Charles E Bakis

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/5666626/publications.pdf

Version: 2024-02-01

152 papers

4,546 citations

172457 29 h-index 110387 64 g-index

180 all docs 180 docs citations

180 times ranked 3484 citing authors

#	Article	IF	Citations
1	Fiber-Reinforced Polymer Composites for Constructionâ€"State-of-the-Art Review. Journal of Composites for Construction, 2002, 6, 73-87.	3.2	1,370
2	Interfacial damping characteristics of carbon nanotube-based composites. Composites Science and Technology, 2004, 64, 2425-2437.	7.8	322
3	Local Bond-Slip Relationship for FRP Reinforcement in Concrete. Journal of Composites for Construction, 2000, 4, 24-31.	3.2	162
4	Self-monitoring, pseudo-ductile, hybrid FRP reinforcement rods for concrete applications. Composites Science and Technology, 2001, 61, 815-823.	7.8	117
5	Variable Stiffness Structures Utilizing Fluidic Flexible Matrix Composites. Journal of Intelligent Material Systems and Structures, 2009, 20, 443-456.	2.5	110
6	Accelerated ReaxFF Simulations for Describing the Reactive Cross-Linking of Polymers. Journal of Physical Chemistry A, 2018, 122, 6633-6642.	2.5	96
7	Effects of carbon nanofiller functionalization and distribution on interlaminar fracture toughness of multi-scale reinforced polymer composites. Carbon, 2012, 50, 1316-1331.	10.3	86
8	Nonlinear-elastic finite axisymmetric deformation of flexible matrix composite membranes under internal pressure and axial force. Composites Science and Technology, 2006, 66, 3053-3063.	7.8	85
9	Damage detection and conductivity evolution in carbon nanofiber epoxy via electrical impedance tomography. Smart Materials and Structures, 2014, 23, 045034.	3.5	81
10	The interfacial strength of carbon nanofiber epoxy composite using single fiber pullout experiments. Nanotechnology, 2009, 20, 295701.	2.6	80
11	Tactile imaging and distributed strain sensing in highly flexible carbon nanofiber/polyurethane nanocomposites. Carbon, 2015, 95, 485-493.	10.3	73
12	Fibrillar Network Adaptive Structure with Ion-transport Actuation. Journal of Intelligent Material Systems and Structures, 2007, 18, 323-334.	2.5	72
13	Flexible Matrix Composite Skins for One-dimensional Wing Morphing. Journal of Intelligent Material Systems and Structures, 2010, 21, 1771-1781.	2.5	71
14	Damage detection via electrical impedance tomography in glass fiber/epoxy laminates with carbon black filler. Structural Health Monitoring, 2015, 14, 100-109.	7.5	71
15	Performance of FRP Tendon-Anchor Systems for Prestressed Concrete Structures. PCI Journal, 1996, 41, 34-44.	0.6	66
16	Test Methods for FRP-Concrete Systems Subjected to Mechanical Loads: State of the Art Review. Journal of Reinforced Plastics and Composites, 1995, 14, 524-558.	3.1	61
17	Experimental characterization of phenolic-impregnated honeycomb sandwich structures for transportation vehicles. Composite Structures, 2011, 93, 2910-2924.	5.8	50
18	Mechanical Behavior of Fiber-Reinforced Polymer-Wrapped Concrete Columns—Complicating Effects. Journal of Composites for Construction, 2004, 8, 97-103.	3.2	48

