Tim Osswald

List of Publications by Year
in descending order

112	1,791	304743	414414
papers	citations	22 h-index	32 g-index

119	119	119	1553
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Processing and rheological behavior of <scp>crossâ€linked</scp> polyethylene containing disulfide bonds. SPE Polymers, 2022, 3, 25-40.	3.3	16
2	Cell morphologies, mechanical properties, and fiber orientation of glass fiber-reinforced polyamide composites: Influence of subcritical gas-laden pellet injection molding foaming technology. Physics of Fluids, 2022, 34, .	4.0	5
3	Melt Conveying in Single-Screw Extruders: Modeling and Simulation. Polymers, 2022, 14, 875.	4.5	5
4	Understanding softening of amorphous materials for FFF applications. International Polymer Processing, 2022, 37, 120-138.	0.5	2
5	Compounding a High-Permittivity Thermoplastic Material and Its Applicability in Manufacturing of Microwave Photonic Crystals. Materials, 2022, 15, 2492.	2.9	4
6	Targeted Temperature Manipulation and Analysis of the Influence on Mechanical Properties in Large-Scale Extrusion Additive Manufacturing. Applied Sciences (Switzerland), 2022, 12, 2998.	2.5	1
7	Underwater ultrasonic topological waveguides by metal additive manufacturing. Applied Physics Letters, 2022, 120, .	3.3	2
8	Three-Dimensional Printed Planar Polymer Photonic Topological Insulator Waveguides and Their Robustness to Lattice Defects. ACS Photonics, 2022, 9, 1793-1802.	6.6	5
9	Polymer composites: Additive manufacturing of composites. Polymer Composites, 2022, 43, 3496-3497.	4.6	10
10	Natural Rubber Blend Optimization via Data-Driven Modeling: The Implementation for Reverse Engineering. Polymers, 2022, 14, 2262.	4.5	8
11	Implementation of shear thinning behavior in the fused filament fabrication melting model: Analytical solution and experimental validation. Additive Manufacturing, 2021, 37, 101687.	3.0	6
12	Influence of plantation climate and storage time on thermal and viscoelastic properties of natural rubber. AIMS Bioengineering, 2021, 8, 95-111.	1.1	1
13	Editorial for the Special Issue on Discontinuous Fiber Composites, Volume II. Journal of Composites Science, 2021, 5, 71.	3.0	1
14	Application of the stress interaction failure criterion in platelet composite compression molded parts. Polymer Composites, 2021, 42, 3632-3643.	4.6	0
15	Data enriched lubrication force modeling for a mechanistic fiber simulation of short fiber-reinforced thermoplastics. Physics of Fluids, 2021, 33, 053107.	4.0	1
16	Effect of gas pressure on the microstructure of parts foamed with the novel microcellular injection molding technology <scp>Kuâ€Fizzâ„¢</scp>. SPE Polymers, 2021, 2, 311-324.	3.3	5
17	Novel modeling approach for fiber breakage during molding of long fiber-reinforced thermoplastics. Physics of Fluids, 2021, 33, .	4.0	5
18	High-force dynamic mechanical analysis of composite sandwich panels for aerospace structures. Composites Part C: Open Access, 2021, 5, 100136.	3.2	5

