

Francis Aviles

List of Publications by Year in descending order

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113
papers

3,789
citations

159585

30
h-index

144013

57
g-index

114
all docs

114
docs citations

114
times ranked

4295
citing authors

#	ARTICLE	IF	CITATIONS
1	Evaluation of mild acid oxidation treatments for MWCNT functionalization. Carbon, 2009, 47, 2970-2975.	10.3	531
2	Electrical and piezoresistive properties of multi-walled carbon nanotube/polymer composite films aligned by an electric field. Carbon, 2011, 49, 2989-2997.	10.3	265
3	Influence of carbon nanotube clustering on the electrical conductivity of polymer composite films. EXPRESS Polymer Letters, 2010, 4, 292-299.	2.1	170
4	Effective properties of multiwalled carbon nanotube/epoxy composites using two different tubes. Composites Science and Technology, 2008, 68, 1422-1431.	7.8	138
5	Cyclic tension and compression piezoresistivity of carbon nanotube/vinyl ester composites in the elastic and plastic regimes. Carbon, 2012, 50, 2592-2598.	10.3	130
6	Strain sensing capabilities of a piezoresistive MWCNT-polysulfone film. Sensors and Actuators A: Physical, 2010, 159, 135-140.	4.1	113
7	Piezoresistivity, Strain, and Damage Self-Sensing of Polymer Composites Filled with Carbon Nanostructures. Advanced Engineering Materials, 2018, 20, 1701159.	3.5	107
8	Dynamics of carbon nanotube alignment by electric fields. Nanotechnology, 2012, 23, 465710.	2.6	100
9	Effect of wettability and surface roughness on the adhesion properties of collagen on PDMS films treated by capacitively coupled oxygen plasma. Applied Surface Science, 2015, 349, 763-773.	6.1	88
10	Influence of rigid segment and carbon nanotube concentration on the cyclic piezoresistive and hysteretic behavior of multiwall carbon nanotube/segmented polyurethane composites. Composites Science and Technology, 2016, 128, 25-32.	7.8	88
11	Effect of the morphology of thermally reduced graphite oxide on the mechanical and electrical properties of natural rubber nanocomposites. Composites Part B: Engineering, 2016, 87, 350-356.	12.0	75
12	On the contribution of carbon nanotube deformation to piezoresistivity of carbon nanotube/polymer composites. Composites Part B: Engineering, 2013, 47, 200-206.	12.0	66
13	Deposition of carbon nanotubes onto aramid fibers using as-received and chemically modified fibers. Applied Surface Science, 2016, 385, 379-390.	6.1	65
14	Analysis of the sandwich DCB specimen for debond characterization. Engineering Fracture Mechanics, 2008, 75, 153-168.	4.3	62
15	Influence of aramid fiber treatment and carbon nanotubes on the interfacial strength of polypropylene hierarchical composites. Composites Part B: Engineering, 2017, 122, 16-22.	12.0	59
16	Crack path in foam cored DCB sandwich fracture specimens. Composites Science and Technology, 2005, 65, 2612-2621.	7.8	54
17	Modeling the influence of interphase on the elastic properties of carbon nanotube composites. Computational Materials Science, 2010, 47, 926-933.	3.0	51
18	Influence of silane concentration on the silanization of multiwall carbon nanotubes. Carbon, 2013, 57, 520-529.	10.3	51

