Francis Aviles

List of Publications by Year
in descending order

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	A Comparative Study of the Electrical and Electromechanical Responses of Carbon Nanotube/Polypropylene Composites in Alternating and Direct Current. Sensors, 2022, 22, 484.	3.8	2
2	Processingâ€structureâ€property relationship of multilayer graphene sheet thermosetting nanocomposites manufactured by calendering. Polymer Composites, 2022, 43, 2150-2162.	4.6	7
3	An Ultra-Low-Power Strain Sensing Node for Long-Range Wireless Networks in Carbon Nanotube-Based Materials. IEEE Sensors Journal, 2022, 22, 9778-9786.	4.7	3
4	Functionalization of few-layer graphene sheets and carbon nanotubes for generation of hybrids and their effect on the piezoresistive properties of polymeric nanocomposites. Synthetic Metals, 2022, 289, 117121.	3.9	1
5	Measurement of in-plane and out-of-plane elastic properties of woven fabric composites using digital image correlation. Journal of Composite Materials, 2021, 55, 1231-1246.	2.4	12
6	An assessment of micromechanical models to predict the elastic constants of unidirectional polymer composites. Mechanics of Advanced Materials and Structures, 2021, 28, 1128-1146.	2.6	3
7	Effect of Polymer Viscosity and Polymerization Kinetics on the Electrical Response of Carbon Nanotube Yarn/Vinyl Ester Monofilament Composites. Polymers, 2021, 13, 783.	4.5	2
8	Closed-form solution and analysis of the plate twist test in sandwich and laminated composites. Mechanics of Materials, 2021, 155, 103753.	3.2	5
9	Investigation of directional effects on the electrical conductivity and piezoresistivity of carbon nanotube/polypropylene composites obtained by extrusion. Journal of Materials Science, 2021, 56, 14570-14586.	3.7	5
10	Electromechanical properties of carbon-nanostructured elastomeric composites measured by digital image correlation. Composites Part C: Open Access, 2021, 5, 100161.	3.2	3
11	Influence of polymer matrix on the sensing capabilities of carbon nanotube polymeric thermistors. Smart Materials and Structures, 2020, 29, 015012.	3.5	15
12	Multifunctional sensing properties of polymer nanocomposites based on hybrid carbon nanostructures. Materials Today Communications, 2020, 25, 101472.	1.9	6
13	Influence of electrode configuration on impact damage evaluation of self-sensing hierarchical composites. Journal of Intelligent Material Systems and Structures, 2020, 31, 1416-1429.	2.5	3
14	Cyclic Thermoresistivity of Freestanding and Polymer Embedded Carbon Nanotube Yarns. Advanced Engineering Materials, 2020, 22, 2000220.	3.5	8
15	Electrical Resistance Sensing of Epoxy Curing Using an Embedded Carbon Nanotube Yarn. Sensors, 2020, 20, 3230.	3.8	7
16	Flexural electromechanical properties of multilayer graphene sheet/carbon nanotube/vinyl ester hybrid nanocomposites. Composites Science and Technology, 2020, 194, 108164.	7.8	10
17	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
18	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

