R Byron Pipes

List of Publications by Year
in descending order

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93 papers	4,417 citations	159585 30 h-index	106344 65 g-index
93 all docs	93 docs citations	93 times ranked	2661 citing authors

#	Article	IF	Citations
1	Influence of Fiber Orientation on Deformation of Additive Manufactured Composites. Additive Manufacturing, 2022, 49, 102483.	3.0	4
2	Simulation of composites curing using mechanics of structure genome based shell model. Composites Part A: Applied Science and Manufacturing, 2022, 154, 106766.	7.6	2
3	Interlayer fusion bonding of semi-crystalline polymer composites in extrusion deposition additive manufacturing. Composites Science and Technology, 2022, 230, 109334.	7.8	11
4	Advanced process simulations for thick-section epoxy powder composite structures. Composites Part A: Applied Science and Manufacturing, 2022, 161, 107073.	7.6	3
5	Pure bending of a continuous fiber array suspended in a thermoplastic polymer in the melt state. Composites Part A: Applied Science and Manufacturing, 2021, 149, 106561.	7.6	5
6	Measuring the effects of heat treatment on SiC/SiC ceramic matrix composites using Raman spectroscopy. Journal of the American Ceramic Society, 2020, 103, 1293-1303.	3.8	7
7	Constitutive modeling for time- and temperature-dependent behavior of composites. Composites Part B: Engineering, 2020, 184, 107726.	12.0	10
8	Integrative analysis for prediction of process-induced, orientation-dependent tensile properties in a stochastic prepreg platelet molded composite. Composites Part A: Applied Science and Manufacturing, 2020, 130, 105759.	7.6	25
9	A numerical study of the meso-structure variability in the compaction process of prepreg platelet molded composites. Composites Part A: Applied Science and Manufacturing, 2020, 138, 106010.	7.6	13
10	Extrusion deposition additive manufacturing with fiber-reinforced thermoplastic polymers. , 2020, , 191-219.		7
11	Residual stress determination of silicon containing boron dopants in ceramic matrix composites. Journal of the American Ceramic Society, 2019, 102, 2820-2829.	3.8	9
12	Tensile properties of a stochastic prepreg platelet molded composite. Composites Part A: Applied Science and Manufacturing, 2019, 124, 105507.	7.6	43
13	Characterization of the Mechanical Properties of FFF Structures and Materials: A Review on the Experimental, Computational and Theoretical Approaches. Materials, 2019, 12, 895.	2.9	161
14	Structure-property relationship for a prepreg platelet molded composite with engineered meso-morphology. Composite Structures, 2019, 210, 430-445.	5.8	25
15	Development and validation of extrusion deposition additive manufacturing process simulations. Additive Manufacturing, 2019, 25, 218-226.	3.0	62
16	Coupling anisotropic viscosity and fiber orientation in applications to squeeze flow. Journal of Rheology, 2018, 62, 669-679.	2.6	31
17	Fused filament fabrication of fiber-reinforced polymers: A review. Additive Manufacturing, 2018, 21, 1-16.	3.0	402
18	Uniaxial strength of a composite array of overlaid and aligned prepreg platelets. Composites Part A: Applied Science and Manufacturing, 2018, 109, 31-47.	7.6	27

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19	Challenge problems for the benchmarking of micromechanics analysis: Level I initial results. Journal of Composite Materials, 2018, 52, 61-80.	2.4	29
20	Three-dimensional thermoelastic properties of general composite laminates. Journal of Composite Materials, 2018, 52, 1799-1808.	2.4	4
21	A new anisotropic viscous constitutive model for composites molding simulation. Composites Part A: Applied Science and Manufacturing, 2018, 115, 112-122.	7.6	56
22	Simulation of prepreg platelet compression molding: Method and orientation validation. Journal of Rheology, 2018, 62, 1443-1455.	2.6	28
23	Multiscale modeling of viscoelastic behaviors of textile composites. International Journal of Engineering Science, 2018, 130, 175-186.	5.0	42
24	Fiber orientation measurement from mesoscale CT scans of prepreg platelet molded composites. Composites Part A: Applied Science and Manufacturing, 2018, 114, 241-249.	7.6	46
25	Cure history dependence of residual deformation in a thermosetting laminate. Composites Part A: Applied Science and Manufacturing, 2017, 99, 186-197.	7.6	44
26	Interlaminar Stresses in Composite Laminates Subjected to Twisting Deformation. Journal of Applied Mechanics, Transactions ASME, 2017, 84, .	2.2	7
27	Role of hierarchical morphology of helical carbon nanotube bundles on thermal expansion of polymer nanocomposites. Journal of Materials Research, 2017, 32, 2738-2746.	2.6	11
28	Generalized Free-Edge Stress Analysis Using Mechanics of Structure Genome. Journal of Applied Mechanics, Transactions ASME, 2016, 83, .	2.2	36
29	Phase field modeling of damage in glassy polymers. Journal of the Mechanics and Physics of Solids, 2016, 93, 182-197.	4.8	21
30	Modeling of Hierarchical Morphology of Carbon Nanotube Bundles in Polymer Composites. Macromolecular Theory and Simulations, 2016, 25, 524-532.	1.4	7
31	Free-Edge Interlaminar Stresses in Angle-Ply Laminates: A Family of Analytic Solutions. Journal of Applied Mechanics, Transactions ASME, 2016, 83, .	2.2	6
32	Chemical and thermal shrinkage in thermosetting prepreg. Composites Part A: Applied Science and Manufacturing, 2016, 80, 72-81.	7.6	80
33	Influence of through-thickness reinforcement aspect ratio on mode I delamination fracture resistance. Composite Structures, 2015, 125, 13-22.	5.8	12
34	Digital image correlation measurement of resin chemical and thermal shrinkage after gelation. Journal of Materials Science, 2015, 50, 5244-5252.	3.7	46
35	Multi-scale Intrinsic Flaws in Composite Materials. , 2014, , .		0
36	Multi-Scale Modeling of Free-Edge Micro-Cracks with XFEM. , 2014, , .		2