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19	Self-sensing of elastic strain, matrix yielding and plasticity in multiwall carbon nanotube/vinyl ester composites. <i>Smart Materials and Structures</i> , 2013, 22, 085003.	3.5	49
20	Sensing of large strain using multiwall carbon nanotube/segmented polyurethane composites. <i>Journal of Applied Polymer Science</i> , 2013, 130, 375-382.	2.6	48
21	Influence of carbon nanotube on the piezoresistive behavior of multiwall carbon nanotube/polymer composites. <i>Journal of Intelligent Material Systems and Structures</i> , 2016, 27, 92-103.	2.5	47
22	Influence of the morphology of carbon nanostructures on the piezoresistivity of hybrid natural rubber nanocomposites. <i>Composites Part B: Engineering</i> , 2017, 109, 147-154.	12.0	44
23	Oxidation and silanization of MWCNTs for MWCNT/vinyl ester composites. <i>EXPRESS Polymer Letters</i> , 2011, 5, 766-776.	2.1	42
24	Dielectrophoretic modeling of the dynamic carbon nanotube network formation in viscous media under alternating current electric fields. <i>Carbon</i> , 2014, 69, 342-354.	10.3	42
25	Interactions between the glass fiber coating and oxidized carbon nanotubes. <i>Applied Surface Science</i> , 2015, 330, 383-392.	6.1	40
26	Modeling of mesoscale dispersion effect on the piezoresistivity of carbon nanotube-polymer nanocomposites via 3D computational multiscale micromechanics methods. <i>Smart Materials and Structures</i> , 2015, 24, 065031.	3.5	38
27	Coupled electro-mechanical properties of multiwall carbon nanotube/polypropylene composites for strain sensing applications. <i>Journal of Materials Science</i> , 2013, 48, 7587-7593.	3.7	37
28	A comparative study on the mechanical, electrical and piezoresistive properties of polymer composites using carbon nanostructures of different topology. <i>European Polymer Journal</i> , 2018, 99, 394-402.	5.4	35
29	Experimental Study of Debonded Sandwich Panels under Compressive Loading. <i>Journal of Sandwich Structures and Materials</i> , 2006, 8, 7-31.	3.5	34
30	Influence of vacancies on the elastic properties of a graphene sheet. <i>Computational Materials Science</i> , 2012, 55, 255-262.	3.0	34
31	Thermoresistive mechanisms of carbon nanotube/polymer composites. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2018, 95, 41-50.	2.7	34
32	Mechanical degradation of foam-cored sandwich materials exposed to high moisture. <i>Composite Structures</i> , 2010, 92, 122-129.	5.8	31
33	On the merits of Raman spectroscopy and thermogravimetric analysis to assess carbon nanotube structural modifications. <i>Applied Physics A: Materials Science and Processing</i> , 2012, 106, 843-852.	2.3	30
34	An assessment of finite element analysis to predict the elastic modulus and Poisson's ratio of singlewall carbon nanotubes. <i>Computational Materials Science</i> , 2014, 82, 257-263.	3.0	30
35	Selective damage sensing in multiscale hierarchical composites by tailoring the location of carbon nanotubes. <i>Journal of Intelligent Material Systems and Structures</i> , 2018, 29, 553-562.	2.5	30
36	Influence of Face/Core Interface on Debond Toughness of Foam and Balsa Cored Sandwich. <i>Journal of Sandwich Structures and Materials</i> , 2006, 8, 237-258.	3.5	29