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19	Neural network feature and architecture optimization for injection molding surface defect prediction of model polypropylene. Polymer Engineering and Science, 2021, 61, 2376-2387.	3.1	15
20	Experimental Investigation of In-Plane Shear Behaviour of Thermoplastic Fibre-Reinforced Composites under Thermoforming Process Conditions. Journal of Composites Science, 2021, 5, 248.	3.0	1
21	Trends in force and print speed in Material Extrusion. Additive Manufacturing, 2021, 46, 102141.	3.0	4
22	Evaluation of Single-Lap and Block Shear Test Methods in Adhesively Bonded Composite Joints. Journal of Composites Science, 2021, 5, 27.	3.0	16
23	A model for modulus development of dualâ€cure resin systems. Polymer Engineering and Science, 2021, 61, 830-835.	3.1	4
24	Cavity vat photopolymerisation for additive manufacturing of polymer-composite 3D objects. Communications Materials, 2021, 2, .	6.9	8
25	Investigation of the influence of exposure time on the dual-curing reaction of RPU 70 during the DLS process and the resulting mechanical part properties. Additive Manufacturing, 2020, 32, 101002.	3.0	10
26	Fabrication of hybrid composite T-joints by co-curing with 3D printed dual cure epoxy. Composites Part B: Engineering, 2020, 183, 107728.	12.0	24
27	Laser polishing of Cu/PLA composite parts fabricated by fused deposition modeling: Analysis of surface finish and mechanical properties. Polymer Composites, 2020, 41, 1356-1368.	4.6	40
28	Validation of Fiber Breakage in Simple Shear Flow with Direct Fiber Simulation. Journal of Composites Science, 2020, 4, 134.	3.0	3
29	Comparative Analysis of the Impact of Additively Manufactured Polymer Tools on the Fiber Configuration of Injection Molded Long-Fiber-Reinforced Thermoplastics. Journal of Composites Science, 2020, 4, 136.	3.0	2
30	Direct Fiber Simulation of a Compression Molded Ribbed Structure Made of a Sheet Molding Compound with Randomly Oriented Carbon/Epoxy Prepreg Strandsâ€"A Comparison of Predicted Fiber Orientations with Computed Tomography Analyses. Journal of Composites Science, 2020, 4, 164.	3.0	12
31	A Flow-Dependent Fiber Orientation Model. Journal of Composites Science, 2020, 4, 96.	3.0	10
32	Significance of Model Parameter Variations in the pARD-RSC Model. Journal of Composites Science, 2020, 4, 109.	3.0	3
33	Measuring Fiber Length in the Core and Shell Regions of Injection Molded Long Fiber-Reinforced Thermoplastic Plaques. Journal of Composites Science, 2020, 4, 104.	3.0	4
34	Experimental Validation of a Direct Fiber Model for Orientation Prediction. Journal of Composites Science, 2020, 4, 59.	3.0	8
35	Macroscopic fiber orientation model evaluation for concentrated short fiber reinforced polymers in comparison to experimental data. Polymer Composites, 2020, 41, 2542-2556.	4.6	13
36	Fiber Orientation Predictionsâ€"A Review of Existing Models. Journal of Composites Science, 2020, 4, 69.	3.0	37

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37	Efficient parameter identification for macroscopic fiber orientation models with experimental data and a mechanistic fiber simulation. AIP Conference Proceedings, 2020, , .	0.4	3
38	Thermal curing kinetics optimization of epoxy resin in Digital Light Synthesis. Additive Manufacturing, 2020, 32, 101018.	3.0	14
39	The effect of micromechanics models on mechanical property predictions for short fiber composites. Composite Structures, 2020, 244, 112229.	5.8	20
40	Application of thermotropic liquid crystalline polymer reinforced acrylonitrile butadiene styrene in fused filament fabrication. Additive Manufacturing, 2019, 29, 100813.	3.0	6
41	Surface roughness of polyamide 12 parts manufactured using selective laser sintering. Polymer Testing, 2019, 80, 106094.	4.8	26
42	Fiber-Reinforced Composite Sandwich Structures by Co-Curing with Additive Manufactured Epoxy Lattices. Journal of Composites Science, 2019, 3, 53.	3.0	35
43	Effects of raster angle on the mechanical properties of PLA and Al/PLA composite part produced by fused deposition modeling. Polymers for Advanced Technologies, 2019, 30, 2122-2135.	3.2	63
44	Characterization of mechanical properties and fracture mode of PLA and copper/PLA composite part manufactured by fused deposition modeling. SN Applied Sciences, 2019, 1, 1.	2.9	38
45	Viscoelastic properties of fused filament fabrication parts. Additive Manufacturing, 2019, 28, 704-710.	3.0	7
46	Validating a Failure Surface Developed for ABS Fused Filament Fabrication Parts through Complex Loading Experiments. Journal of Composites Science, 2019, 3, 49.	3.0	5
47	Moduli development of epoxy adhesives during cure. Polymer Testing, 2019, 77, 105863.	4.8	5
48	Failure surface development for ABS fused filament fabrication parts. Additive Manufacturing, 2019, 28, 169-175.	3.0	18
49	Micro-injection molded, poly(vinyl alcohol)-calcium salt templates for precise customization of 3D hydrogel internal architecture. Acta Biomaterialia, 2019, 95, 258-268.	8.3	22
50	Numerical analysis of mixing in blockâ€head mixing screws. Polymer Engineering and Science, 2019, 59, E88.	3.1	8
51	Nozzle flow behavior of aluminum/polycarbonate composites in the material extrusion printing process. Journal of Applied Polymer Science, 2019, 136, 47252.	2.6	10
52	Experimental study of particle migration in polymer processing. Polymer Composites, 2019, 40, 2165-2177.	4.6	10
53	Foam Injection Molding of Polypropylene/Zinc Oxide Nanocomposite with Chemical Foaming Agent: Mechanical Properties and Morphology. Journal of Testing and Evaluation, 2019, 47, 998-1008.	0.7	2
54	Failure criterion for PA12 SLS additive manufactured parts. Additive Manufacturing, 2018, 21, 619-627.	3.0	28