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37	Effects of Crystal Orientation on Cellulose Nanocrystalsâ€“Cellulose Acetate Nanocomposite Fibers Prepared by Dry Spinning. Biomacromolecules, 2014, 15, 3827-3835.	5.4	84
38	Prediction of the chemical and thermal shrinkage in a thermoset polymer. Composites Part A: Applied Science and Manufacturing, 2014, 66, 35-43.	7.6	57
39	Dispersion and its relation to carbon nanotube concentration in polyimide nanocomposites. Composites Science and Technology, 2013, 85, 43-49.	7.8	24
40	Composite toughness enhancement with interlaminar reinforcement. Composites Part A: Applied Science and Manufacturing, 2013, 54, 98-106.	7.6	25
41	Interlaminar Stresses in Composite Laminates Subjected to Anticlastic Bending Deformation. Journal of Applied Mechanics, Transactions ASME, 2013, 80, .	2.2	15
42	Free-edge singularities meet the microstructure: Important considerations. Composites Science and Technology, 2012, 72, 933-937.	7.8	6
43	A parametric study of fiber volume fraction distribution on the failure initiation location in open hole off-axis tensile specimen. Composites Science and Technology, 2011, 71, 1819-1825.	7.8	33
44	Validation of strain invariant failure analysis in an open hole off-axis specimen. Jom, 2011, 63, 43-48.	1.9	2
45	Interlaminar stresses in composite laminates: Thermoelastic deformation. Composites Science and Technology, 2010, 70, 1605-1611.	7.8	14
46	Micromechanical enhancement of the macroscopic strain state for advanced composite materials. Composites Science and Technology, 2009, 69, 1974-1978.	7.8	29
47	Modeling particle inflation from poly(amic acid) powdered precursors. III. Experimental determination of kinetic parameters. Polymer Engineering and Science, 2008, 48, 617-626.	3.1	9
48	Nanomechanics of Peeling Studied Using the Atomic Force Microscope. , 2007, , 627.		0
49	Stress transfer in multi-walled carbon nanotubes. Composites Science and Technology, 2007, 67, 3425-3433.	7.8	60
50	Modeling particle inflation from poly(amic acid) powdered precursors. II. Morphological development during bubble growth. Polymer Engineering and Science, 2007, 47, 572-581.	3.1	6
51	Modeling particle inflation from poly(amic acid) powdered precursors. I. Preliminary stages leading to bubble growth. Polymer Engineering and Science, 2007, 47, 560-571.	3.1	7
52	On the separation of carbon nanotubes. Composites Science and Technology, 2006, 66, 1132-1140.	7.8	13
53	Flexural deflection as a measure of van der Waals interaction forces in the CNT array. Composites Science and Technology, 2006, 66, 1125-1131.	7.8	22
54	Energetics of imperfectly bonded carbon nanotube arrays in flexure. Composites Science and Technology, 2006, 66, 2844-2854.	7.8	6

