

Ayech Benjeddou

List of Publications by Year in descending order

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80
papers

2,458
citations

304743

22
h-index

206112

48
g-index

85
all docs

85
docs citations

85
times ranked

1246
citing authors

#	ARTICLE	IF	CITATIONS
1	Advances in piezoelectric finite element modeling of adaptive structural elements: a survey. Computers and Structures, 2000, 76, 347-363.	4.4	545
2	A Unified Beam Finite Element Model for Extension and Shear Piezoelectric Actuation Mechanisms. Journal of Intelligent Material Systems and Structures, 1997, 8, 1012-1025.	2.5	167
3	Mixing Rules for the Piezoelectric Properties of Macro Fiber Composites. Journal of Intelligent Material Systems and Structures, 2009, 20, 1475-1482.	2.5	136
4	Modeling of Frequency-Dependent Viscoelastic Materials for Active-Passive Vibration Damping. Journal of Vibration and Acoustics, Transactions of the ASME, 2000, 122, 169-174.	1.6	115
5	Hybrid Active-Passive Damping Treatments Using Viscoelastic and Piezoelectric Materials: Review and Assessment. JVC/Journal of Vibration and Control, 2002, 8, 699-745.	2.6	110
6	PIEZOELECTRIC ACTIVE VIBRATION CONTROL OF DAMPED SANDWICH BEAMS. Journal of Sound and Vibration, 2001, 246, 653-677.	3.9	91
7	A unified formulation for finite element analysis of piezoelectric adaptive plates. Computers and Structures, 2006, 84, 1494-1505.	4.4	91
8	Effective Electromechanical Coupling Coefficients of Piezoelectric Adaptive Structures: Critical Evaluation and Optimization. Mechanics of Advanced Materials and Structures, 2009, 16, 210-223.	2.6	85
9	Free vibrations of simply-supported piezoelectric adaptive plates: an exact sandwich formulation. Thin-Walled Structures, 2002, 40, 573-593.	5.3	81
10	Piezoelectric actuation mechanisms for intelligent sandwich structures. Smart Materials and Structures, 2000, 9, 328-335.	3.5	75
11	Advances in Hybrid Active-Passive Vibration and Noise Control Via Piezoelectric and Viscoelastic Constrained Layer Treatments. JVC/Journal of Vibration and Control, 2001, 7, 565-602.	2.6	73
12	Finite element modelling of hybrid active-passive vibration damping of multilayer piezoelectric sandwich beams—part I: Formulation. International Journal for Numerical Methods in Engineering, 2001, 51, 835-854.	2.8	57
13	A two-dimensional closed-form solution for the free-vibrations analysis of piezoelectric sandwich plates. International Journal of Solids and Structures, 2002, 39, 1463-1486.	2.7	51
14	Vibrations of complex shells of revolution using B-spline finite elements. Computers and Structures, 2000, 74, 429-440.	4.4	48
15	Shear-Mode Piezoceramic Advanced Materials and Structures: A State of the Art. Mechanics of Advanced Materials and Structures, 2007, 14, 263-275.	2.6	48
16	New Thin Piezoelectric Plate Models. Journal of Intelligent Material Systems and Structures, 1998, 9, 1017-1029.	2.5	47
17	Free-vibration analysis of laminated plates with embedded shear-mode piezoceramic layers. International Journal of Solids and Structures, 2005, 42, 2059-2088.	2.7	33
18	Unified Formulation for Finite Element Thermoelastic Analysis of Multilayered Anisotropic Composite Plates. Journal of Thermal Stresses, 2005, 28, 1031-1065.	2.0	33