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37	Self-Sensing of Damage Progression in Unidirectional Multiscale Hierarchical Composites Subjected to Cyclic Tensile Loading. <i>Sensors</i> , 2016, 16, 400.	3.8	29
38	Temperature coefficient of resistance and thermal expansion coefficient of 10-nm thick gold films. <i>Thin Solid Films</i> , 2017, 623, 84-89.	1.8	29
39	Electrical characterization of carbon-based fibers and their application for sensing relaxation-induced piezoresistivity in polymer composites. <i>Carbon</i> , 2019, 145, 119-130.	10.3	28
40	Prediction of circumferential compliance and burst strength of polymeric vascular grafts. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2018, 79, 332-340.	3.1	25
41	A Shear-Corrected Formulation for the Sandwich Twist Specimen. <i>Experimental Mechanics</i> , 2012, 52, 17-23.	2.0	24
42	Elasto-plastic properties of gold thin films deposited onto polymeric substrates. <i>Journal of Materials Science</i> , 2009, 44, 2590-2598.	3.7	23
43	Anisotropic compressive properties of multiwall carbon nanotube/polyurethane foams. <i>Mechanics of Materials</i> , 2015, 91, 167-176.	3.2	23
44	Mechanical properties of L-lysine based segmented polyurethane vascular grafts and their shape memory potential. <i>Materials Science and Engineering C</i> , 2019, 102, 887-895.	7.3	22
45	Effect of carbon nanotube length on the piezoresistive response of poly (methyl methacrylate) nanocomposites. <i>European Polymer Journal</i> , 2019, 110, 394-402.	5.4	22
46	Post-buckling and debond propagation in sandwich panels subject to in-plane compression. <i>Engineering Fracture Mechanics</i> , 2007, 74, 794-806.	4.3	20
47	Mechanical properties of gold nanometric films onto a polymeric substrate. <i>Surface and Coatings Technology</i> , 2008, 202, 1556-1563.	4.8	20
48	TEM Examination of MWCNTs Oxidized by Mild Experimental Conditions. <i>Fullerenes Nanotubes and Carbon Nanostructures</i> , 2012, 20, 49-55.	2.1	19
49	A vibrational approach to determine the elastic modulus of individual thin films in multilayers. <i>Thin Solid Films</i> , 2014, 565, 228-236.	1.8	19
50	Influence of architecture on the Raman spectra of acid-treated carbon nanostructures. <i>Journal of Experimental Nanoscience</i> , 2014, 9, 931-941.	2.4	19
51	PHYSICAL PROPERTIES OF AU AND AL THIN FILMS MEASURED BY RESISTIVE HEATING. <i>Surface Review and Letters</i> , 2005, 12, 101-106.	1.1	18
52	Mechanical and thermal properties of multiwalled carbon nanotube/polypropylene composites using itaconic acid as compatibilizer and coupling agent. <i>Macromolecular Research</i> , 2013, 21, 153-160.	2.4	18
53	Thermal conductivity and flammability of multiwall carbon nanotube/polyurethane foam composites. <i>Journal of Cellular Plastics</i> , 2017, 53, 215-230.	2.4	18
54	Correlations between mechanical stress, electrical conductivity and nanostructure in Al films on a polymer substrate. <i>Materials Characterization</i> , 2010, 61, 325-329.	4.4	17

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55	Tensile piezoresistivity and disruption of percolation in singlewall and multiwall carbon nanotube/polyurethane composites. <i>Synthetic Metals</i> , 2013, 185-186, 96-102.	3.9	17
56	Experimental investigation of the thermoresistive response of multiwall carbon nanotube/polysulfone composites under heating-cooling cycles. <i>Composites Science and Technology</i> , 2017, 151, 34-43.	7.8	17
57	Elastic foundation analysis of local face buckling in debonded sandwich columns. <i>Mechanics of Materials</i> , 2005, 37, 1026-1034.	3.2	16
58	The bond force constant and bulk modulus of C60. <i>Computational Materials Science</i> , 2014, 83, 120-126.	3.0	16
59	The bond force constants and elastic properties of boron nitride nanosheets and nanoribbons using a hierarchical modeling approach. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2017, 89, 183-193.	2.7	16
60	Experimental determination of torsion and shear properties of sandwich panels and laminated composites by the plate twist test. <i>Composite Structures</i> , 2011, 93, 1923-1928.	5.8	15
61	Influence of polymer matrix on the sensing capabilities of carbon nanotube polymeric thermistors. <i>Smart Materials and Structures</i> , 2020, 29, 015012.	3.5	15
62	Three-dimensional Finite Element Buckling Analysis of Debonded Sandwich Panels. <i>Journal of Composite Materials</i> , 2006, 40, 993-1008.	2.4	14
63	Analysis of twist stiffness of single and double-wall corrugated boards. <i>Composite Structures</i> , 2014, 110, 7-15.	5.8	14
64	A beam specimen to measure the face/core fracture toughness of sandwich materials under a tearing loading mode. <i>International Journal of Mechanical Sciences</i> , 2014, 79, 84-94.	6.7	14
65	Dynamic evolution of interacting carbon nanotubes suspended in a fluid using a dielectrophoretic framework. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2016, 83, 7-21.	2.7	14
66	Failure investigation of debonded sandwich columns: An experimental and numerical study. <i>Journal of Mechanics of Materials and Structures</i> , 2009, 4, 1469-1487.	0.6	14
67	Investigation of the Sandwich Plate Twist Test. <i>Experimental Mechanics</i> , 2009, 49, 813-822.	2.0	13
68	Effect of the type of plasma on the polydimethylsiloxane/collagen composites adhesive properties. <i>International Journal of Adhesion and Adhesives</i> , 2017, 77, 85-95.	2.9	13
69	Influence of concentration, length and orientation of multiwall carbon nanotubes on the electromechanical response of polymer nanocomposites. <i>Materials Research Express</i> , 2019, 6, 115024.	1.6	13
70	First-order shear deformation analysis of the sandwich plate twist specimen. <i>Journal of Sandwich Structures and Materials</i> , 2012, 14, 229-245.	3.5	12
71	Measurement of in-plane and out-of-plane elastic properties of woven fabric composites using digital image correlation. <i>Journal of Composite Materials</i> , 2021, 55, 1231-1246.	2.4	12
72	Evaluation of the plate twist test to characterize mode III fracture of sandwich panels with a face/core interface crack. <i>Engineering Fracture Mechanics</i> , 2013, 104, 41-55.	4.3	11