#	Article	IF	Citations
19	Optimal design of press-fitted filament wound composite flywheel rotors. Composite Structures, 2006, 72, 47-57.	5.8	48
20	Multifunctional structural lithium-ion battery for electric vehicles. Journal of Intelligent Material Systems and Structures, 2017, 28, 1603-1613.	2.5	45
21	Analysis of bonding mechanisms of smooth and lugged FRP rods embedded in concrete. Composites Science and Technology, 1998, 58, 1307-1319.	7.8	44
22	Slip effects in reinforced concrete beams with mechanically fastened FRP strip. Cement and Concrete Composites, 2009, 31, 496-504.	10.7	44
23	Effect of chemical structure on thermo-mechanical properties of epoxy polymers: Comparison of accelerated ReaxFF simulations and experiments. Polymer, 2018, 158, 354-363.	3.8	43
24	Durability Evaluation of Glass Fiber Reinforced-Polymer-Concrete Bonded Interfaces. Journal of Composites for Construction, 2005, 9, 348-359.	3.2	42
25	Effect of functionalization of single-wall carbon nanotubes (SWNTs) on the damping characteristics of SWNT-based epoxy composites via multiscale analysis. Composites Part A: Applied Science and Manufacturing, 2011, 42, 1748-1755.	7.6	36
26	On the inverse determination of displacements, strains, and stresses in a carbon nanofiber/polyurethane nanocomposite from conductivity data obtained via electrical impedance tomography. Journal of Intelligent Material Systems and Structures, 2017, 28, 2617-2629.	2.5	36
27	Slip Modulus of FRP Sheets Bonded to Concrete. Journal of Composites for Construction, 1999, 3, 161-167.	3.2	35
28	Evaluation of bond using FRP rods with axisymmetric deformations. Construction and Building Materials, 1999, 13, 299-309.	7.2	32
29	Effects of Interfacial Friction on the Damping Characteristics of Composites Containing Randomly Oriented Carbon Nanotube Ropes. Journal of Intelligent Material Systems and Structures, 2006, 17, 217-229.	2.5	29
30	Reactive Molecular Dynamics Simulations of the Atomic Oxygen Impact on Epoxies with Different Chemistries. Journal of Physical Chemistry C, 2019, 123, 15145-15156.	3.1	29
31	Evaluating the effect of variable fiber content on mechanical properties of additively manufactured continuous carbon fiber composites. Journal of Reinforced Plastics and Composites, 2021, 40, 365-377.	3.1	29
32	The Adiabatic Thermoelastic Effect in Laminated Fiber Composites. Journal of Composite Materials, 1991, 25, 809-830.	2.4	26
33	Deformation in Concrete with External CFRP Sheet Reinforcement. Journal of Composites for Construction, 2000, 4, 85-94.	3.2	26
34	Fatigue Behavior of Composite Laminates. Composite Materials Series, 1991, , 105-180.	0.2	25
35	Bond Durability of Glass Fiber-Reinforced Polymer Bars Embedded in Concrete Beams. Journal of Composites for Construction, 2007, 11 , 269-278.	3.2	24
36	Analysis of stress concentration during tension of round pultruded composite rods. Composite Structures, 2008, 83, 100-109.	5.8	24

#	Article	IF	CITATIONS
37	Viscoelastic characterization and self-heating behavior of laminated fiber composite driveshafts. Materials & Design, 2015, 66, 346-355.	5.1	24
38	Effects of temperature and sustained loading on the mechanical response of CFRP bonded to concrete. Construction and Building Materials, 2016, 124, 442-452.	7.2	24
39	FRP Stay-in-Place Structural Forms for Concrete Bridge Decks: A State-of-the-Art Review. ACI Structural Journal, 2014, 111, .	0.2	23
40	Design, manufacture and test of a novel structural battery based on sandwich construction. Journal of Sandwich Structures and Materials, 2015, 17, 666-690.	3.5	22
41	Transfer and Development Lengths of FRP Prestressing Tendons. PCI Journal, 2000, 45, 84-95.	0.6	22
42	Multiscale Damping Model for Polymeric Composites Containing Carbon Nanotube Ropes. Journal of Composite Materials, 2010, 44, 2301-2323.	2.4	20
43	FRP Reinforcing bars â€" designs and methods of manufacture (Review of Patents). Mechanics of Composite Materials, 2013, 49, 381-400.	1.4	20
44	Response of Thick, Notched Laminates Subjected to Tension-Compression Cyclic Loads., 1986,, 314-334.		20
45	Comparison of Bend Stress Relaxation and Tensile Creep of CVD SiC Fibers. Journal of the American Ceramic Society, 1995, 78, 3244-3252.	3.8	19
46	Effect of Environmental Pre-Conditioning on Bond of FRP Reinforcement to Concrete. Journal of Reinforced Plastics and Composites, 2001, 20, 881-900.	3.1	19
47	A new method of chaining carbon nanofibers in epoxy. Nanotechnology, 2008, 19, 325606.	2.6	19
48	Creep of SiC–SiC microcomposites. Journal of the European Ceramic Society, 1999, 19, 2285-2296.	5.7	18
49	Anisotropic networking of carbon black in glass/epoxy composites using electric field. Journal of Composite Materials, 2015, 49, 535-544.	2.4	18
50	Short-term sustained loading of FRP tendonanchor systems. Construction and Building Materials, 1996, 10, 255-266.	7.2	17
51	Multi-physics design and optimization of flexible matrix composite driveshafts. Composite Structures, 2011, 93, 2231-2240.	5.8	17
52	Effect of nanofiller length and orientation distributions on Mode I fracture toughness of unidirectional fiber composites. Journal of Composite Materials, 2016, 50, 1331-1352.	2.4	17
53	Charpy impact energy absorption of 3D printed continuous Kevlar reinforced composites. Journal of Composite Materials, 2021, 55, 1705-1713.	2.4	17
54	Hybrid carbon nanotube - carbon fiber composites for high damping. Composites Science and Technology, 2021, 207, 108712.	7.8	17

