R Byron Pipes

List of Publications by Citations

90 papers	3,505 citations	28 h-index	58 g-index
93 ext. papers	3,947 ext. citations	5 avg, IF	5.39 L-index

#	Paper	IF	Citations
90	Interlaminar Stresses in Composite Laminates Under Uniform Axial Extension. *Journal of Composite Materials*, **1970**, 4, 538-548	2.7	818
89	Fused filament fabrication of fiber-reinforced polymers: A review. *Additive Manufacturing*, **2018**, 21, 1-16	6.1	272
88	The Influence of Stacking Sequence on Laminate Strength. *Journal of Composite Materials*, **1971**, 5, 50-57	2.7	241
87	Notched Strength of Composite Materials. *Journal of Composite Materials*, **1979**, 13, 148-160	2.7	159
86	On Flow through Aligned Fiber Beds and Its Application to Composites Processing. *Journal of Composite Materials*, **1992**, 26, 1351-1373	2.7	131
85	Interlaminar Fracture of Composite Materials. *Journal of Composite Materials*, **1982**, 16, 386-394	2.7	109
84	Numerical Prediction of Fiber Orientation in Dilute Suspensions. *Journal of Composite Materials*, **1983**, 17, 330-343	2.7	92
83	Characterization of the Mechanical Properties of FFF Structures and Materials: A Review on the Experimental, Computational and Theoretical Approaches. *Materials*, **2019**, 12,	3.5	88
82	Moir Analysis of the Interlaminar Shear Edge Effect in Laminated Composites. *Journal of Composite Materials*, **1971**, 5, 255-259	2.7	87
81	Behavior of discontinuous fiber composites: Fiber orientation. *Polymer Composites*, **1982**, 3, 34-39	3	79
80	Effects of crystal orientation on cellulose nanocrystals-cellulose acetate nanocomposite fibers prepared by dry spinning. *Biomacromolecules*, **2014**, 15, 3827-35	6.9	71
79	Numerical prediction of three-dimensional fiber orientation in Hele-Shaw flows. *Polymer Engineering and Science*, **1990**, 30, 848-859	2.3	68
78	Macroscopic fracture of fibrous composites. *Materials Science and Engineering*, **1980**, 45, 247-253		58
77	Chemical and thermal shrinkage in thermosetting prepreg. *Composites Part A: Applied Science and Manufacturing*, **2016**, 80, 72-81	8.4	54
76	Stress transfer in multi-walled carbon nanotubes. *Composites Science and Technology*, **2007**, 67, 3425-3433	3.6	54
75	Self-consistent properties of carbon nanotubes and hexagonal arrays as composite reinforcements. *Composites Science and Technology*, **2003**, 63, 1349-1358	8.6	49
74	A Constitutive Relation for the Viscous Flow of an Oriented Fiber Assembly. *Journal of Composite Materials*, **1991**, 25, 1204-1217	2.7	41

73	Development and validation of extrusion deposition additive manufacturing process simulations. *Additive Manufacturing*, **2019**, 25, 218-226	6.1	41
72	Prediction of the chemical and thermal shrinkage in a thermoset polymer. *Composites Part A: Applied Science and Manufacturing*, **2014**, 66, 35-43	8.4	40
71	Digital image correlation measurement of resin chemical and thermal shrinkage after gelation. *Journal of Materials Science*, **2015**, 50, 5244-5252	4.3	36
70	A new anisotropic viscous constitutive model for composites molding simulation. *Composites Part A: Applied Science and Manufacturing*, **2018**, 115, 112-122	8.4	34
69	Issues in diaphragm forming of continuous fiber reinforced thermoplastic composites. *Polymer Composites*, **1991**, 12, 246-256	3	33
68	Fiber orientation measurement from mesoscale CT scans of prepreg platelet molded composites. *Composites Part A: Applied Science and Manufacturing*, **2018**, 114, 241-249	8.4	31
67	Cure history dependence of residual deformation in a thermosetting laminate. *Composites Part A: Applied Science and Manufacturing*, **2017**, 99, 186-197	8.4	30
66	Polyimide foams from powder: Experimental analysis of competitive diffusion phenomena. *Polymer* , **2005**, 46, 9296-9303	3.9	29
65	Generalized Free-Edge Stress Analysis Using Mechanics of Structure Genome. *Journal of Applied Mechanics, Transactions ASME*, **2016**, 83,	2.7	29
64	Multiscale modeling of viscoelastic behaviors of textile composites. *International Journal of Engineering Science*, **2018**, 130, 175-186	5.7	29
63	Anisotropic Viscosities of an Oriented Fiber Composite with a Power-Law Matrix. *Journal of Composite Materials*, **1992**, 26, 1536-1552	2.7	28
62	A modeling approach to thermoplastic pultrusion. I: Formulation of models. *Polymer Composites*, **1993**, 14, 173-183	3	28
61	Coupling anisotropic viscosity and fiber orientation in applications to squeeze flow. *Journal of Rheology*, **2018**, 62, 669-679	4.1	25
60	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	8.6	25
59	A modeling approach to thermoplastic pultrusion. II: Verification of models. *Polymer Composites*, **1993**, 14, 184-194	3	25
58	Dispersion and its relation to carbon nanotube concentration in polyimide nanocomposites. *Composites Science and Technology*, **2013**, 85, 43-49	8.6	23
57	Challenge problems for the benchmarking of micromechanics analysis: Level I initial results. *Journal of Composite Materials*, **2018**, 52, 61-80	2.7	22
56	Micromechanical enhancement of the macroscopic strain state for advanced composite materials. *Composites Science and Technology*, **2009**, 69, 1974-1978	8.6	22