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73	Deposition of Carbon Nanotubes on Fibers. , 2018, , 117-144.		11
74	Improving Carbon Nanotube/Polymer Interactions in Nanocomposites. , 2018, , 83-115.		11
75	Influence of Processing Method on the Mechanical and Electrical Properties of MWCNT/PET Composites. Journal of Materials, 2013, 2013, 1-10.	0.1	10
76	Long term water uptake of a low density polyvinyl chloride foam and its effect on the foam microstructure and mechanical properties. Materials & Design, 2014, 57, 728-735.	5.1	10
77	The bond force constants of graphene and benzene calculated by density functional theory. Molecular Physics, 2015, 113, 1297-1305.	1.7	10
78	Flexural electromechanical properties of multilayer graphene sheet/carbon nanotube/vinyl ester hybrid nanocomposites. Composites Science and Technology, 2020, 194, 108164.	7.8	10
79	Dynamical thermal model for thin metallic filmâ€“substrate system with resistive heating. Applied Surface Science, 2003, 206, 336-344.	6.1	9
80	An Assessment of the Role of Fiber Coating and Suspending Fluid on the Deposition of Carbon Nanotubes onto Glass Fibers for Multiscale Composites. Advanced Engineering Materials, 2016, 18, 963-971.	3.5	9
81	Electrical self-sensing of impact damage in multiscale hierarchical composites with tailored location of carbon nanotube networks. Structural Health Monitoring, 2019, 18, 806-818.	7.5	8
82	Cyclic Thermoresistivity of Freestanding and Polymer Embedded Carbon Nanotube Yarns. Advanced Engineering Materials, 2020, 22, 2000220.	3.5	8
83	Electro-mechanical properties of thermoplastic polyurethane films and tubes modified by hybrid carbon nanostructures for pressure sensing. Smart Materials and Structures, 2020, 29, 115021.	3.5	8
84	On the Role of Fiber Coating in the Deposition of Multiwall Carbon Nanotubes Onto Glass Fibers. Nanoscience and Nanotechnology Letters, 2014, 6, 932-935.	0.4	8
85	Moisture absorption in foamâ€“cored composite sandwich structures. Polymer Composites, 2010, 31, 714-722.	4.6	7
86	Vibration modeling and testing of bilayer beams for determination of film elastic modulus. Measurement Science and Technology, 2012, 23, 045605.	2.6	7
87	Electrophoretic deposition of carbon nanotubes onto glass fibers for self-sensing relaxation-induced piezoresistivity of monofilament composites. Journal of Materials Science, 2019, 54, 2205-2221.	3.7	7
88	Electrical Resistance Sensing of Epoxy Curing Using an Embedded Carbon Nanotube Yarn. Sensors, 2020, 20, 3230.	3.8	7
89	Processingâ€“structureâ€“property relationship of multilayer graphene sheet thermosetting nanocomposites manufactured by calendaring. Polymer Composites, 2022, 43, 2150-2162.	4.6	7
90	A modified short beam shear specimen for characterization of interfacial strength in nanocomposites. Polymer Testing, 2012, 31, 792-799.	4.8	6

