equations for Elastic-Plastic Materials. *Solid Mechanics and Its Applications*, **2019**, 37-60	0.4	
133	Yield Criteria for Isotropic Polycrystals. *Solid Mechanics and Its Applications*, **2019**, 141-200	0.4	
132	Mathematical Framework. *Solid Mechanics and Its Applications*, **2019**, 1-35	0.4	
131	Strain-Rate-Based Plastic Potentials for Polycrystalline Materials. *Solid Mechanics and Its Applications*, **2019**, 289-335	0.4	
130	Plastic Potentials for Isotropic Porous Materials: Influence of the Particularities of Plastic Deformation on Damage Evolution. *Solid Mechanics and Its Applications*, **2019**, 337-502	0.4	
129	Plasticity-Damage Couplings: From Single Crystal to Polycrystalline Materials. *Solid Mechanics and Its Applications*, **2019**,	0.4	11
128	Yield Criteria for Anisotropic Polycrystals. *Solid Mechanics and Its Applications*, **2019**, 201-288	0.4	1
127	Anisotropic Plastic Potentials for Porous Metallic Materials. *Solid Mechanics and Its Applications*, **2019**, 503-581	0.4	1
126	The combined effect of plastic orthotropy and tension-compression asymmetry on the development of necking instabilities in flat tensile specimens subjected to dynamic loading. *International Journal of Solids and Structures*, **2019**, 159, 272-288	3.1	9
125	New yield criteria for isotropic and textured metallic materials. *International Journal of Solids and Structures*, **2018**, 139-140, 200-210	3.1	34
124	Effect of the yield stresses in uniaxial tension and pure shear on the size of the plastic zone near a crack. *International Journal of Plasticity*, **2018**, 102, 101-117	7.6	10
123	A yield criterion for cubic single crystals. *International Journal of Solids and Structures*, **2018**, 151, 9-19	3.1	12

122	Analytical expressions for the yield stress and Lankford coefficients of polycrystalline sheets based on a new single crystal model. *International Journal of Material Forming*, **2018**, 11, 571-581	2	5
121	Validation of recent analytical dilatational models for porous polycrystals using crystal plasticity finite element models with Schmid and non-Schmid activation laws. *Mechanics of Materials*, **2018**, 126, 148-162	3.3	11
120	Prediction of plastic anisotropy of textured polycrystalline sheets using a new single-crystal model. *Comptes Rendus - Mecanique*, **2018**, 346, 756-769	2.1	5
119	Prediction of the torsional response of HCP metals. *Journal of Physics: Conference Series*, **2018**, 1063, 012045	0.3	1
118	Anisotropic Yield Criteria. *Journal of Physics: Conference Series*, **2018**, 1063, 012052	0.3	
117	Prediction of four, six or eight ears in drawn cups of single-crystal aluminum sheets. *Journal of Physics: Conference Series*, **2018**, 1063, 012055	0.3	
116	Plastic deformation of metallic materials during dynamic events. *Journal of Physics: Conference Series*, **2018**, 1063, 012054	0.3	1
115	A model for creep of porous crystals with cubic symmetry. *International Journal of Solids and Structures*, **2017**, 110-111, 67-79	3.1	4
114	New Yield Criterion for Description of Plastic Deformation of Face-Centered Cubic Single Crystals. *Minerals, Metals and Materials Series*, **2017**, 393-398	0.3	
113	Dilational Response of Voided Polycrystals. *Jom*, **2017**, 69, 942-947	2.1	5
112	New polycrystalline modeling as applied to textured steel sheets. *Mechanics Research Communications*, **2017**, 84, 98-101	2.2	2
111	The role of tension-compression asymmetry of the plastic flow on ductility and damage accumulation of porous polycrystals. *Ciência & Tecnologia Dos Materiais*, **2017**, 29, e234-e238		1
110	Effect of the Third Invariant of the Stress Deviator on the Response of Porous Solids with Pressure-Insensitive Matrix **2017**, 167-196		
109	New analytic criterion for porous solids with pressure-insensitive matrix. *International Journal of Plasticity*, **2017**, 89, 66-84	7.6	11
108	New analytic criterion for FCC single crystals. *Procedia Engineering*, **2017**, 207, 2113-2118		
107	Prediction of Anisotropy of Textured Sheets Based on a New Polycrystal Model. *Procedia Engineering*, **2017**, 207, 239-244		
