Oana Cazacu

List of Publications by Year
in descending order

154	4,842	159525	98753
papers	citations	30	67
		h-index	g-index

168	168	168	1632
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Orthotropic yield criterion for hexagonal closed packed metals. International Journal of Plasticity, 2006, 22, 1171-1194.	4.1	649
2	A criterion for description of anisotropy and yield differential effects in pressure-insensitive metals. International Journal of Plasticity, 2004, 20, 2027-2045.	4.1	422
3	Orthotropic yield criteria for description of the anisotropy in tension and compression of sheet metals. International Journal of Plasticity, 2008, 24, 847-866.	4.1	258
4	Generalization of Drucker's Yield Criterion to Orthotropy. Mathematics and Mechanics of Solids, 2001, 6, 613-630.	1.5	257
5	Anisotropic response of high-purity Î±-titanium: Experimental characterization and constitutive modeling. International Journal of Plasticity, 2010, 26, 516-532.	4.1	251
6	Advances in anisotropy and formability. International Journal of Material Forming, 2010, 3, 165-189.	0.9	204
7	On linear transformations of stress tensors for the description of plastic anisotropy. International Journal of Plasticity, 2007, 23, 876-896.	4.1	201
8	Macroscopic yield criteria for plastic anisotropic materials containing spheroidal voids. International Journal of Plasticity, 2008, 24, 1158-1189.	4.1	200
9	Anisotropic yield function of hexagonal materials taking into account texture development and anisotropic hardening. Acta Materialia, 2006, 54, 4159-4169.	3.8	184
10	Modeling bending of Î±-titanium with embedded polycrystal plasticity in implicit finite elements. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 564, 116-126.	2.6	153
11	Application of the theory of representation to describe yielding of anisotropic aluminum alloys. International Journal of Engineering Science, 2003, 41, 1367-1385.	2.7	135
12	On the use of homogeneous polynomials to develop anisotropic yield functions with applications to sheet forming. International Journal of Plasticity, 2008, 24, 915-944.	4.1	106
13	Elastic-viscoplastic anisotropic modeling of textured metals and validation using the Taylor cylinder impact test. International Journal of Plasticity, 2007, 23, 1001-1021.	4.1	85
14	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.	1.3	77
15	Earing predictions for strongly textured aluminum sheets. International Journal of Mechanical Sciences, 2010, 52, 1563-1578.	3.6	72
16	Analytic plastic potential for porous aggregates with matrix exhibiting tensionâ€"compression asymmetry. Journal of the Mechanics and Physics of Solids, 2009, 57, 325-341.	2.3	68
17	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.	2.6	65
18	New yield criteria for isotropic and textured metallic materials. International Journal of Solids and Structures, 2018, 139-140, 200-210.	1.3	63

#	Article	IF	Citations
19	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.	1.3	62
20	Orthotropic strain rate potential for the description of anisotropy in tension and compression of metals. International Journal of Plasticity, 2010, 26, 887-904.	4.1	58
21	The importance of secondary and ternary twinning in compressed Ti. Scripta Materialia, 2011, 64, 840-843.	2.6	58
22	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.	1.3	50
23	Advances in anisotropy of plastic behaviour and formability of sheet metals. International Journal of Material Forming, 2020, 13, 749-787.	0.9	50
24	Experimental and finite-element analysis of the anisotropic response of high-purity α-titanium in bending. Acta Materialia, 2010, 58, 5759-5767.	3.8	49
25	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.	1.3	48
26	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, .	1.1	39
27	Correlation between swift effects and tension–compression asymmetry in various polycrystalline materials. Journal of the Mechanics and Physics of Solids, 2014, 70, 104-115.	2.3	33
28	Plastic deformation of high-purity α-titanium: Model development and validation using the Taylor cylinder impact test. Mechanics of Materials, 2015, 80, 264-275.	1.7	33
29	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.	2.6	31
30	New analytical criterion for porous solids with Tresca matrix under axisymmetric loadings. International Journal of Solids and Structures, 2014, 51, 861-874.	1.3	31
31	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.	1.3	30
32	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.	1.3	28
33	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.	2.3	27
34	A new anisotropic failure criterion for transversely isotropic solids. International Journal for Numerical and Analytical Methods in Geomechanics, 1998, 3, 89-103.	1.0	24
35	Experimental and theoretical investigation of the high‐pressure behavior of concrete. International Journal for Numerical and Analytical Methods in Geomechanics, 2009, 33, 1-23.	1.7	24
36	Indentation fracture mechanics toughness dependence on grain size and crack size: Application to alumina and WC–Co. International Journal of Refractory Metals and Hard Materials, 2006, 24, 129-134.	1.7	23