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19	Influence of concentration, length and orientation of multiwall carbon nanotubes on the electromechanical response of polymer nanocomposites. Materials Research Express, 2019, 6, 115024.	1.6	13
20	Mechanical properties of l-lysine based segmented polyurethane vascular grafts and their shape memory potential. Materials Science and Engineering C, 2019, 102, 887-895.	7.3	22
21	Effects of temperature and tensile strain on the electrical resistance of nanometric gold films. Materials Research Express, 2019, 6, 066407.	1.6	5
22	Electrical self-sensing of strain and damage of thermoplastic hierarchical composites subjected to monotonic and cyclic tensile loading. Journal of Intelligent Material Systems and Structures, 2019, 30, 1527-1537.	2.5	4
23	Design and analysis of a burst strength device for testing vascular grafts. Review of Scientific Instruments, 2019, 90, 014301.	1.3	4
24	Electrical characterization of carbon-based fibers and their application for sensing relaxation-induced piezoresistivity in polymer composites. Carbon, 2019, 145, 119-130.	10.3	28
25	Effect of carbon nanotube length on the piezoresistive response of poly (methyl methacrylate) nanocomposites. European Polymer Journal, 2019, 110, 394-402.	5.4	22
26	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
27	Examination of the plate twist specimen for thick specially orthotropic laminated composites and sandwich plates by using first-order shear deformation theory. Journal of Sandwich Structures and Materials, 2019, 21, 2239-2265.	3.5	2
28	Piezoresistivity, Strain, and Damage Selfâ€Sensing of Polymer Composites Filled with Carbon Nanostructures. Advanced Engineering Materials, 2018, 20, 1701159.	3.5	107
29	Prediction of circumferential compliance and burst strength of polymeric vascular grafts. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 79, 332-340.	3.1	25
30	A comparative study on the mechanical, electrical and piezoresistive properties of polymer composites using carbon nanostructures of different topology. European Polymer Journal, 2018, 99, 394-402.	5.4	35
31	Selective damage sensing in multiscale hierarchical composites by tailoring the location of carbon nanotubes. Journal of Intelligent Material Systems and Structures, 2018, 29, 553-562.	2.5	30
32	Thermoresistive mechanisms of carbon nanotube/polymer composites. Physica E: Low-Dimensional Systems and Nanostructures, 2018, 95, 41-50.	2.7	34
33	Deposition of Carbon Nanotubes on Fibers. , 2018, , 117-144.		11
34	Improving Carbon Nanotube/Polymer Interactions in Nanocomposites. , 2018, , 83-115.		11
35	Thermal conductivity and flammability of multiwall carbon nanotube/polyurethane foam composites. Journal of Cellular Plastics, 2017, 53, 215-230.	2.4	18
36	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

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37	Hierarchical multiscale modeling of the effect of carbon nanotube damage on the elastic properties of polymer nanocomposites. Journal of Mechanics of Materials and Structures, 2017, 12, 263-287.	0.6	4
38	Effect of the type of plasma on the polydimethylsiloxane/collagen composites adhesive properties. International Journal of Adhesion and Adhesives, 2017, 77, 85-95.	2.9	13
39	Temperature coefficient of resistance and thermal expansion coefficient of 10-nm thick gold films. Thin Solid Films, 2017, 623, 84-89.	1.8	29
40	The bond force constants and elastic properties of boron nitride nanosheets and nanoribbons using a hierarchical modeling approach. Physica E: Low-Dimensional Systems and Nanostructures, 2017, 89, 183-193.	2.7	16
41	Experimental investigation of the thermoresistive response of multiwall carbon nanotube/polysulfone composites under heating-cooling cycles. Composites Science and Technology, 2017, 151, 34-43.	7.8	17
42	Influence of the morphology of carbon nanostructures on theÂpiezoresistivity of hybrid natural rubber nanocomposites. Composites Part B: Engineering, 2017, 109, 147-154.	12.0	44
43	Influence of rigid segment content on the piezoresistive behavior of multiwall carbon nanotube/segmented polyurethane composites. Journal of Applied Polymer Science, 2017, 134, .	2.6	5
44	Self-Sensing of Damage Progression in Unidirectional Multiscale Hierarchical Composites Subjected to Cyclic Tensile Loading. Sensors, 2016, 16, 400.	3.8	29
45	Deposition of carbon nanotubes onto aramid fibers using as-received and chemically modified fibers. Applied Surface Science, 2016, 385, 379-390.	6.1	65
46	Dynamic evolution of interacting carbon nanotubes suspended in a fluid using a dielectrophoretic framework. Physica E: Low-Dimensional Systems and Nanostructures, 2016, 83, 7-21.	2.7	14
47	A dedicated electric oven for characterization of thermoresistive polymer nanocomposites. Journal of Applied Research and Technology, 2016, 14, 268-277.	0.9	5
48	Influence of Structural Defects on the Electrical Properties of Carbon Nanotubes and Their Polymer Composites. Advanced Engineering Materials, 2016, 18, 1897-1905.	3.5	6
49	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
50	Influence of carbon nanotube on the piezoresistive behavior of multiwall carbon nanotube/polymer composites. Journal of Intelligent Material Systems and Structures, 2016, 27, 92-103.	2.5	47
51	A vibrating reed apparatus to measure the natural frequency of multilayered thin films. Measurement Science and Technology, 2016, 27, 045002.	2.6	2
52	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
53	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
54	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