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91	Influence of nanotube physicochemical properties on the decoration of multiwall carbon nanotubes with magnetic particles. <i>Journal of Nanoparticle Research</i> , 2014, 16, 1.	1.9	6
92	Influence of Structural Defects on the Electrical Properties of Carbon Nanotubes and Their Polymer Composites. <i>Advanced Engineering Materials</i> , 2016, 18, 1897-1905.	3.5	6
93	Multifunctional sensing properties of polymer nanocomposites based on hybrid carbon nanostructures. <i>Materials Today Communications</i> , 2020, 25, 101472.	1.9	6
94	A dedicated electric oven for characterization of thermoresistive polymer nanocomposites. <i>Journal of Applied Research and Technology</i> , 2016, 14, 268-277.	0.9	5
95	Influence of rigid segment content on the piezoresistive behavior of multiwall carbon nanotube/segmented polyurethane composites. <i>Journal of Applied Polymer Science</i> , 2017, 134, .	2.6	5
96	Effects of temperature and tensile strain on the electrical resistance of nanometric gold films. <i>Materials Research Express</i> , 2019, 6, 066407.	1.6	5
97	Closed-form solution and analysis of the plate twist test in sandwich and laminated composites. <i>Mechanics of Materials</i> , 2021, 155, 103753.	3.2	5
98	Investigation of directional effects on the electrical conductivity and piezoresistivity of carbon nanotube/polypropylene composites obtained by extrusion. <i>Journal of Materials Science</i> , 2021, 56, 14570-14586.	3.7	5
99	Hierarchical multiscale modeling of the effect of carbon nanotube damage on the elastic properties of polymer nanocomposites. <i>Journal of Mechanics of Materials and Structures</i> , 2017, 12, 263-287.	0.6	4
100	Electrical self-sensing of strain and damage of thermoplastic hierarchical composites subjected to monotonic and cyclic tensile loading. <i>Journal of Intelligent Material Systems and Structures</i> , 2019, 30, 1527-1537.	2.5	4
101	Design and analysis of a burst strength device for testing vascular grafts. <i>Review of Scientific Instruments</i> , 2019, 90, 014301.	1.3	4
102	Tailored Self-sensing of Failure Mechanisms in Glass Fiber/Carbon Nanotube/Vinyl Ester Multiscale Hierarchical Composites Loaded in Tension. <i>Journal of Multifunctional Composites</i> , 2014, 2, 171-181.	0.2	4
103	Determination of Elastic Modulus in a Bimaterial Through a One-dimensional Laminated Model. <i>Journal of Materials Engineering and Performance</i> , 2008, 17, 482-488.	2.5	3
104	Influence of electrode configuration on impact damage evaluation of self-sensing hierarchical composites. <i>Journal of Intelligent Material Systems and Structures</i> , 2020, 31, 1416-1429.	2.5	3
105	An assessment of micromechanical models to predict the elastic constants of unidirectional polymer composites. <i>Mechanics of Advanced Materials and Structures</i> , 2021, 28, 1128-1146.	2.6	3
106	Electromechanical properties of carbon-nanostructured elastomeric composites measured by digital image correlation. <i>Composites Part C: Open Access</i> , 2021, 5, 100161.	3.2	3
107	An Ultra-Low-Power Strain Sensing Node for Long-Range Wireless Networks in Carbon Nanotube-Based Materials. <i>IEEE Sensors Journal</i> , 2022, 22, 9778-9786.	4.7	3
108	A vibrating reed apparatus to measure the natural frequency of multilayered thin films. <i>Measurement Science and Technology</i> , 2016, 27, 045002.	2.6	2

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109	Examination of the plate twist specimen for thick specially orthotropic laminated composites and sandwich plates by using first-order shear deformation theory. <i>Journal of Sandwich Structures and Materials</i> , 2019, 21, 2239-2265.	3.5	2
110	Effect of Polymer Viscosity and Polymerization Kinetics on the Electrical Response of Carbon Nanotube Yarn/Vinyl Ester Monofilament Composites. <i>Polymers</i> , 2021, 13, 783.	4.5	2
111	A Comparative Study of the Electrical and Electromechanical Responses of Carbon Nanotube/Polypropylene Composites in Alternating and Direct Current. <i>Sensors</i> , 2022, 22, 484.	3.8	2
112	Functionalization of few-layer graphene sheets and carbon nanotubes for generation of hybrids and their effect on the piezoresistive properties of polymeric nanocomposites. <i>Synthetic Metals</i> , 2022, 289, 117121.	3.9	1
113	Experimental studies of compression failure of sandwich specimens with face/core debond. , 2008, , 344-363.		0