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37	Anisotropy and Formability. , 2007, , 143-173.		23
38	Plasticity-Damage Couplings: From Single Crystal to Polycrystalline Materials. Solid Mechanics and Its Applications, 2019, , .	0.1	23
39	Yield Surface Plasticity and Anisotropy. , 2005, , 145-183.		22
40	A paraboloid failure surface for transversely isotropic materials. Mechanics of Materials, 1999, 31, 381-393.	1.7	20
41	New interpretation of monotonic Swift effects: Role of tension–compression asymmetry. Mechanics of Materials, 2013, 57, 42-52.	1.7	20
42	A New Constitutive Model for Alumina Powder Compaction. KONA Powder and Particle Journal, 1997, 15, 103-112.	0.9	18
43	A yield criterion for cubic single crystals. International Journal of Solids and Structures, 2018, 151, 9-19.	1.3	18
44	New expressions and calibration strategies for Karafillis and Boyce (1993) yield criterion. International Journal of Solids and Structures, 2020, 185-186, 410-422.	1.3	18
45	Analysis of ESAFORM 2021 cup drawing benchmark of an Al alloy, critical factors for accuracy and efficiency of FE simulations. International Journal of Material Forming, 2022, 15, .	0.9	18
46	A model for slow motion of natural slopes. Canadian Geotechnical Journal, 2002, 39, 924-937.	1.4	17
47	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.	2.1	17
48	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.	4.1	17
49	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.	1.3	17
50	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.	1.7	16
51	Dynamic expansion of a spherical cavity within a rate-dependent compressible porous material. International Journal of Plasticity, 2008, 24, 775-803.	4.1	15
52	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.	0.8	15
53	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.	4.1	15
54	Compressible rigid viscoplastic fluids. Journal of the Mechanics and Physics of Solids, 2006, 54, 1640-1667.	2.3	14

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55	A micromechanical approach of crack-induced damage in orthotropic media: Application to a brittle matrix composite. Engineering Fracture Mechanics, 2012, 83, 40-53.	2.0	14
56	New analytic criterion for porous solids with pressure-insensitive matrix. International Journal of Plasticity, 2017, 89, 66-84.	4.1	14
57	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.	1.3	14
58	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.	1.0	12
59	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.	2.3	12
60	Description of anisotropic behaviour of AA3103-0 aluminium alloy using two recent yield criteria. European Physical Journal Special Topics, 2003, 105, 297-304.	0.2	11
61	Experimental and numerical study of TA-6V mechanical behavior in different monotonic loading conditions at room temperature. Procedia IUTAM, 2012, 3, 100-114.	1.2	11
62	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.	1.0	11
63	Application of the VPSC Model to the Description of the Stressâ€"Strain Response and Texture Evolution in AZ31 Mg for Various Strain Paths. Journal of Engineering Materials and Technology, Transactions of the ASME, 2015, 137, .	0.8	11
64	Dynamic crystal plasticity: An Eulerian approach. Journal of the Mechanics and Physics of Solids, 2010, 58, 844-859.	2.3	10
65	Experimental and theoretical investigation of the highâ€pressure, undrained response of a cohesionless sand. International Journal for Numerical and Analytical Methods in Geomechanics, 2013, 37, 2321-2347.	1.7	10
66	Plastic deformation of polycrystalline molybdenum: Experimental data and macroscopic model accounting for its anisotropy and tensionâ€"compression asymmetry. International Journal of Solids and Structures, 2015, 75-76, 287-298.	1.3	10
67	Prediction of plastic anisotropy of textured polycrystalline sheets using a new single-crystal model. Comptes Rendus - Mecanique, 2018, 346, 756-769.	2.1	10
68	The effect of tension-compression asymmetry on the formation of dynamic necking instabilities under plane strain stretching. International Journal of Plasticity, 2020, 128, 102656.	4.1	10
69	Steady-state flow of compressible rigidâ€"viscoplastic media. International Journal of Engineering Science, 2006, 44, 1082-1097.	2.7	9
70	Applications of a Recently Proposed Anisotropic Yield Function to Sheet Forming. , 2007, , 131-149.		8
71	On Modeling the Interaction between Initial and Damage-Induced Anisotropy in Transversely Isotropic Solids. Mathematics and Mechanics of Solids, 2007, 12, 305-318.	1.5	8
72	Experimental Characterization and Constitutive Modeling of TA6V Mechanical Behavior in Plane Strain State at Room Temperature. AIP Conference Proceedings, 2011, , .	0.3	8