#	Article	IF	Citations
55	Damage Initiation and Growth in Notched Laminates Under Reversed Cyclic Loading. , 1989, , 66-83.		17
56	Design and Testing of Composite Flywheel Rotors. , 1997, , 3-22.		17
57	Design and Manufacturing of Filament Wound Elastomeric Matrix Composite Flywheels. Journal of Reinforced Plastics and Composites, 1997, 16, 488-502.	3.1	15
58	Simplified Analysis of Residual Stresses in In-Situ Cured Hoop-Wound Rings. Journal of Composite Materials, 1998, 32, 1325-1343.	2.4	15
59	A Recalibration of the Crack Width Bond-Dependent Coefficient for GFRP-Reinforced Concrete. Journal of Composites for Construction, 2019, 23, .	3.2	15
60	SEM investigation of fiber fracture in composite laminates. Materials Characterization, 1990, 24, 179-190.	4.4	14
61	Sustained Loading and Temperature Response of Fiber-Reinforced Polymer–Concrete Bond. Transportation Research Record, 2009, 2131, 155-162.	1.9	14
62	A permanent-magnet rotor for a high-temperature superconducting bearing. IEEE Transactions on Magnetics, 1996, 32, 2609-2612.	2.1	13
63	The investigation of carbon-nanotube-based polymers for improved structural damping. , 2004, , .		12
64	Highâ€Temperature Creep and Microstructural Evolution of Chemically Vaporâ€Deposited Silicon Carbide Fibers. Journal of the American Ceramic Society, 1999, 82, 407-413.	3.8	12
65	Ballistic impact response of carbon/epoxy tubes with variable nanosilica content. Journal of Composite Materials, 2018, 52, 1589-1604.	2.4	12
66	Assessment of anisotropic mechanical properties of a 3D printed carbon whisker reinforced composite. Advanced Composite Materials, 2019, 28, 545-560.	1.9	12
67	Effects of Matrix Toughness on Fatigue Response of Graphite Fiber Composite Laminates., 1989,, 5-18.		12
68	C-Shape Specimen for Tensile Radial Strength of Thick, Filament-wound Rings. Journal of Composite Materials, 2006, 40, 97-117.	2.4	11
69	Tensile strength characteristics of GFRP bars in concrete beams with work cracks under sustained loading and severe environments. Journal Wuhan University of Technology, Materials Science Edition, 2013, 28, 934-937.	1.0	11
70	Multi-objective optimal design of composite rotorcraft driveshaft including strain rate and temperature effects. Composite Structures, 2015, 128, 42-53.	5.8	11
71	Indentation damage detection in glass/epoxy composite laminates with electrically tailored conductive nanofiller. Journal of Intelligent Material Systems and Structures, 2016, 27, 679-688.	2.5	11
72	Analysis of Elastic Stresses in Thick, Polar–Orthotropic, C-Shaped Rings. Journal of Composite Materials, 2004, 38, 1619-1638.	2.4	10

