

Tarak Ben Zineb

List of Publications by Year in descending order

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102
papers

2,147
citations

218592

26
h-index

243529

44
g-index

103
all docs

103
docs citations

103
times ranked

1173
citing authors

#	ARTICLE	IF	CITATIONS
1	A review of constitutive models and modeling techniques for shape memory alloys. International Journal of Plasticity, 2016, 76, 244-284.	4.1	267
2	Constitutive model for shape memory alloys including phase transformation, martensitic reorientation and twins accommodation. Mechanics of Materials, 2011, 43, 361-376.	1.7	159
3	Thermomechanical model for NiTi-based shape memory alloys including R-phase and material anisotropy under multi-axial loadings. International Journal of Plasticity, 2012, 39, 132-151.	4.1	153
4	Recent advances in flexible PVDF based piezoelectric polymer devices for energy harvesting applications. Journal of Intelligent Material Systems and Structures, 2021, 32, 746-780.	1.4	103
5	Macroscopic constitutive law of shape memory alloy thermomechanical behaviour. Application to structure computation by FEM. Mechanics of Materials, 2006, 38, 510-524.	1.7	84
6	A review of modeling techniques for advanced effects in shape memory alloy behavior. Smart Materials and Structures, 2016, 25, 103001.	1.8	74
7	Data-driven multiscale finite element method: From concurrence to separation. Computer Methods in Applied Mechanics and Engineering, 2020, 363, 112893.	3.4	65
8	Modelling of localization and propagation of phase transformation in superelastic SMA by a gradient nonlocal approach. International Journal of Solids and Structures, 2011, 48, 1879-1893.	1.3	54
9	3D modeling of shape memory alloy fiber reinforced composites by multiscale finite element method. Composite Structures, 2018, 200, 408-419.	3.1	51
10	Determination of the interaction energy in the martensitic state. International Journal of Plasticity, 2002, 18, 1619-1647.	4.1	47
11	Constitutive Law for Ferroelastic and Ferroelectric Piezoceramics. Journal of Intelligent Material Systems and Structures, 2005, 16, 221-236.	1.4	46
12	Ellipticity loss analysis for tangent moduli deduced from a large strain elastic-plastic self-consistent model. International Journal of Plasticity, 2009, 25, 205-238.	4.1	46
13	Finite Element analysis of a shape memory alloy actuator for a micropump. Simulation Modelling Practice and Theory, 2012, 27, 112-126.	2.2	39
14	Large amplitude free flexural vibrations of functionally graded graphene platelets reinforced porous composite curved beams using finite element based on trigonometric shear deformation theory. International Journal of Non-Linear Mechanics, 2019, 116, 302-317.	1.4	39
15	Effect of hydrogen on the tensile strength of aged NiTi superelastic alloy. Journal of Intelligent Material Systems and Structures, 2011, 22, 2053-2059.	1.4	36
16	Coupling between measured kinematic fields and multicrystal SMA finite element calculations. Mechanics of Materials, 2010, 42, 72-95.	1.7	35
17	Experimental analysis of Fe-based shape memory alloy behavior under thermomechanical cyclic loading. Mechanics of Materials, 2013, 63, 1-11.	1.7	34
18	Finite element analysis of a multilayer piezoelectric actuator taking into account the ferroelectric and ferroelastic behaviors. International Journal of Engineering Science, 2006, 44, 996-1006.	2.7	33