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73	Elastic–plastic ductile damage model based on strain-rate plastic potential. Mechanics Research Communications, 2013, 54, 21-26.	1.0	8
74	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.	2.1	8
75	New interpretation of cyclic Swift effects. European Journal of Mechanics, A/Solids, 2014, 44, 82-90.	2.1	8
76	Modeling the effect of notch geometry on the deformation of a strongly anisotropic aluminum alloy. European Journal of Mechanics, A/Solids, 2020, 82, 104004.	2.1	8
77	Augmented Lagrangian method for Eulerian modeling of viscoplastic crystals. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 689-699.	3.4	7
78	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.	0.9	7
79	Constitutive Equation for Compaction of Ceramic Powders. Solid Mechanics and Its Applications, 1997, , 117-128.	0.1	6
80	Numerical modeling of projectile penetration into compressible rigid viscoplastic media. International Journal for Numerical Methods in Engineering, 2008, 74, 1240-1261.	1.5	6
81	Analytical criterion for porous solids containing cylindrical voids in an incompressible matrix exhibiting tension–compression asymmetry. Philosophical Magazine, 2013, 93, 1520-1548.	0.7	6
82	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.	2.1	6
83	A model for creep of porous crystals with cubic symmetry. International Journal of Solids and Structures, 2017, 110-111, 67-79.	1.3	6
84	Dilational Response of Voided Polycrystals. Jom, 2017, 69, 942-947.	0.9	6
85	Tension-compression asymmetry effects on the plastic response in bending: new theoretical and numerical results. Mechanics Research Communications, 2021, 114, 103596.	1.0	6
86	On the choice of stress-dependent elastic moduli for transversely isotropic solids. Mechanics Research Communications, 1999, 26, 45-54.	1.0	5
87	Coupled elastic–plastic damage model for a porous aggregate with an incompressible matrix displaying tension–compression asymmetry. Engineering Fracture Mechanics, 2011, 78, 1407-1423.	2.0	5
88	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.	0.9	5
89	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.	3.4	4
90	An Improved Description of Spherical Void Growth in Plastic Porous Materials with Finite Porosities. , 2014, 3, 1232-1237.		4

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91	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
93	Recent Developments in the Formability of Aluminum Alloys. AIP Conference Proceedings, 2005, , .	0.3	3
94	Behavior of cementitious materials for high-strain rate conditions. European Physical Journal Special Topics, 2006, 134, 1119-1124.	0.2	3
95	On Using Homogeneous Polynomials To Design Anisotropic Yield Functions With Tension/Compression Symmetry/Assymetry. AIP Conference Proceedings, 2007, , .	0.3	3
96	New polycrystalline modeling as applied to textured steel sheets. Mechanics Research Communications, 2017, 84, 98-101.	1.0	3
97	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.	0.5	3
98	Forming of titanium materials. , 2021, , 479-537.		3
99	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.	1.0	3
100	Dynamic response of polycrystalline high energetic systems: Constitutive modeling and application to impact. Journal of Applied Physics, 2022, 131, .	1.1	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
102	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.	0.9	2
103	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.	0.2	2
104	A new hyperelastic model for transversely isotropic solids. Zeitschrift Fur Angewandte Mathematik Und Physik, 2002, 53, 901-911.	0.7	1
105	New Anisotropic Strain-rate Potential for Hexagonal Metals. International Journal of Material Forming, 2010, 3, 227-230.	0.9	1
106	Anisotropic yield function capable of predicting eight ears. , 2011, , .		1
107	On the influence of damage evolution in an incompressible material with matrix displaying tension-compression asymmetry. Procedia IUTAM, 2012, 3, 331-349.	1.2	1
108	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.	2.6	1