#	Article	IF	Citations
73	Actuation of fluidic flexible matrix composites in structural media. Journal of Intelligent Material Systems and Structures, 2012, 23, 269-278.	2.5	10
74	Durability assessment of FRP-concrete bond after sustained load for up to thirteen years. Composites Part B: Engineering, 2021, 224, 109180.	12.0	10
75	FRP Reinforcement: Materials and Manufacturing. , 1993, , 13-58.		10
76	Matrix Toughness, Long-Term Behavior, and Damage Tolerance of Notched Graphite Fiber-Reinforced Composite Materials., 1990,, 349-370.		9
77	Fluidic flexible matrix composites for autonomous structural tailoring. , 2007, , .		8
78	Durability Assessment of 15- to 20-Year-Old GFRP Bars Extracted from Bridges in the US. I: Selected Bridges, Bar Extraction, and Concrete Assessment. Journal of Composites for Construction, 2021, 25, .	3.2	8
79	Optoelectronic strain measurement for flywheels. Experimental Mechanics, 2002, 42, 237-246.	2.0	7
80	A variable transverse stiffness sandwich structure using fluidic flexible matrix composites (F2MC). , 2008, , .		7
81	Nonlinear micromechanical model of filament-wound composites considering fiber undulation. Mechanics of Composite Materials, 2011, 47, 73-94.	1.4	7
82	Durability Assessment of 15- to 20-Year-Old GFRP Bars Extracted from Bridges in the US. II: GFRP Bar Assessment. Journal of Composites for Construction, 2021, 25, .	3.2	7
83	NDE Engineering in the Materials Life Cycle. Journal of Pressure Vessel Technology, Transactions of the ASME, 1991, 113, 163-169.	0.6	6
84	Critical state of imbalanced rotating anisotropic disks with small radial and shear moduli. International Journal of Solids and Structures, 2003, 40, 5219-5227.	2.7	6
85	Damping Characteristics of Carbon Nanotube Based Composites. , 2003, , 1925.		6
86	Assessment of transmission of the shear stress in potted anchors for composite rods 1. Sleeve of constant thickness. Mechanics of Composite Materials, 2009, 45, 217-234.	1.4	6
87	Electrolyteâ€resistant epoxy for bonding batteries based on sandwich structures. Journal of Applied Polymer Science, 2018, 135, 46059.	2.6	6
88	Estimation of limit strains in disk-type flywheels made of a compliant elastomeric matrix composite undergoing radial creep. Mechanics of Composite Materials, 2000, 36, 55-58.	1.4	5
89	The effect of electrostatic and electrohydrodynamic forces on the chaining of carbon nanofibres in liquid epoxy. Journal Physics D: Applied Physics, 2010, 43, 175402.	2.8	5
90	Damping Characteristics of Carbon Nanotube-Epoxy Composites via Multiscale Analysis. , 2010, , .		5