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19	Development of a constitutive hyperelastic material law for numerical simulations of adhesive steel-glass connections using structural silicone. <i>International Journal of Adhesion and Adhesives</i> , 2014, 48, 194-209.	1.4	33
20	Investigation of supersonic flutter of thick doubly curved sandwich panels with CNT reinforced facesheets using higher-order structural theory. <i>Composite Structures</i> , 2015, 127, 340-355.	3.1	33
21	Modeling of niobium precipitates effect on the Ni ₄₇ Ti ₄₄ Nb ₉ Shape Memory Alloy behavior. <i>International Journal of Plasticity</i> , 2012, 36, 130-147.	4.1	32
22	A 2D finite element based on a nonlocal constitutive model describing localization and propagation of phase transformation in shape memory alloy thin structures. <i>International Journal of Solids and Structures</i> , 2014, 51, 1208-1220.	1.3	31
23	A nonlinear 3D model for iron-based shape memory alloys considering different thermomechanical properties for austenite and martensite and coupling between transformation and plasticity. <i>Mechanics of Materials</i> , 2017, 107, 1-21.	1.7	28
24	A Fourier-related FE2 multiscale model for instability phenomena of long fiber reinforced materials. <i>Composite Structures</i> , 2019, 211, 530-539.	3.1	28
25	A constitutive model for Fe-based shape memory alloy considering martensitic transformation and plastic sliding coupling: Application to a finite element structural analysis. <i>Journal of Intelligent Material Systems and Structures</i> , 2012, 23, 1143-1160.	1.4	27
26	Macroscopic constitutive law for SMA: Application to structure analysis by FEM. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006, 438-440, 454-458.	2.6	26
27	A simplified micromechanical constitutive law adapted to the design of shape memory applications by finite element methods. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 481-482, 384-388.	2.6	26
28	Modeling of latent heat effects on phase transformation in shape memory alloy thin structures. <i>International Journal of Solids and Structures</i> , 2016, 88-89, 283-295.	1.3	24
29	Modelling of martensitic transformation and plastic slip effects on the thermo-mechanical behaviour of Fe-based shape memory alloys. <i>Mechanics of Materials</i> , 2009, 41, 849-856.	1.7	23
30	A finite element-based numerical tool for Ni ₄₇ Ti ₄₄ Nb ₉ SMA structures design: Application to tightening rings. <i>Journal of Intelligent Material Systems and Structures</i> , 2012, 23, 141-153.	1.4	22
31	Hydrogen effect on the austenite-martensite transformation of the cycled Ni-Ti alloy. <i>Journal of Intelligent Material Systems and Structures</i> , 2014, 25, 980-988.	1.4	22
32	An original pure bending device with large displacements and rotations for static and fatigue tests of composite structures. <i>Composites Part B: Engineering</i> , 2003, 34, 447-458.	5.9	21
33	Simulation of the effect of elastic precipitates in SMA materials based on a micromechanical model. <i>Composites Part B: Engineering</i> , 2012, 43, 2560-2576.	5.9	19
34	Dynamic snap-through buckling of CNT reinforced composite sandwich spherical caps. <i>Composites Part B: Engineering</i> , 2016, 99, 472-482.	5.9	19
35	Micromechanical analysis of precipitate effects on shape memory alloys behaviour. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 481-482, 366-370.	2.6	18
36	Role of intragranular microstructure development in the macroscopic behavior of multiphase steels in the context of changing strain paths. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009, 517, 300-311.	2.6	18

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37	A FSDTâ€”MITC Piezoelectric Shell Finite Element with Ferroelectric Non-linearity. Journal of Intelligent Material Systems and Structures, 2009, 20, 2055-2075.	1.4	17
38	Strain localization analysis using a multiscale model. Computational Materials Science, 2009, 45, 768-773.	1.4	17
39	A ferroelectric and ferroelastic 3D hexahedral curvilinear finite element. International Journal of Solids and Structures, 2011, 48, 87-109.	1.3	15
40	Constitutive law for ferroelectric and ferroelastic single crystals: a micromechanical approach. Computational Materials Science, 2005, 32, 355-359.	1.4	14
41	Numerical tool for SMA material simulation: application to composite structure design. Smart Materials and Structures, 2009, 18, 104012.	1.8	13
42	Enrichment of linear hexahedral finite elements using rotations of a virtual space fiber. International Journal for Numerical Methods in Engineering, 2013, 95, 46-70.	1.5	13
43	Numerical simulation of the force generated by a superelastic NiTi orthodontic archwire during tooth alignment phase: comparison between different constitutive models. Materials Research Express, 2018, 5, 045405.	0.8	13
44	A Multiscale Analysis on the Superelasticity Behavior of Architected Shape Memory Alloy Materials. Materials, 2018, 11, 1746.	1.3	13
45	Contribution of industrial composite parts to fatigue behaviour simulation. International Journal of Fatigue, 2002, 24, 307-318.	2.8	12
46	Modeling of hydrogen effect on the superelastic behavior of Ni-Ti shape memory alloy wires. Smart Materials and Structures, 2016, 25, 115047.	1.8	12
47	Uncertainty analysis of an actuator for a shape memory alloy micro-pump with uncertain parameters. Advances in Engineering Software, 2018, 122, 22-30.	1.8	12
48	Modelling of the martensitic phase transformation for finite element computation. European Physical Journal Special Topics, 2004, 115, 351-359.	0.2	11
49	Numerical study of the influence of material parameters on the mechanical behaviour of a rehabilitated edentulous mandible. Journal of Dentistry, 2014, 42, 287-297.	1.7	11
50	Ductility Loss Modelling for BCC Single Crystals. International Journal of Forming Processes, 2005, 8, 135-158.	0.3	11
51	A finite-strain thermomechanical behavior model for iron-based shape memory alloys accounting for coupling between phase transformation and plastic slip. International Journal of Plasticity, 2020, 124, 96-116.	4.1	10
52	Modeling of SMA superelastic behavior with nonlocal approach. Physics Procedia, 2010, 10, 33-38.	1.2	9
53	A piezoelectric 3D hexahedral curvilinear finite element based on the space fiber rotation concept. International Journal for Numerical Methods in Engineering, 2012, 90, 87-115.	1.5	9
54	Experimental and numerical analysis of penetration/removal response of endodontic instrument made of single crystal Cu-based SMA: comparison with NiTi SMA instruments. Smart Materials and Structures, 2017, 26, 045014.	1.8	9