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109	Experimental and numerical study of TA6V mechanical behavior under different quasi-static strain paths at room temperature. , 2013, , .		1
110	New Analytical Criterion for Porous Solids with Tresca Matrix. , 2014, 3, 1412-1417.		1
111	Prediction of the torsional response of HCP metals. Journal of Physics: Conference Series, 2018, 1063, 012045.	0.3	1
112	Plastic deformation of metallic materials during dynamic events. Journal of Physics: Conference Series, 2018, 1063, 012054.	0.3	1
113	Effect of the third invariant on the formation of necking instabilities in ductile plates subjected to plane strain tension. Meccanica, 2021, 56, 1789-1818.	1.2	1
114	A new anisotropic failure criterion for transversely isotropic solids. International Journal for Numerical and Analytical Methods in Geomechanics, 1998, 3, 89-103.	1.0	1
115	Yield Criteria for Anisotropic Polycrystals. Solid Mechanics and Its Applications, 2019, , 201-288.	0.1	1
116	Anisotropic Plastic Potentials for Porous Metallic Materials. Solid Mechanics and Its Applications, 2019, , 503-581.	0.1	1
117	Strain rate effects on the mechanical properties of high-purity α-titanium. , 2009, , .		1
118	Construction of Yield Criterion for AZ31 Sheet Alloy by Considering Tension-Compression Asymmetry. Transactions of Materials Processing, 2011, 20, 527-533.	0.1	1
119	Plastic Deformation of Single Crystals. Solid Mechanics and Its Applications, 2019, , 61-139.	0.1	1
120	A New Anisotropic Yield Criterion for Aluminium Alloys. Key Engineering Materials, 2002, 230-232, 537-540.	0.4	0
121	Analysis of Steady-State Penetration in Viscoplastic Porous Materials. , 2004, , 367.		0
122	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.	1.7	0
123	Orthotropic Yield Criteria for modeling the combined effects of anisotropy and strength differential effects in sheet metals. AIP Conference Proceedings, 2007, , .	0.3	0
124	New distortional hardening model capable of predicting eight ears for textured aluminum sheet. , 2011, , .		0
125	Plasticity-damage couplings in titanium. , 2013, , .		0
126	Localized Necking in a Round Tensile Bar with HCP Material Considering Tension-Compression Asymmetry in Plastic Flow. Key Engineering Materials, 0, 535-536, 164-167.	0.4	0

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127	On Modeling Plasticity-damage Couplings in Polycrystalline Materials. , 2014, 3, 1423-1428.		0
128	Constitutive modeling and simulation at room-temperature deformation and failure of polycrystalline Molybdenum. Journal of Physics: Conference Series, 2016, 734, 032110.	0.3	0
129	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	0
130	New Yield Criterion for Description of Plastic Deformation of Face-Centered Cubic Single Crystals. Minerals, Metals and Materials Series, 2017, , 393-398.	0.3	0
131	New analytic criterion for FCC single crystals. Procedia Engineering, 2017, 207, 2113-2118.	1.2	0
132	Prediction of Anisotropy of Textured Sheets Based on a New Polycrystal Model. Procedia Engineering, 2017, 207, 239-244.	1.2	0
133	Anisotropic Yield Criteria. Journal of Physics: Conference Series, 2018, 1063, 012052.	0.3	0
134	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	0
135	New criteria for isotropic and textured metals. AIP Conference Proceedings, 2018, , .	0.3	0
136	Equivalent expression for Yld91 criterion for textured metals. , 2019, , .		0
137	Response to the letter to editor. International Journal of Material Forming, 2020, 13, 855-860.	0.9	0
138	Predictive Capabilities of Non-Quadratic Orthotropic Criteria. Procedia Manufacturing, 2020, 47, 1548-1551.	1.9	0
139	Yield criteria for anisotropic materials. , 2021, , 115-208.		0
140	Yield criteria for isotropic materials. , 2021, , 37-114.		0
141	Experimental characterization and modeling of metallic materials with cubic crystal structure. , 2021, , 209-263.		0
142	Recent Advances on Modeling Plastic Deformation of Textured Metals with Applications to Metal Forming. Minerals, Metals and Materials Series, 2021, , 2839-2851.	0.3	0
143	Experimental characterization and modeling of metallic materials with hexagonal closed-packed structure. , 2021, , 265-310.		0
144	Editorial: SI: Cristescu. Mechanics Research Communications, 2021, 114, 103653.	1.0	0

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145	Elastic/plastic behavior of metallic materials in torsion and bending. , 2021, , 311-424.		0
146	Forming of materials with cubic crystal structure. , 2021, , 425-478.		0
147	A New Anisotropic Damage Model for Ceramic Matrix Composites. , 2004, , .		0
148	New Model Predicting the Unusual Buckling Behavior of AZ31 Mg. , 2015, , 153-157.		0
149	On Modeling the Mechanical Behavior and Texture Evolution of Rolled AZ31 Mg for Complex Loadings Involving Strain Path Changes. , 2016, , 245-250.		0
150	Constitutive Equations for Elasticâ€"Plastic Materials. Solid Mechanics and Its Applications, 2019, , 37-60.	0.1	0
151	Yield Criteria for Isotropic Polycrystals. Solid Mechanics and Its Applications, 2019, , 141-200.	0.1	0
152	Plastic Potentials for Isotropic Porous Materials: Influence of the Particularities of Plastic Deformation on Damage Evolution. Solid Mechanics and Its Applications, 2019, , 337-502.	0.1	0
153	Constitutive Model for Description of High-Strain Rate Behavior of Concrete. , 2006, , 549-550.		0
154	Micromechanical Modelling of Fracture-Induced Anisotropy and Damage in Orthotropic Materials. , 2006, , 789-790.		0