106	On Modeling the Mechanical Behavior and Texture Evolution of Rolled AZ31 Mg for Complex Loadings Involving Strain Path Changes **2016**, 245-250		1
105	Unusual plastic deformation and damage features in titanium: Experimental tests and constitutive modeling. *Journal of the Mechanics and Physics of Solids*, **2016**, 88, 100-122	5	20

104	On Modeling the Mechanical Behavior and Texture Evolution of Rolled AZ31 Mg for Complex Loadings Involving Strain Path Changes **2016**, 245-250		
103	Constitutive modeling and simulation at room-temperature deformation and failure of polycrystalline Molybdenum. *Journal of Physics: Conference Series*, **2016**, 734, 032110	0.3	
102	Constitutive modelling of plastic deformation and damage in anisotropic high-purity titanium and validation using ex-situ and in-situ tomography data. *Journal of Physics: Conference Series*, **2016**, 734, 032052	0.3	
101	Plastic deformation of high-purity a-titanium: model development and validation using the Taylor cylinder impact test. *Journal of Physics: Conference Series*, **2016**, 734, 032048	0.3	2
100	Plastic deformation of polycrystalline molybdenum: Experimental data and macroscopic model accounting for its anisotropy and tension□compression asymmetry. *International Journal of Solids and Structures*, **2015**, 75-76, 287-298	3.1	8
99	Experimental Characterization and Modeling of the Anisotropy and Tension□Compression Asymmetry of Polycrystalline Molybdenum for Strain Rates Ranging from Quasi-static to Impact. *Jom*, **2015**, 67, 2635-2641	2.1	5
98	Micromechanical study of the dilatational response of porous solids with pressure-insensitive matrix displaying tension-compression asymmetry. *European Journal of Mechanics, A/Solids*, **2015**, 51, 44-54	3.7	6
97	Plastic deformation of high-purity □itanium: Model development and validation using the Taylor cylinder impact test. *Mechanics of Materials*, **2015**, 80, 264-275	3.3	27
96	Micromechanical Modeling of Evolving Anisotropy in AZ31 Mg for Various Strain Paths **2015**, 171-175		
95	New Model Predicting the Unusual Buckling Behavior of AZ31 Mg **2015**, 151-157		
94	Combined effects of anisotropy and tension□compression asymmetry on the torsional response of AZ31 Mg. *International Journal of Solids and Structures*, **2015**, 58, 190-200	3.1	38
93	Correlation between strength differential effects in the plastic flow of the matrix and the rate of damage growth in porous polycrystals. *Comptes Rendus - Mecanique*, **2015**, 343, 107-120	2.1	4
92	New three-dimensional plastic potentials for porous solids with a von Mises matrix. *Comptes Rendus - Mecanique*, **2015**, 343, 77-94	2.1	4
91	Application of the VPSC Model to the Description of the Stress□Strain Response and Texture Evolution in AZ31 Mg for Various Strain Paths. *Journal of Engineering Materials and Technology, Transactions of the ASME*, **2015**, 137,	1.8	9
90	New Model Predicting the Unusual Buckling Behavior of AZ31 Mg **2015**, 153-157		
89	Importance of the coupling between the sign of the mean stress and the third invariant on the rate of void growth and collapse in porous solids with a von Mises matrix. *Modelling and Simulation in Materials Science and Engineering*, **2014**, 22, 025005	2	12
88	An Improved Description of Spherical Void Growth in Plastic Porous Materials with Finite Porosities **2014**, 3, 1232-1237		4
87	On Modeling Plasticity-damage Couplings in Polycrystalline Materials **2014**, 3, 1423-1428		

86	New Analytical Criterion for Porous Solids with Tresca Matrix **2014**, 3, 1412-1417		1
85	New interpretation of cyclic Swift effects. *European Journal of Mechanics, A/Solids*, **2014**, 44, 82-90	3.7	8
84	Correlation between swift effects and tension–compression asymmetry in various polycrystalline materials. *Journal of the Mechanics and Physics of Solids*, **2014**, 70, 104-115	5	28
83	New three-dimensional strain-rate potentials for isotropic porous metals: Role of the plastic flow of the matrix. *International Journal of Plasticity*, **2014**, 60, 101-117	7.6	16
82	Importance of the consideration of the specificities of local plastic deformation on the response of porous solids with Tresca matrix. *European Journal of Mechanics, A/Solids*, **2014**, 47, 194-205	3.7	7