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55	3D reconstitution and numerical analysis of superelastic behavior of porous shape memory alloy. <i>International Journal of Solids and Structures</i> , 2019, 168, 109-122.	1.3	9
56	Tensile properties of a Fe-32Mn-6Si shape memory alloy. <i>Strength of Materials</i> , 2008, 40, 203-211.	0.2	8
57	Finite element analysis of switching domains using ferroelectric and ferroelastic micromechanical model for single crystal piezoceramics. <i>Ceramics International</i> , 2016, 42, 11224-11238.	2.3	8
58	Experimental and finite element analysis of superelastic behaviour of shape memory alloy for damping applications. <i>Mechanics and Industry</i> , 2014, 15, 371-376.	0.5	7
59	Measurement of local strain heterogeneities in superelastic shape memory alloys by digital image correlation. <i>Physics Procedia</i> , 2010, 10, 4-10.	1.2	6
60	Impact of intragranular microstructure development on ductility limits of multiphase steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011, 528, 3777-3785.	2.6	6
61	Finite Element Analysis of a Copper Single Crystal Shape Memory Alloy-Based Endodontic Instruments. <i>Journal of Materials Engineering and Performance</i> , 2015, 24, 4128-4139.	1.2	6
62	Experimental and numerical analysis of recovery stress in $\langle \text{si} \rangle$. <i>Journal of Materials Engineering and Performance</i> , 2015, 24, 4128-4139.	1.2	5
63	Modeling of Hydrogen Effects on the Thermomechanical Behavior of NiTi-Based Shape Memory Alloys. <i>Shape Memory and Superelasticity</i> , 2019, 5, 206-217.	1.1	5
64	Numerical simulation of the behavior of steel T-stubs connected by Fe-based shape memory alloy bolts. <i>Journal of Intelligent Material Systems and Structures</i> , 2018, 29, 3284-3292.	1.4	4
65	Development and implementation of an effective constitutive model for architected cellular iron-based shape memory alloys: Pressure dependency and transformation-plasticity interaction. <i>Journal of Intelligent Material Systems and Structures</i> , 2019, 30, 1789-1822.	1.4	4
66	Experimental analysis of the pseudoelastic damping capacity of the Fe-30Mn-6Si-5Cr Shape Memory Alloy. <i>Smart Materials and Structures</i> , 2020, 29, 084002.	1.8	4
67	Combined bending-torsion testing device for characterization of shape memory alloy endodontic files. <i>Journal of Intelligent Material Systems and Structures</i> , 2020, 31, 1763-1781.	1.4	4
68	Plasticized P(VDF-TrFE): A new flexible piezoelectric material with an easier polarization process, promising for biomedical applications. <i>Journal of Applied Polymer Science</i> , 2021, 138, 50420.	1.3	4
69	Finite element and experimental structural analysis of endodontic rotary file made of Cu-based single crystal SMA considering a micromechanical behavior model. <i>International Journal of Solids and Structures</i> , 2021, 221, 180-196.	1.3	4
70	Experimental Observations and Modeling of Localization in Superelastic NiTi Polycrystalline Alloys: State of the Art. <i>Acta Physica Polonica A</i> , 2018, 134, 847-852.	0.2	4
71	Evaluation of the immediate post-operative bone-implant condition of a proximal interphalangeal joint prosthesis by a comparative FEA modeling. <i>International Journal on Interactive Design and Manufacturing</i> , 2010, 4, 157-167.	1.3	3
72	Analysis of high stress gradients in composite plates with rapidly varying thickness. <i>Composites Science and Technology</i> , 1998, 58, 791-799.	3.8	2