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55	The bond force constants of graphene and benzene calculated by density functional theory. Molecular Physics, 2015, 113, 1297-1305.	1.7	10
56	Interactions between the glass fiber coating and oxidized carbon nanotubes. Applied Surface Science, 2015, 330, 383-392.	6.1	40
57	Modeling of mesoscale dispersion effect on the piezoresistivity of carbon nanotube-polymer nanocomposites via 3D computational multiscale micromechanics methods. Smart Materials and Structures, 2015, 24, 065031.	3.5	38
58	Anisotropic compressive properties of multiwall carbon nanotube/polyurethane foams. Mechanics of Materials, 2015, 91, 167-176.	3.2	23
59	Dielectrophoretic modeling of the dynamic carbon nanotube network formation in viscous media under alternating current electric fields. Carbon, 2014, 69, 342-354.	10.3	42
60	The bond force constant and bulk modulus of C60. Computational Materials Science, 2014, 83, 120-126.	3.0	16
61	Influence of nanotube physicochemical properties on the decoration of multiwall carbon nanotubes with magnetic particles. Journal of Nanoparticle Research, 2014, 16, 1.	1.9	6
62	An assessment of finite element analysis to predict the elastic modulus and Poissonâ€™s ratio of singlewall carbon nanotubes. Computational Materials Science, 2014, 82, 257-263.	3.0	30
63	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
64	A vibrational approach to determine the elastic modulus of individual thin films in multilayers. Thin Solid Films, 2014, 565, 228-236.	1.8	19
65	Influence of architecture on the Raman spectra of acid-treated carbon nanostructures. Journal of Experimental Nanoscience, 2014, 9, 931-941.	2.4	19
66	Analysis of twist stiffness of single and double-wall corrugated boards. Composite Structures, 2014, 110, 7-15.	5.8	14
67	A beam specimen to measure the face/core fracture toughness of sandwich materials under a tearing loading mode. International Journal of Mechanical Sciences, 2014, 79, 84-94.	6.7	14
68	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
69	Tailored Self-sensing of Failure Mechanisms in Glass Fiber/Carbon Nanotube/Vinyl Ester Multiscale Hierarchical Composites Loaded in Tension. Journal of Multifunctional Composites, 2014, 2, 171-181.	0.2	4
70	Mechanical and thermal properties of multiwalled carbon nanotube/polypropylene composites using itaconic acid as compatibilizer and coupling agent. Macromolecular Research, 2013, 21, 153-160.	2.4	18
71	Coupled electro-mechanical properties of multiwall carbon nanotube/polypropylene composites for strain sensing applications. Journal of Materials Science, 2013, 48, 7587-7593.	3.7	37
72	Self-sensing of elastic strain, matrix yielding and plasticity in multiwall carbon nanotube/vinyl ester composites. Smart Materials and Structures, 2013, 22, 085003.	3.5	49

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73	Tensile piezoresistivity and disruption of percolation in singlewall and multiwall carbon nanotube/polyurethane composites. Synthetic Metals, 2013, 185-186, 96-102.	3.9	17
74	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
75	Evaluation of the plate twist test to characterize mode III fracture of sandwich panels with a face/core interface crack. Engineering Fracture Mechanics, 2013, 104, 41-55.	4.3	11
76	Influence of silane concentration on the silanization of multiwall carbon nanotubes. Carbon, 2013, 57, 520-529.	10.3	51
77	Sensing of large strain using multiwall carbon nanotube/segmented polyurethane composites. Journal of Applied Polymer Science, 2013, 130, 375-382.	2.6	48
78	Influence of Processing Method on the Mechanical and Electrical Properties of MWCNT/PET Composites. Journal of Materials, 2013, 2013, 1-10.	0.1	10
79	First-order shear deformation analysis of the sandwich plate twist specimen. Journal of Sandwich Structures and Materials, 2012, 14, 229-245.	3.5	12
80	TEM Examination of MWCNTs Oxidized by Mild Experimental Conditions. Fullerenes Nanotubes and Carbon Nanostructures, 2012, 20, 49-55.	2.1	19
81	Vibration modeling and testing of bilayer beams for determination of film elastic modulus. Measurement Science and Technology, 2012, 23, 045605.	2.6	7
82	Influence of vacancies on the elastic properties of a graphene sheet. Computational Materials Science, 2012, 55, 255-262.	3.0	34
83	Dynamics of carbon nanotube alignment by electric fields. Nanotechnology, 2012, 23, 465710.	2.6	100
84	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
85	A modified short beam shear specimen for characterization of interfacial strength in nanocomposites. Polymer Testing, 2012, 31, 792-799.	4.8	6
86	A Shear-Corrected Formulation for the Sandwich Twist Specimen. Experimental Mechanics, 2012, 52, 17-23.	2.0	24
87	On the merits of Raman spectroscopy and thermogravimetric analysis to asses carbon nanotube structural modifications. Applied Physics A: Materials Science and Processing, 2012, 106, 843-852.	2.3	30
88	Experimental determination of torsion and shear properties of sandwich panels and laminated composites by the plate twist test. Composite Structures, 2011, 93, 1923-1928.	5.8	15
89	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
90	Oxidation and silanization of MWCNTs for MWCNT/vinyl ester composites. EXPRESS Polymer Letters, 2011, 5, 766-776.	2.1	42