81	New analytical criterion for porous solids with Tresca matrix under axisymmetric loadings. *International Journal of Solids and Structures*, **2014**, 51, 861-874	3.1	29
80	Role of the plastic flow of the matrix on yielding and void evolution of porous solids: Comparison between the theoretical response of porous solids with Tresca and von Mises matrices. *Mechanics Research Communications*, **2014**, 56, 69-75	2.2	9
79	On the effect of the matrix tension–compression asymmetry on damage evolution in porous plastic solids. *European Journal of Mechanics, A/Solids*, **2013**, 37, 35-44	3.7	17
78	Effect of stress triaxiality on porosity evolution in notched bars: Quantitative agreement between a recent dilatational model and X-ray tomography data. *Mechanics Research Communications*, **2013**, 50, 77-82	2.2	10
77	Elastic–plastic ductile damage model based on strain-rate plastic potential. *Mechanics Research Communications*, **2013**, 54, 21-26	2.2	7
76	Constitutive modeling of AZ31 sheet alloy with application to axial crushing. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2013**, 565, 203-212	5.3	53
75	Modeling bending of □-titanium with embedded polycrystal plasticity in implicit finite elements. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing* , **2013**, 564, 116-126	5.3	133
74	New interpretation of monotonic Swift effects: Role of tension–compression asymmetry. *Mechanics of Materials*, **2013**, 57, 42-52	3.3	16
73	Experimental and theoretical investigation of the high-pressure, undrained response of a cohesionless sand. *International Journal for Numerical and Analytical Methods in Geomechanics*, **2013**, 37, 2321-2347	4	7
72	Experimental and numerical study of TA6V mechanical behavior under different quasi-static strain paths at room temperature **2013**,		1
71	On the Combined Effect of Pressure and Third Invariant on Yielding of Porous Solids With von Mises Matrix. *Journal of Applied Mechanics, Transactions ASME*, **2013**, 80,	2.7	37
70	Localized Necking in a Round Tensile Bar with HCP Material Considering Tension-Compression Asymmetry in Plastic Flow. *Key Engineering Materials*, **2013**, 535-536, 164-167	0.4	
69	Analytical criterion for porous solids containing cylindrical voids in an incompressible matrix exhibiting tension–compression asymmetry. *Philosophical Magazine*, **2013**, 93, 1520-1548	1.6	5

68	A micromechanical approach of crack-induced damage in orthotropic media: Application to a brittle matrix composite. *Engineering Fracture Mechanics*, **2012**, 83, 40-53	4.2	13
67	Hardening in relation with microstructure evolution of high purity α-titanium deformed under monotonic and cyclic simple shear loadings at room temperature. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2012**, 535, 12-21	5.3	29
66	Characterization of work-hardening evolution in hexagonal metals using mean slip distance normalized with inter-obstacle spacing. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2012**, 543, 129-138	5.3	1
65	Experimental and numerical study of TA-6V mechanical behavior in different monotonic loading conditions at room temperature. *Procedia IUTAM*, **2012**, 3, 100-114		7
64	Effect of single-crystal plastic deformation mechanisms on the dilatational plastic response of porous polycrystals. *International Journal of Solids and Structures*, **2012**, 49, 3838-3852	3.1	29
63	On the influence of damage evolution in an incompressible material with matrix displaying tension-compression asymmetry. *Procedia IUTAM*, **2012**, 3, 331-349		1
62	Experimental Characterization and Constitutive Modeling of TA6V Mechanical Behavior in Plane Strain State at Room Temperature **2011**,		2
61	The importance of secondary and ternary twinning in compressed Ti. *Scripta Materialia*, **2011**, 64, 840-843	3.6	52
60	Analytical yield criterion for an anisotropic material containing spherical voids and exhibiting tension–compression asymmetry. *International Journal of Solids and Structures*, **2011**, 48, 357-373	3.1	53