55	Scale Effects in Carbon Nanostrutures: Self-Similar Analysis. *Nano Letters*, **2003**, 3, 239-243	11.5	22
54	Finite element analysis of composite sheet-forming process. *Composites Manufacturing*, **1991**, 2, 161-170		22
53	Composite toughness enhancement with interlaminar reinforcement. *Composites Part A: Applied Science and Manufacturing*, **2013**, 54, 98-106	8.4	21
52	Process induces fiber orientation: Numerical simulation with experimental verification. *Polymer Composites*, **1985**, 6, 82-86	3	21
51	Tensile properties of a stochastic prepreg platelet molded composite. *Composites Part A: Applied Science and Manufacturing*, **2019**, 124, 105507	8.4	20
50	Probabilistic analysis of multi-step failure process of a laminated composite in bending. *Composites Science and Technology*, **1995**, 55, 413-421	8.6	20
49	Uniaxial strength of a composite array of overlaid and aligned prepreg platelets. *Composites Part A: Applied Science and Manufacturing*, **2018**, 109, 31-47	8.4	19
48	Influence of Fiber Length on the Viscous Flow of an Oriented Fiber Assembly. *Journal of Composite Materials*, **1991**, 25, 1379-1390	2.7	19
47	Flexural deflection as a measure of van der Waals interaction forces in the CNT array. *Composites Science and Technology*, **2006**, 66, 1125-1131	8.6	16
46	A finite element formulation for highly anisotropic incompressible elastic solids. *International Journal for Numerical Methods in Engineering*, **1992**, 33, 1573-1596	2.4	16
45	Simulation of prepreg platelet compression molding: Method and orientation validation. *Journal of Rheology*, **2018**, 62, 1443-1455	4.1	16
44	Interlaminar Stresses in Composite Laminates Subjected to Anticlastic Bending Deformation. *Journal of Applied Mechanics, Transactions ASME*, **2013**, 80,	2.7	15
43	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	8.4	15
42	Phase field modeling of damage in glassy polymers. *Journal of the Mechanics and Physics of Solids*, **2016**, 93, 182-197	5	15
41	Structure-property relationship for a prepreg platelet molded composite with engineered meso-morphology. *Composite Structures*, **2019**, 210, 430-445	5.3	15
40	Development of a facility for pultrusion of thermoplastic-matrix composites. *Composites Manufacturing*, **1991**, 2, 114-123		14
39	On the separation of carbon nanotubes. *Composites Science and Technology*, **2006**, 66, 1132-1140	8.6	12
38	Non-Newtonian Constitutive Relationships for Hyperconcentrated Fiber Suspensions. *Journal of Composite Materials*, **1994**, 28, 343-351	2.7	12