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91	Moisture absorption in foamâ€cored composite sandwich structures. Polymer Composites, 2010, 31, 714-722.	4.6	7
92	Correlations between mechanical stress, electrical conductivity and nanostructure in Al films on a polymer substrate. Materials Characterization, 2010, 61, 325-329.	4.4	17
93	Strain sensing capabilities of a piezoresistive MWCNT-polysulfone film. Sensors and Actuators A: Physical, 2010, 159, 135-140.	4.1	113
94	Mechanical degradation of foam-cored sandwich materials exposed to high moisture. Composite Structures, 2010, 92, 122-129.	5.8	31
95	Influence of carbon nanotube clustering on the electrical conductivity of polymer composite films. EXPRESS Polymer Letters, 2010, 4, 292-299.	2.1	170
96	Modeling the influence of interphase on the elastic properties of carbon nanotube composites. Computational Materials Science, 2010, 47, 926-933.	3.0	51
97	Elasto-plastic properties of gold thin films deposited onto polymeric substrates. Journal of Materials Science, 2009, 44, 2590-2598.	3.7	23
98	Investigation of the Sandwich Plate Twist Test. Experimental Mechanics, 2009, 49, 813-822.	2.0	13
99	Evaluation of mild acid oxidation treatments for MWCNT functionalization. Carbon, 2009, 47, 2970-2975.	10.3	531
100	Failure investigation of debonded sandwich columns: An experimental and numerical study. Journal of Mechanics of Materials and Structures, 2009, 4, 1469-1487.	0.6	14
101	Mechanical properties of gold nanometric films onto a polymeric substrate. Surface and Coatings Technology, 2008, 202, 1556-1563.	4.8	20
102	Determination of Elastic Modulus in a Bimaterial Through a One-dimensional Laminated Model. Journal of Materials Engineering and Performance, 2008, 17, 482-488.	2.5	3
103	Effective properties of multiwalled carbon nanotube/epoxy composites using two different tubes. Composites Science and Technology, 2008, 68, 1422-1431.	7.8	138
104	Analysis of the sandwich DCB specimen for debond characterization. Engineering Fracture Mechanics, 2008, 75, 153-168.	4.3	62
105	Experimental studies of compression failure of sandwich specimens with face/core debond. , 2008, , 344-363.		0
106	Post-buckling and debond propagation in sandwich panels subject to in-plane compression. Engineering Fracture Mechanics, 2007, 74, 794-806.	4.3	20
107	Experimental Study of Debonded Sandwich Panels under Compressive Loading. Journal of Sandwich Structures and Materials, 2006, 8, 7-31.	3.5	34
108	Three-dimensional Finite Element Buckling Analysis of Debonded Sandwich Panels. Journal of Composite Materials, 2006, 40, 993-1008.	2.4	14

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109	Influence of Face/Core Interface on Debond Toughness of Foam and Balsa Cored Sandwich. Journal of Sandwich Structures and Materials, 2006, 8, 237-258.	3.5	29
110	Elastic foundation analysis of local face buckling in debonded sandwich columns. Mechanics of Materials, 2005, 37, 1026-1034.	3.2	16
111	Crack path in foam cored DCB sandwich fracture specimens. Composites Science and Technology, 2005, 65, 2612-2621.	7.8	54
112	PHYSICAL PROPERTIES OF AU AND AL THIN FILMS MEASURED BY RESISTIVE HEATING. Surface Review and Letters, 2005, 12, 101-106.	1.1	18
113	Dynamical thermal model for thin metallic filmâ€"substrate system with resistive heating. Applied Surface Science, 2003, 206, 336-344.	6.1	9