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19	A Thermopiezoelectric Mixed Variational Theorem for smart multilayered composites. Computers and Structures, 2005, 83, 1266-1276.	4.4	31
20	A Piezoelectric Mixed Variational Theorem for Smart Multilayered Composites. Mechanics of Advanced Materials and Structures, 2005, 12, 1-11.	2.6	29
21	Use of shunted shear-mode piezoceramics for structural vibration passive damping. Computers and Structures, 2006, 84, 1415-1425.	4.4	26
22	Refined sandwich model for the vibration of beams with embedded shear piezoelectric actuators and sensors. Computers and Structures, 2008, 86, 859-869.	4.4	23
23	Finite element characterisation of multilayer piezoelectric macro-fibre composites. Composite Structures. 2016, 151, 47-57.	5.8	23
24	Field-dependent nonlinear piezoelectricity: a focused review. International Journal of Smart and Nano Materials, 2018, 9, 68-84.	4.2	23
25	Numerical and experimental characterizations of longitudinally polarized piezoelectric d ₁₅ shear macro-fiber composites. Acta Mechanica, 2013, 224, 2471-2487.	2.1	21
26	On analytical and finite element modelling of piezoelectric extension and shear bimorphs. Computers and Structures, 2006, 84, 1426-1437.	4.4	18
27	Piezoelectric d ₁₅ shear response-based torsion actuation mechanism: an experimental benchmark and its 3D finite element simulation. International Journal of Smart and Nano Materials, 2010, 1, 224-235.	4.2	18
28	Finite element characterization and parametric analysis of the nonlinear behaviour of an actual d ₁₅ shear MFC. Acta Mechanica, 2013, 224, 2489-2503.	2.1	18
29	Finite element modelling of hybrid active-passive vibration damping of multilayer piezoelectric sandwich beams—part II: System analysis. International Journal for Numerical Methods in Engineering, 2001, 51, 855-864.	2.8	18
30	A FSDT-MITC Piezoelectric Shell Finite Element with Ferroelectric Non-linearity. Journal of Intelligent Material Systems and Structures, 2009, 20, 2055-2075.	2.5	17
31	Piezoelectric d ₁₅ shear-response-based torsion actuation mechanism: An exact 3D Saint-Venant type solution. International Journal of Smart and Nano Materials, 2012, 3, 82-102.	4.2	17
32	Analysis of the sensitivity to pressure and temperature of a membrane based SAW sensor. International Journal of Smart and Nano Materials, 2017, 8, 95-109.	4.2	17
33	Optimal piezoelectric resistive inductive shunt damping of plates with residual mode correction. Journal of Intelligent Material Systems and Structures, 2018, 29, 3346-3370.	2.5	17
34	General numerical implementation of a new piezoelectric shunt tuning method based on the effective electromechanical coupling coefficient. Mechanics of Advanced Materials and Structures, 2020, 27, 1908-1922.	2.6	17
35	A ferroelectric and ferroelastic 3D hexahedral curvilinear finite element. International Journal of Solids and Structures, 2011, 48, 87-109.	2.7	15
36	Parametric analysis of effective material properties of thickness-shear piezoelectric macro-fibre composites. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2012, 34, 352-361.	1.6	15

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37	On Higher-Order Modelling of Smart Beams with Embedded Shear-Mode Piezoceramic Actuators and Sensors. <i>Mechanics of Advanced Materials and Structures</i> , 2006, 13, 357-369.	2.6	14
38	New insights in piezoelectric free-vibrations using simplified modeling and analyses. <i>Smart Structures and Systems</i> , 2009, 5, 591-612.	1.9	14
39	Enrichment of linear hexahedral finite elements using rotations of a virtual space fiber. <i>International Journal for Numerical Methods in Engineering</i> , 2013, 95, 46-70.	2.8	13
40	Piezoceramic shunted damping concept: testing, modelling and correlation. <i>Mecanique Et Industries</i> , 2009, 10, 397-411.	0.2	12
41	A heat mixed variational theorem for thermoelastic multilayered composites. <i>Computers and Structures</i> , 2006, 84, 1247-1255.	4.4	11
42	Finite element analysis of frequency- and temperature-dependent hybrid active-passive vibration damping. <i>Revue Europeenne Des Elements</i> , 2000, 9, 89-111.	0.1	10
43	Modal effective electromechanical coupling approximate evaluations and simplified analyses: numerical and experimental assessments. <i>Acta Mechanica</i> , 2014, 225, 2721-2742.	2.1	10
44	Semi-analytical free-vibration analysis of piezoelectric adaptive beams using the distributed transfer function approach. <i>Structural Control and Health Monitoring</i> , 2011, 18, 723-736.	4.0	9
45	A piezoelectric 3D hexahedral curvilinear finite element based on the space fiber rotation concept. <i>International Journal for Numerical Methods in Engineering</i> , 2012, 90, 87-115.	2.8	9
46	A Bâ€spline finite element for the dynamic analysis of sandwich shells of revolution. <i>Engineering Computations</i> , 1996, 13, 240-262.	1.4	8
47	Hamiltonian partial mixed finite element-state space symplectic semi-analytical approach for the piezoelectric smart composites and FGM analysis. <i>Acta Mechanica</i> , 2012, 223, 1597-1610.	2.1	8
48	Free vibration analysis of moderately thick asymmetric piezoelectric adaptive cantilever beams using the distributed transfer function approach. <i>Journal of Sound and Vibration</i> , 2014, 333, 3339-3355.	3.9	8
49	Mathematical modelling and finite element simulation of smart tubular composites. <i>Computers and Structures</i> , 2006, 84, 2385-2395.	4.4	7
50	Piezoceramic d_{15} shear-induced direct torsion actuation mechanism: a new representative experimental benchmark. <i>Smart Structures and Systems</i> , 2013, 12, 483-499.	1.9	7
51	Static experimentations of the piezoceramic d_{15} shear actuation mechanism for sandwich structures with opposite or same poled patches-assembled core and composite faces. <i>International Journal of Smart and Nano Materials</i> , 2011, , 1-15.	4.2	5
52	Robust electromechanical finite element updating for piezoelectric structures effective coupling prediction. <i>Journal of Intelligent Material Systems and Structures</i> , 2014, 25, 137-154.	2.5	5
53	A package-less SAW RFID sensor concept for structural health monitoring. <i>Mechanics of Advanced Materials and Structures</i> , 2021, 28, 648-655.	2.6	5
54	Analytical Homogenizations of Piezoceramic d_{15} Shear Macro-fibre Composites. <i>IUTAM Symposium on Cellular, Molecular and Tissue Mechanics</i> , 2011, , 229-242.	0.2	5