59	Experimental characterization and elasto-plastic modeling of the quasi-static mechanical response of TA-6V at room temperature. *International Journal of Solids and Structures*, **2011**, 48, 1277-1289	3.1	69
58	Strain-rate potential based elastic/plastic anisotropic model for metals displaying tension–compression asymmetry. *Computer Methods in Applied Mechanics and Engineering*, **2011**, 200, 1993-2004	5.7	3
57	Coupled elastic–plastic damage model for a porous aggregate with an incompressible matrix displaying tension–compression asymmetry. *Engineering Fracture Mechanics*, **2011**, 78, 1407-1423	4.2	3
56	Construction of Yield Criterion for AZ31 Sheet Alloy by Considering Tension-Compression Asymmetry. *Transactions of Materials Processing*, **2011**, 20, 527-533		0
55	New Anisotropic Strain-rate Potential for Hexagonal Metals. *International Journal of Material Forming*, **2010**, 3, 227-230	2	1
54	Advances in anisotropy and formability. *International Journal of Material Forming*, **2010**, 3, 165-189	2	170
53	Dynamic crystal plasticity: An Eulerian approach. *Journal of the Mechanics and Physics of Solids*, **2010**, 58, 844-859	5	8
52	Earing predictions for strongly textured aluminum sheets. *International Journal of Mechanical Sciences*, **2010**, 52, 1563-1578	5.5	62
51	Anisotropic response of high-purity α-titanium: Experimental characterization and constitutive modeling. *International Journal of Plasticity*, **2010**, 26, 516-532	7.6	206

50	Orthotropic strain rate potential for the description of anisotropy in tension and compression of metals. *International Journal of Plasticity*, **2010**, 26, 887-904	7.6	51
49	Experimental and finite-element analysis of the anisotropic response of high-purity α-titanium in bending. *Acta Materialia*, **2010**, 58, 5759-5767	8.4	44
48	Augmented Lagrangian method for Eulerian modeling of viscoplastic crystals. *Computer Methods in Applied Mechanics and Engineering*, **2010**, 199, 689-699	5.7	4
47	Forming simulation of aluminum sheets using an anisotropic yield function coupled with crystal plasticity theory. *International Journal of Solids and Structures*, **2010**, 47, 2223-2233	3.1	44
46	Experimental and theoretical investigation of the high-pressure behavior of concrete. *International Journal for Numerical and Analytical Methods in Geomechanics*, **2009**, 33, 1-23	4	21
45	Analytic plastic potential for porous aggregates with matrix exhibiting tension–compression asymmetry. *Journal of the Mechanics and Physics of Solids*, **2009**, 57, 325-341	5	65
44	**2008**,		2
43	On the use of homogeneous polynomials to develop anisotropic yield functions with applications to sheet forming. *International Journal of Plasticity*, **2008**, 24, 915-944	7.6	81
42	Numerical modeling of projectile penetration into compressible rigid viscoplastic media. *International Journal for Numerical Methods in Engineering*, **2008**, 74, 1240-1261	2.4	6
41	Dynamic expansion of a spherical cavity within a rate-dependent compressible porous material. *International Journal of Plasticity*, **2008**, 24, 775-803	7.6	14
40	Orthotropic yield criteria for description of the anisotropy in tension and compression of sheet metals. *International Journal of Plasticity*, **2008**, 24, 847-866	7.6	215
39	Macroscopic yield criteria for plastic anisotropic materials containing spheroidal voids. *International Journal of Plasticity*, **2008**, 24, 1158-1189	7.6	179
38	Anisotropy and Formability **2007**, 143-173		19
37	On linear transformations of stress tensors for the description of plastic anisotropy. *International Journal of Plasticity*, **2007**, 23, 876-896	7.6	169
36	Elastic-viscoplastic anisotropic modeling of textured metals and validation using the Taylor cylinder impact test. *International Journal of Plasticity*, **2007**, 23, 1001-1021	7.6	71
35	Applications of a Recently Proposed Anisotropic Yield Function to Sheet Forming **2007**, 131-149		4
34	On Using Homogeneous Polynomials To Design Anisotropic Yield Functions With Tension/Compression Symmetry/Assymetry. *AIP Conference Proceedings*, **2007**,	0	3