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55	A novel extrusion process for the production of polymer micropellets. Polymer Engineering and Science, 2018, 58, 2264-2275.	3.1	13
56	Fused filament fabrication melting model. Additive Manufacturing, 2018, 22, 51-59.	3.0	83
57	A strength tensor based failure criterion with stress interactions. Polymer Composites, 2018, 39, 2826-2834.	4.6	13
58	Degree of cure of epoxy/acrylic photopolymers: Characterization with raman spectroscopy and a modified phenomenological model. Polymer Engineering and Science, 2018, 58, 228-237.	3.1	16
59	Influence of selected process parameters on changes of the fiber orientation in unidirectional reinforced thermoplastics during a hot pressing process. Polymer Composites, 2018, 39, 2241-2249.	4.6	1
60	A novel fiber length measurement technique for discontinuous fiberâ€reinforced composites: A comparative study with existing methods. Polymer Composites, 2018, 39, 4058-4070.	4.6	27
61	<scp>TTT</scp>â€diagram for epoxy film adhesives using quasiâ€isothermal scans with initial fast ramps. Journal of Applied Polymer Science, 2018, 135, 45791.	2.6	8
62	Process-induced fiber matrix separation in long fiber-reinforced thermoplastics. Composites Part A: Applied Science and Manufacturing, 2018, 105, 321-333.	7.6	23
63	Editorial for the Special Issue on Discontinuous Fiber Composites. Journal of Composites Science, 2018, 2, 63.	3.0	0
64	CAE method for compression molding of carbon fiber-reinforced thermoplastic composite using bulk materials. Composites Part A: Applied Science and Manufacturing, 2018, 114, 388-397.	7.6	22
65	Simulative Prediction of Fiber-Matrix Separation in Rib Filling During Compression Molding Using a Direct Fiber Simulation. Journal of Composites Science, 2018, 2, 2.	3.0	17
66	Fibre Length Reduction in Natural Fibre-Reinforced Polymers during Compounding and Injection Mouldingâ€”Experiments Versus Numerical Prediction of Fibre Breakage. Journal of Composites Science, 2018, 2, 20.	3.0	14
67	A Novel CAE Method for Compression Molding Simulation of Carbon Fiber-Reinforced Thermoplastic Composite Sheet Materials. Journal of Composites Science, 2018, 2, 33.	3.0	7
68	Nozzle clogging factors during fused filament fabrication of spherical particle filled polymers. Additive Manufacturing, 2018, 23, 206-214.	3.0	51
69	Process-Induced Fiber Orientation in Fused Filament Fabrication. Journal of Composites Science, 2018, 2, 45.	3.0	36
70	A thermo-viscoelastic approach for the characterization and modeling of the bending behavior of thermoplastic composites â€“ Part II. Composites Part A: Applied Science and Manufacturing, 2017, 96, 67-76.	7.6	16
71	Method to account for the fiber orientation of the initial charge on the fiber orientation of finished part in compression molding simulation. Composites Part A: Applied Science and Manufacturing, 2017, 100, 244-254.	7.6	15
72	Measuring fibre orientation in sisal fibre-reinforced, injection moulded polypropylene â€“ Pros and cons of the experimental methods to validate injection moulding simulation. Composites Part A: Applied Science and Manufacturing, 2017, 95, 54-64.	7.6	27