#	Article	IF	CITATIONS
91	Advanced Composite Materials Technology for Rotorcraft through the Use of Nanoadditives. Journal of the American Helicopter Society, 2015, 60, 1-10.	0.8	5
92	Compressive strength and stiffness of filament-wound cylinders. Journal of Reinforced Plastics and Composites, 2016, 35, 1543-1553.	3.1	5
93	Effects of Sustained Loading and Temperature on a Concrete–Epoxy Bonded Interface. Journal of Materials in Civil Engineering, 2020, 32, 04020016.	2.9	5
94	Durability of GFRP Reinforcement Bars., 2011,, 33-36.		5
95	Determination of Effective Ply-level Properties of Filament Wound Composite Tubes Loaded in Compression. Journal of Testing and Evaluation, 2015, 43, 20130159.	0.7	5
96	Using data science to locate nanoparticles in a polymer matrix composite. Composites Science and Technology, 2022, 218, 109205.	7.8	5
97	Durability of externally bonded fiber-reinforced polymer (FRP) composite systems., 2008,, 292-322.		4
98	Viscoelastic Characterization and Self-Heating Behavior of a Flexible Matrix Composite Driveshaft. Journal of Composite Materials, 2009, 43, 1335-1360.	2.4	4
99	Assessment of transmission of the shear stress in potted anchors for composite rods. 2. Sleeve of variable thickness. Mechanics of Composite Materials, 2009, 45, 381-398.	1.4	4
100	Tailored Fluidic Composites for Stiffness or Volume Change., 2011,,.		4
101	Three-dimensional elastic behavior of undulating laminas in fiber composites. Journal of Reinforced Plastics and Composites, 2016, 35, 151-164.	3.1	4
102	Design of High-Speed Permanent Magnet Machine for Small Flywheels., 2003,,.		3
103	Stiffness Shaping for Zero Vibration Fluidic Flexible Matrix Composites. , 2008, , .		3
104	Fracture toughness characterization of nanoreinforced carbon-fiber composite materials for damage mitigation. , 2011, , .		3
105	Vibration damping of a cantilever beam utilizing fluidic flexible matrix composites. Proceedings of SPIE, $2013, \ldots$	0.8	3
106	Structural Damping Model for Composite Rotorcraft Blades with Carbon Nanotube Interlayers. AIAA Journal, 2021, 59, 1539-1547.	2.6	3
107	Effect of Interleaves on the Damage Mechanisms and Residual Strength of Notched Composite Laminates Subjected to Axial Fatigue Loading. , 1993, , 552-574.		3
108	Thermomechanical Loading in Pure Torsion: Test Control and Deformation Behavior., 1993,, 223-243.		3

#	Article	IF	CITATIONS
109	Influence of Load Levels on Damage Growth Mechanisms of Notched Composite Materials., 1990,, 371-389.		3
110	An adaptive time domain deconvolution technique to characterize planar flaws in highly attenuative composites. Journal of Nondestructive Evaluation, 1994, 13, 101-109.	2.4	2
111	Microstructural development of SCS-6 SiC fibers during high temperature creep. Journal of Materials Research, 1998, 13, 1853-1860.	2.6	2
112	A Virtual Containment Strategy for Filament-Wound Composite Flywheel Rotors with Damage Growth. Journal of Composite Materials, 2002, 36, 1103-1120.	2.4	2
113	Analysis of damping characteristics of a viscoelastic polymer filled with randomly oriented single-wall nanotube ropes., 2006,,.		2
114	Assessment of transmission of the shear stress in potted anchors for composite rods 3. Bipotted anchor. Mechanics of Composite Materials, 2010, 46, 133-146.	1.4	2
115	Comparative study of nanomaterials for interlaminar reinforcement of fiber-composite panels. , 2013, , .		2
116	Evaluation of Millimeter-Size Fluidic Flexible Matrix Composite Tubes., 2013,,.		2
117	Advanced Grid-Stiffened Composite Shells for Heavy-Lift Helicopter Blade Spars. , 2014, , .		2
118	Experimental Characterization of a Cantilever Beam With a Fluidic Flexible Matrix Composite Vibration Treatment. , 2014, , .		2
119	Fluidic Flexible Matrix Composite Vibration Absorber for a Cantilever Beam. Journal of Vibration and Acoustics, Transactions of the ASME, 2015, 137, .	1.6	2
120	Comparison of woven and stitched out-of-autoclave E-glass/epoxy composites subjected to quasi-static and cyclic tensile loads. Journal of Reinforced Plastics and Composites, 2021, 40, 714-725.	3.1	2
121	Deformation of CVD Silicon Carbide Monofilaments Under Variable Mechanical Loading. Ceramic Engineering and Science Proceedings, 0, , 198-205.	0.1	2
122	Fibrillar Network Adaptive Structure with Ion-transport Actuation. Journal of Intelligent Material Systems and Structures, 0, , .	2.5	2
123	Multiscale Characterization and Modeling of Nanosilica-Reinforced Filament Wound Carbon/Epoxy Composite. Materials Performance and Characterization, 2019, 8, 20180108.	0.3	2
124	A Test Method to Measure the Response of Composite Materials Under Reversed Cyclic Loads. , 0, , 180-180-14.		2
125	Adiabatic Thermoelastic Measurements. , 1989, , 139-146.		2
126	Novel Crash Sled with a Translating Support Mass. Experimental Mechanics, 2022, 62, 715-728.	2.0	2