37	Effect of surface treatment of pitch-based carbon fiber on mechanical properties of polyethernitrile composites. *Polymer Composites*, **1992**, 13, 15-29	3	12
36	Interlaminar stresses in composite laminates: Thermoelastic deformation. *Composites Science and Technology*, **2010**, 70, 1605-1611	8.6	11
35	Influence of through-thickness reinforcement aspect ratio on mode I delamination fracture resistance. *Composite Structures*, **2015**, 125, 13-22	5.3	10
34	Pathologies associated with the numerical analysis of hyper-anisotropic materials. *International Journal for Numerical Methods in Engineering*, **1993**, 36, 3487-3508	2.4	10
33	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	1.6	9
32	First-Order Approximations for the Effective Shearing Viscosities of Continuous-Fiber Suspensions. *Journal of Composite Materials*, **1995**, 29, 1169-1180	2.7	9
31	PAN and Pitch-Based Carbon Fiber-Reinforced Polyethernitrile Composites. *Journal of Thermoplastic Composite Materials*, **1990**, 3, 172-189	1.9	9
30	Analysis of the Shearout Failure Mode in Composite Bolted Joints **1981**, 34-49		9
29	Role of hierarchical morphology of helical carbon nanotube bundles on thermal expansion of polymer nanocomposites. *Journal of Materials Research*, **2017**, 32, 2738-2746	2.5	8
28	Modeling particle inflation from poly(amic acid) powdered precursors. III. Experimental determination of kinetic parameters. *Polymer Engineering and Science*, **2008**, 48, 617-626	2.3	8
27	Constitutive relationships for aligned discontinuous fibre composites. *Composites Manufacturing*, **1991**, 2, 141-146		8
26	Constitutive modeling for time- and temperature-dependent behavior of composites. *Composites Part B: Engineering*, **2020**, 184, 107726	10	8
25	Modeling particle inflation from poly(amic acid) powdered precursors. I. Preliminary stages leading to bubble growth. *Polymer Engineering and Science*, **2007**, 47, 560-571	2.3	7
24	Anisotropic Viscosities of Oriented Discontinuous Fiber Laminates. *Journal of Composite Materials*, **1992**, 26, 1088-1099	2.7	7
23	Modeling of Hierarchical Morphology of Carbon Nanotube Bundles in Polymer Composites. *Macromolecular Theory and Simulations*, **2016**, 25, 524-532	1.5	6
22	Modeling particle inflation from poly(amic acid) powdered precursors. II. Morphological development during bubble growth. *Polymer Engineering and Science*, **2007**, 47, 572-581	2.3	6
21	In-situ consolidation for the thermoplastic composite ring□esidual stress state. *Composites Manufacturing*, **1991**, 2, 105-113		6
20	Residual stress determination of silicon containing boron dopants in ceramic matrix composites. *Journal of the American Ceramic Society*, **2019**, 102, 2820-2829	3.8	5

19	Energetics of imperfectly bonded carbon nanotube arrays in flexure. *Composites Science and Technology*, **2006**, 66, 2844-2854	8.6	5
18	Rheological behavior of two- and three-phase fiber suspensions. *Polymer Composites*, **1994**, 15, 427-435	3	5
17	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	8.4	5
16	Three-dimensional thermoelastic properties of general composite laminates. *Journal of Composite Materials*, **2018**, 52, 1799-1808	2.7	4
15	Free-Edge Interlaminar Stresses in Angle-Ply Laminates: A Family of Analytic Solutions. *Journal of Applied Mechanics, Transactions ASME*, **2016**, 83,	2.7	4
14	Interlaminar Stresses in Composite Laminates Subjected to Twisting Deformation. *Journal of Applied Mechanics, Transactions ASME*, **2017**, 84,	2.7	4
13	Free-edge singularities meet the microstructure: Important considerations. *Composites Science and Technology*, **2012**, 72, 933-937	8.6	4
12	Extrusion deposition additive manufacturing with fiber-reinforced thermoplastic polymers **2020**, 191-219		3
11	Design methodology for the molding of short-fiber thermoset composites. *Composites Science and Technology*, **1988**, 33, 241-256	8.6	3
10	Multi-Scale Modeling of Free-Edge Micro-Cracks with XFEM **2014**,		2
9	Validation of strain invariant failure analysis in an open hole off-axis specimen. *Jom*, **2011**, 63, 43-48	2.1	2
8	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	2
7	Some Observations on the Interlaminar Strength of Composite Laminates. *Solid Mechanics and Its Applications*, **1994**, 255-267	0.4	1
6	Analysis of Experimental Results in Mechanics of MWNT **2006**,		1
5	Influence of Fiber Orientation on Deformation of Additive Manufactured Composites. *Additive Manufacturing*, **2021**, 102483	6.1	0
4	Simulation of composites curing using mechanics of structure genome based shell model. *Composites Part A: Applied Science and Manufacturing*, **2022**, 154, 106766	8.4	0
3	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	8.4	0
2	Interlayer fusion bonding of semi-crystalline polymer composites in extrusion deposition additive manufacturing. *Composites Science and Technology*, **2022**, 109334	8.6	0

List of Publications

1 Nanomechanics of Peeling Studied Using the Atomic Force Microscope **2007**, 627