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55	Transverse dynamics of slender piezoelectric bimorphs with resistive-inductive electrodes. Smart Structures and Systems, 2016, 18, 355-374.	1.9	5
56	A sandwich finite element for the analysis of piezoelectric adaptive shells of revolution. Revue Europeenne Des Elements, 2002, 11, 217-231.	0.1	4
57	Assessment of a smart concept for d15 shear piezoceramic direct torsion actuation. European Journal of Computational Mechanics, 2011, 20, 103-124.	0.6	4
58	Exact 3D Saint Venant type solutions for piezoelectric d 15 shear-mode bi-morph and sandwich torsion actuation and sensing problems. Acta Mechanica, 2013, 224, 2505-2527.	2.1	4
59	Smart structures, materials and nano technology in engineering. International Journal of Smart and Nano Materials, 2018, 9, 85-87.	4.2	4
60	Partial-mixed special finite element for the analysis of multilayer composites and FGM. European Journal of Computational Mechanics, 2012, 21, 103-121.	0.6	3
61	Approximate evaluations and simplified analyses of shear- mode piezoelectric modal effective electromechanical coupling. Advances in Aircraft and Spacecraft Science, 2015, 2, 275-302.	0.5	3
62	Robust inverse identification of piezoelectric and dielectric effective behaviors of a bonded patch to a composite plate. Smart Structures and Systems, 2013, 12, 523-545.	1.9	3
63	Slender piezoelectric beams with resistive-inductive electrodes - modeling and axial wave propagation. Smart Structures and Systems, 2016, 18, 335-354.	1.9	3
64	Couplage Électromécanique effectif dans les structures piézoélectriques composites. Caractérisations expérimentale et numérique. Revue Des Composites Et Des Materiaux Avances, 2009, 19, 339-364.	0.6	3
65	Enthalpy - based homogenization procedure for composite piezoelectric modules with integrated electrodes. Smart Structures and Systems, 2013, 12, 579-594.	1.9	2
66	Experimental assessment of the piezoelectric transverse d15shear sensing mechanism. Smart Structures and Systems, 2014, 13, 567-585.	1.9	2
67	Un nouvel Élément fini du type B-spline pour l'analyse dynamique des coques de révolution. Revue Europeenne Des Elements, 1994, 3, 101-126.	0.1	1
68	Preface: Smart Composites. Mechanics of Advanced Materials and Structures, 2006, 13, 355-355.	2.6	1
69	Approximate Evaluations of the Modal Effective Electromechanical Coupling Coefficient. , 2010, , 307-315.		1
70	Multi-scale mechanics of smart material systems and structures. Acta Mechanica, 2013, 224, 2451-2451.	2.1	1
71	Robust inverse identification of the effective three-dimensional elastic behaviour of a piezoceramic patch bonded to a multilayer unidirectional fibre composite. Composite Structures, 2016, 151, 58-69.	5.8	1
72	High Frequency Optical Probe for BAW/SAW Devices. , 2018, , .		1

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73	Distributed transfer function-based unified static solutions for piezoelectric short/open-circuit sensing and voltage/charge actuation of beam cantilevers. <i>Acta Mechanica</i> , 2021, 232, 1025-1044.	2.1	1
74	Piezoelectricity Experimentation, Modeling and Simulation: Common Practices and Realistic Considerations. <i>Advances in Science and Technology</i> , 0, , .	0.2	0
75	Piezoceramic materials shear response: approximate modal coupling and analysis. <i>Proceedings of SPIE</i> , 2012, , .	0.8	0
76	Special finite elements for advanced modelling of engineering problems. <i>European Journal of Computational Mechanics</i> , 2012, 21, 1-3.	0.6	0
77	Modal effective electromechanical coupling coefficient of shear-mode piezoceramic sandwich cantilevers with segmented multicore: Experimental and numerical assessments. <i>JVC/Journal of Vibration and Control</i> , 2020, , 107754632097290.	2.6	0
78	Smart structures and materials: Vibration and control. <i>JVC/Journal of Vibration and Control</i> , 2020, 26, 1109-1109.	2.6	0
79	Mathematical analysis of static and dynamic three-dimensional models of thermo-electro-magneto-elastic solids. <i>Mathematics and Mechanics of Solids</i> , 2021, 26, 874-904.	2.4	0
80	New Hamiltonian Semi-analytical Approach for 3D Solution of Piezoelectric Smart Composites. <i>Advanced Structured Materials</i> , 2020, , 15-40.	0.5	0