33	On Modeling the Interaction between Initial and Damage-Induced Anisotropy in Transversely Isotropic Solids. *Mathematics and Mechanics of Solids*, **2007**, 12, 305-318	2.3	8

32	Orthotropic yield criterion for hexagonal closed packed metals. *International Journal of Plasticity*, **2006**, 22, 1171-1194	7.6	518
31	Indentation fracture mechanics toughness dependence on grain size and crack size: Application to alumina and WC□o. *International Journal of Refractory Metals and Hard Materials*, **2006**, 24, 129-134	4.1	21
30	Analysis of the steady-state flow of a compressible viscoplastic medium over a wedge. *International Journal for Numerical and Analytical Methods in Geomechanics*, **2006**, 30, 489-499	4	
29	Behavior of cementitious materials for high-strain rate conditions. *European Physical Journal Special Topics*, **2006**, 134, 1119-1124		3
28	Anisotropic yield function of hexagonal materials taking into account texture development and anisotropic hardening. *Acta Materialia*, **2006**, 54, 4159-4169	8.4	158
27	Steady-state flow of compressible rigid□iscoplastic media. *International Journal of Engineering Science*, **2006**, 44, 1082-1097	5.7	8
26	Compressible rigid viscoplastic fluids. *Journal of the Mechanics and Physics of Solids*, **2006**, 54, 1640-1667	5	14
25	Constitutive Model for Description of High-Strain Rate Behavior of Concrete **2006**, 549-550		
24	Strain-rate effects on the texture evolution of low-symmetry metals: Modeling and validation using the Taylor cylinder impact test. *European Physical Journal Special Topics*, **2006**, 134, 81-86		2
23	Micromechanical Modelling of Fracture-Induced Anisotropy and Damage in Orthotropic Materials **2006**, 789-790		
22	Yield Surface Plasticity and Anisotropy **2005**, 145-183		10
21	Recent Developments in the Formability of Aluminum Alloys. *AIP Conference Proceedings*, **2005**,	0	3
20	A criterion for description of anisotropy and yield differential effects in pressure-insensitive metals. *International Journal of Plasticity*, **2004**, 20, 2027-2045	7.6	323
19	Analysis of Steady-State Penetration in Viscoplastic Porous Materials **2004**, 367		
18	Description of anisotropic behaviour of AA3103-0 aluminium alloy using two recent yield criteria. *European Physical Journal Special Topics*, **2003**, 105, 297-304		6
17	Application of the theory of representation to describe yielding of anisotropic aluminum alloys. *International Journal of Engineering Science*, **2003**, 41, 1367-1385	5.7	109
16	A new hyperelastic model for transversely isotropic solids. *Zeitschrift Fur Angewandte Mathematik Und Physik*, **2002**, 53, 901-911	1.6	1
15	A New Anisotropic Yield Criterion for Aluminium Alloys. *Key Engineering Materials*, **2002**, 230-232, 537-540	0.4	

14	A model for slow motion of natural slopes. *Canadian Geotechnical Journal*, **2002**, 39, 924-937	3.2	13
13	Generalization of Druckerâ Yield Criterion to Orthotropy. *Mathematics and Mechanics of Solids*, **2001**, 6, 613-630	2.3	197
12	On the choice of stress-dependent elastic moduli for transversely isotropic solids. *Mechanics Research Communications*, **1999**, 26, 45-54	2.2	4
11	A paraboloid failure surface for transversely isotropic materials. *Mechanics of Materials*, **1999**, 31, 381-393	3.3	16
10	A new anisotropic failure criterion for transversely isotropic solids. *International Journal for Numerical and Analytical Methods in Geomechanics*, **1998**, 3, 89-103		22
9	A new anisotropic failure criterion for transversely isotropic solids **1998**, 3, 89		1
8	Constitutive Equation for Compaction of Ceramic Powders. *Solid Mechanics and Its Applications*, **1997**, 117-128	0.4	2
7	A New Constitutive Model for Alumina Powder Compaction. *KONA Powder and Particle Journal*, **1997**, 15, 103-112	3.4	15
6	Modeling Plastic Anistropy and Strength Differential Effects in Metallic Materials71-89		4
5	Viscoplastic Modeling of Anisotropic Textured Metals111-127		2
4	Plastic Deformation of Pure Polycrystalline Molybdenum143-175		
3	A Macroscopic Yield Function Coupled with Crystal Plasticity Theory for Modeling Forming of AZ31 Magnesium Alloy Sheets427-436		
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