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55	Analysis of Experimental Results in Mechanics of MWNT. , 2006, , .		1
56	Polyimide foams from powder: Experimental analysis of competitive diffusion phenomena. Polymer, 2005, 46, 9296-9303.	3.8	31
57	Solid-State Polyimide Foaming from Powder Precursors: Effect of Morphology and Process Parameters on the Diffusive Phenomena. Frontiers in Forests and Global Change, 2004, 23, 299-309.	1.1	10
58	Flange Wrinkling In The Forming Of Thermoplastic Composite Sheets. AIP Conference Proceedings, 2004, , .	0.4	1
59	Self-consistent properties of carbon nanotubes and hexagonal arrays as composite reinforcements. Composites Science and Technology, 2003, 63, 1349-1358.	7.8	59
60	Scale Effects in Carbon Nanostrutures:Â Self-Similar Analysis. Nano Letters, 2003, 3, 239-243.	9.1	25
61	Probabilistic analysis of multi-step failure process of a laminated composite in bending. Composites Science and Technology, 1995, 55, 413-421.	7.8	22
62	First-Order Approximations for the Effective Shearing Viscosities of Continuous-Fiber Suspensions. Journal of Composite Materials, 1995, 29, 1169-1180.	2.4	11
63	Non-Newtonian Constitutive Relationships for Hyperconcentrated Fiber Suspensions. Journal of Composite Materials, 1994, 28, 343-351.	2.4	15
64	Rheological behavior of two- and three-phase fiber suspensions. Polymer Composites, 1994, 15, 427-435.	4.6	7
65	Some Observations on the Interlaminar Strength of Composite Laminates. Solid Mechanics and Its Applications, 1994, , 255-267.	0.2	1
66	Pathologies associated with the numerical analysis of hyper-anisotropic materials. International Journal for Numerical Methods in Engineering, 1993, 36, 3487-3508.	2.8	11
67	A modeling approach to thermoplastic pultrusion. I: Formulation of models. Polymer Composites, 1993, 14, 173-183.	4.6	36
68	A modeling approach to thermoplastic pultrusion. II: Verification of models. Polymer Composites, 1993, 14, 184-194.	4.6	30
69	On Flow through Aligned Fiber Beds and Its Application to Composites Processing. Journal of Composite Materials, 1992, 26, 1351-1373.	2.4	150
70	Anisotropic Viscosities of an Oriented Fiber Composite with a Power-Law Matrix. Journal of Composite Materials, 1992, 26, 1536-1552.	2.4	37
71	Anisotropic Viscosities of Oriented Discontinuous Fiber Laminates. Journal of Composite Materials, 1992, 26, 1088-1099.	2.4	7
72	Effect of surface treatment of pitch-based carbon fiber on mechanical properties of polyethernitrile composites. Polymer Composites, 1992, 13, 15-29.	4.6	12

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73	A finite element formulation for highly anisotropic incompressible elastic solids. International Journal for Numerical Methods in Engineering, 1992, 33, 1573-1596.	2.8	17
74	In-situ consolidation for the thermoplastic composite ringâ€"residual stress state. Composites Manufacturing, 1991, 2, 105-113.	0.2	8
75	Development of a facility for pultrusion of thermoplastic-matrix composites. Composites Manufacturing, 1991, 2, 114-123.	0.2	19
76	Constitutive relationships for aligned discontinuous fibre composites. Composites Manufacturing, 1991, 2, 141-146.	0.2	9
77	Finite element analysis of composite sheet-forming process. Composites Manufacturing, 1991, 2, 161-170.	0.2	27
78	A Constitutive Relation for the Viscous Flow of an Oriented Fiber Assembly. Journal of Composite Materials, 1991, 25, 1204-1217.	2.4	50
79	Issues in diaphragm forming of continuous fiber reinforced thermoplastic composites. Polymer Composites, 1991, 12, 246-256.	4.6	38
80	Influence of Fiber Length on the Viscous Flow of an Oriented Fiber Assembly. Journal of Composite Materials, 1991, 25, 1379-1390.	2.4	21
81	Numerical prediction of three-dimensional fiber orientation in Hele-Shaw flows. Polymer Engineering and Science, 1990, 30, 848-859.	3.1	84
82	PAN and Pitch-Based Carbon Fiber-Reinforced Polyethernitrile Composites. Journal of Thermoplastic Composite Materials, 1990, 3, 172-189.	4.2	10
83	Design methodology for the molding of short-fiber thermoset composites. Composites Science and Technology, 1988, 33, 241-256.	7.8	4
84	Process induces fiber orientation: Numerical simulation with experimental verification. Polymer Composites, 1985, 6, 82-86.	4.6	25
85	Numerical Prediction of Fiber Orientation in Dilute Suspensions. Journal of Composite Materials, 1983, 17, 330-343.	2.4	108
86	Interlaminar Fracture of Composite Materials. Journal of Composite Materials, 1982, 16, 386-394.	2.4	128
87	Behavior of discontinuous fiber composites: Fiber orientation. Polymer Composites, 1982, 3, 34-39.	4.6	88
88	Analysis of the Shearout Failure Mode in Composite Bolted Joints. , 1981, , 34-49.		16
89	Macroscopic fracture of fibrous composites. Materials Science and Engineering, 1980, 45, 247-253.	0.1	66
90	Notched Strength of Composite Materials. Journal of Composite Materials, 1979, 13, 148-160.	2.4	188

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91	MoirÃ© Analysis of the Interlaminar Shear Edge Effect in Laminated Composites. Journal of Composite Materials, 1971, 5, 255-259.	2.4	98
92	The Influence of Stacking Sequence on Laminate Strength. Journal of Composite Materials, 1971, 5, 50-57.	2.4	286
93	Interlaminar Stresses in Composite Laminates Under Uniform Axial Extension. Journal of Composite Materials, 1970, 4, 538-548.	2.4	925