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73	Phenomenological modelling of the non-linear behavior of ferroelectric materials. European Physical Journal Special Topics, 2004, 115, 67-72.	0.2	2
74	Modélisation phénoménologique du comportement de céramiques ferroélectriques et ferroélastiques. Mécanique Et Industries, 2005, 6, 337-342.	0.2	2
75	Numerical Tool Based on Finite Element Method for SMA Structures Design. , 2008, , .		2
76	Remeshing procedure for discrete membrane finite element: application to woven composite forming. European Journal of Computational Mechanics, 2012, 21, 4-21.	0.6	2
77	Finite element analysis of a 3D Fe-based SMA cellular beam with highly heterogeneous stress and strain distributions. Proceedings of SPIE, 2017, , .	0.8	2
78	Finite element simulation of a multigrain in shape memory alloy. European Physical Journal Special Topics, 2004, 115, 375-382.	0.2	1
79	A Multiscale Model Based On Intragranular Microstructure " Prediction Of Dislocation Patterns At The Microscopic Scale. AIP Conference Proceedings, 2007, , .	0.3	1
80	Comparaison de configurations d'essais hystérétiques en vue d'améliorer l'identification du comportement élastique orthotrope par l'erreur en relation de comportement. Mécanique Et Industries, 2009, 10, 351-364.	0.2	1
81	A Model for Iron-Based Shape Memory Alloys Considering Variable Elastic Stiffness and Coupling Between Plasticity and Phase Transformation. , 2015, , .		1
82	Modeling and Simulation of Architected Iron-Based SMA Materials. , 2017, , .		1
83	Nonlocal modelling of superelastic behavior of shape memory alloys. , 2009, , .		1
84	Coupling between experiment and numerical simulation of shape memory alloy multigrain. , 2009, , .		1
85	Hybrid composites with shape memory alloys and piezoelectric thin layers. , 2022, , 225-265.		1
86	New anisothermal creep modelling for Cu-based shape memory alloys. Revue De Metallurgie, 2003, 100, 203-209.	0.3	0
87	Micromechanical model for ferroelectric and ferroelastic single crystals. , 2004, , .		0
88	Finite element analysis of a multilayer piezoelectric actuator taking into account the ferroelectric and ferroelastic behaviors. , 2005, 5761, 316.		0
89	A Multiscale Model Based On Intragranular Microstructure: Influence Of Grain-Scale Substructure On Macroscopic Behaviour Of An IF-Steel During Complex Load Paths. AIP Conference Proceedings, 2007, , .	0.3	0
90	Dialogue entre expérience et simulation numérique pour un multigrain en alliage mémoire de forme. Mécanique Et Industries, 2009, 10, 267-273.	0.2	0

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91	Thermomechanical Models for NiTi Shape Memory Alloys and Their Applications. , 2010, , .		0
92	Improvement of a four-implant retained bridge for totally edentulous patients. Computer Methods in Biomechanics and Biomedical Engineering, 2011, 14, 147-148.	0.9	0
93	Special finite elements for advanced modelling of engineering problems. European Journal of Computational Mechanics, 2012, 21, 1-3.	0.6	0
94	Modeling of the Martensite Transformation and Reorientation in SMA under Thermomechanical Loading. Design of Finite Element Adaptative Micro-Components. , 2013, , 677-682.		0
95	Electro-mechanical modeling of a ferroelastic relaxor single crystal. Journal of Advanced Science, 2005, 17, 32-37.	0.1	0
96	Analysis of Niobium precipitates effect on the thermo-mechanical behavior of a NiTiNb Shape Memory Alloy and Modeling. , 2009, , .		0
97	Égalité des chances en École d'Ingénieur : Retour sur 11 années d'expérimentation à J3eA, 2010, 0, 0020. 0		0
98	Effect of Microstructural and Physical Mechanisms on Mechanical Properties of Single-Phase Steels. Advanced Science Letters, 2013, 19, 346-350.	0.2	0
99	Development of a 2-D Interfacial Dynamic Model for Detwinning in HTSMAs. , 2013, , .		0
100	Analysis of Niobium Precipitates Effect on the Thermo-Mechanical Behavior of a NiTiNb Shape Memory Alloy. , 0, , 357-364.		0
101	Modeling of Iron Based Shape Memory Alloys Behavior Within Finite Strain Formulation. Lecture Notes in Mechanical Engineering, 2021, , 385-391.	0.3	0
102	Characterization of Iron-Based Shape Memory Alloys Using the Small Punch Test. Materials Performance and Characterization, 2022, 11, 335-350.	0.2	0