#	Article	IF	Citations
127	Processing and properties of low-temperature cure carbon fiber-reinforced bismaleimide composite. Journal of Composite Materials, 2022, 56, 1191-1209.	2.4	2
128	Effects of Matrix Cracking on the Creep of SiC-SiC Microcomposites. Key Engineering Materials, 1999, 164-165, 297-302.	0.4	1
129	Viscoelastic Characterization of High Fiber Content Filament Wound Polyurethane Matrix Composites. Rubber Chemistry and Technology, 1998, 71, 1042-1058.	1.2	1
130	Condition Monitoring of Filament-Wound Composite Flywheels Having Circumferential Cracks. Journal of Spacecraft and Rockets, 2002, 39, 306-313.	1.9	1
131	Design of high-speed permanent magnet machines with anisotropic electromagnetic and structural continuum formulations. , 0, , .		1
132	Some Aspects of Designing Multirim Composite Flywheels. Mechanics of Composite Materials, 2004, 40, 397-408.	1.4	1
133	Durability of GFRP-Concrete Bonded Interfaces. , 2004, , 356.		1
134	Multiscale analysis of the effect of carbon nanotube (CNT) functionalization on damping characteristics of CNT-based composites. Proceedings of SPIE, 2010, , .	0.8	1
135	Assessment of transmission of the shear stress in potted anchors for composite rods: 4. Nonlinear bond behavior between the FRP rod and the potting material. Mechanics of Composite Materials, 2011, 47, 285-300.	1.4	1
136	Experimental Study of Torsional-Bending Coupled Vibration of a Rotor System With a Bladed Disk. , 2013, , .		1
137	Tunable Vibration Absorption of a Cantilever Beam Utilizing Fluidic Flexible Matrix Composites. , 2013, ,		1
138	Fluidic flexible matrix composite damping treatment for a cantilever beam. Journal of Sound and Vibration, 2015, 340, 80-94.	3.9	1
139	Transverse Young's modulus of carbon/glass hybrid fiber composites. Journal of Composite Materials, 2020, 54, 947-960.	2.4	1
140	Crash Sled Testing of Triaxially Braided CFRP for Improved Vehicular Crashworthiness. , 2021, , .		1
141	Methods of Determining the Temperature Dependence of Primary Creep. , 1996, , 9-18.		1
142	DIC Strain Analysis of FRP/Concrete Bond After Sustained Loading. Conference Proceedings of the Society for Experimental Mechanics, 2016, , 47-56.	0.5	1
143	Fatigue resistance of ultra-high-modulus pitch-based carbon fiber/epoxy composites under tensile loading. Journal of Composite Materials, 0, , 002199832110558.	2.4	1
144	<title>On the damping characteristics of polymeric composites with randomly oriented single-walled carbon nanorope fillers</title> ., 2005, 5760, 173.		0

#	Article	IF	CITATIONS
145	Journal of Composites for Construction Best Paper Awards. Journal of Composites for Construction, 2007, 11, 555-555.	3.2	O
146	2007 Best Paper Awards. Journal of Composites for Construction, 2008, 12, 578-578.	3.2	0
147	Experimental Evaluation of Novel Foam-Filled Energy-Absorbing Composite Tubes. Journal of the American Helicopter Society, 2014, 59, 1-10.	0.8	0
148	Vibration Isolation of a Cantilever Beam Using Fluidic Flexible Matrix Composite Tubes., 2015,,.		0
149	Rate Effects and Environmental Sensitivity of Textile Energy Absorbers. Journal of the American Helicopter Society, 2015, 60, 1-10.	0.8	0
150	Crack widths during sustained flexural loading of small-scale GFRP reinforced concrete beams. , 2004, , 773-780.		0
151	Innovative Energy Absorbing Composite Tubes Incorporating Extension-Torsion Coupling, Stitch Ripping, and Foam Crushing., 2010,, 269-278.		0
152	Viscoelastic Model of Anisotropic Flywheels. , 2003, , 75-92.		0