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73	Quasiâ€isothermal <scp>DSC</scp> testing of epoxy adhesives using initial fast heating rates. Journal of Applied Polymer Science, 2017, 134, 45425.	2.6	10
74	Experimental and Numerical Analysis of Fiber Matrix Separation during Compression Molding of Long Fiber Reinforced Thermoplastics. Journal of Composites Science, 2017, 1, 2.	3.0	26
75	Progress on the Characterization of the Processâ€Induced Fiber Microstructure of Long Glass Fiberâ€Reinforced Thermoplastics. Plastics Engineering, 2017, 73, 46-47.	0.0	7
76	Incorporation of Mg particles into PDLLA regulates mesenchymal stem cell and macrophage responses. Journal of Biomedical Materials Research - Part A, 2016, 104, 866-878.	4.0	50
77	Chemorheological timeâ€temperatureâ€transformationâ€viscosity diagram: Foamed EPDM rubber compound. Journal of Applied Polymer Science, 2016, 133, .	2.6	10
78	On the use of computational multi-body dynamics analysis in SLS-based 3D printing. Additive Manufacturing, 2016, 12, 291-295.	3.0	21
79	WLF model for the pressure dependence of zero shear viscosity of polycarbonate. Rheologica Acta, 2016, 55, 673-681.	2.4	13
80	A thermo-viscoelastic approach for the characterization and modeling of the bending behavior of thermoplastic composites. Composites Part A: Applied Science and Manufacturing, 2016, 90, 22-32.	7.6	67
81	Vulcanization of EPDM rubber compounds with and without blowing agents: Identification of reaction events and TTT-diagram using DSC data. Polymer Engineering and Science, 2015, 55, 2073-2088.	3.1	24
82	Prediction of vortex height from mechanical mixing in metal matrix nanocomposite processing by means of dimensional analysis and scaling. Journal of Manufacturing Processes, 2014, 16, 212-217.	5.9	3
83	Method for timeâ€“temperatureâ€“transformation diagrams using DSC data: Linseed aliphatic epoxy resin. Journal of Applied Polymer Science, 2014, 131, .	2.6	18
84	Dimensional analysis and scaling in mechanical mixing for fabrication of metal matrix nanocomposites. Journal of Manufacturing Processes, 2012, 14, 388-392.	5.9	6
85	Modeling viscoelastic secondary flows in threeâ€dimensional noncircular ducts. Polymer Engineering and Science, 2012, 52, 1715-1723.	3.1	7
86	Numerical simulation of three-dimensional viscoelastic planar contraction flow using the software OpenFOAM. Computers and Chemical Engineering, 2012, 37, 64-73.	3.8	16
87	Modeling processing of silicone rubber: Liquid versus hard silicone rubbers. Journal of Applied Polymer Science, 2011, 119, 1864-1871.	2.6	19
88	The effects of e-beam irradiation induced cross linking on the friction and wear of polyamide 66 in sliding contact. Wear, 2010, 268, 905-910.	3.1	23
89	Vibration joining of fiberâ€reinforced thermosets. Polymer Composites, 2010, 31, 1205-1212.	4.6	8
90	Conjugated Polymer Photovoltaic Solar Cells: Manufacturing and Increasing Performance. Plastics Engineering, 2010, 66, 26-32.	0.0	4

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91	Modeling of Fiber Jamming Phenomena during Processing of Fiber Reinforced Composite Parts. Key Engineering Materials, 2010, 425, 31-44.	0.4	0
92	Monitoring epoxy and unsaturated polyester reactions under pressureâ€"Reaction rates and mechanical properties. Polymer Engineering and Science, 2009, 49, 2099-2108.	3.1	9
93	The History of Tomorrow's Materials: Proteinâ€Based Biopolymers. Plastics Engineering, 2008, 64, 36-40.	0.0	20
94	Mechanism of fiberâ€"matrix separation in ribbed compression molded parts. Polymer Composites, 2007, 28, 451-457.	4.6	17
95	Modeling the vulcanization reaction of silicone rubber. Polymer Engineering and Science, 2007, 47, 675-683.	3.1	74
96	Polymer Processing. , 2006, , .		124
97	Theoretical analysis of fiber motion and loads during flow. Polymer Composites, 2004, 25, 1-11.	4.6	5
98	An integrated model for statistical and vision monitoring in manufacturing transitions. Quality and Reliability Engineering International, 2003, 19, 461-476.	2.3	12
99	Analysis of fiber damage mechanisms during processing of reinforced polymer melts. Engineering Analysis With Boundary Elements, 2002, 26, 621-628.	3.7	8
100	Comparative study of rhomboidal mixing sections using the boundary element method. Engineering Analysis With Boundary Elements, 2000, 24, 89-94.	3.7	5
101	Novel BEM Simulation of Mixing in Polymer Flows Including Non-Linear Effects. Journal of Reinforced Plastics and Composites, 2000, 19, 1474-1482.	3.1	0
102	Grooved feed single screw extruders?improving productivity and reducing viscous heating effects. Polymer Engineering and Science, 1998, 38, 1199-1204.	3.1	26
103	Predicting the effect of viscosity ratios on the mixing of polymer blends using the boundary element method. Polymer Engineering and Science, 1996, 36, 979-984.	3.1	9
104	Simulating the flow of multi-domain polymer blends during mixing using BEM. Engineering Analysis With Boundary Elements, 1995, 16, 197-202.	3.7	0
105	Prediction of Shrinkage and Warpage of Fiber Reinforced Thermoset Composite Parts. Journal of Reinforced Plastics and Composites, 1994, 13, 698-721.	3.1	25
106	Predicting shrinkage and warpage of fiber-reinforced composite parts. Polymer Composites, 1994, 15, 270-277.	4.6	10
107	The dual-reciprocity method for heat transfer in polymer processing. Engineering Analysis With Boundary Elements, 1994, 13, 249-261.	3.7	11
108	Modeling and Simulation of High Reynolds' Number Flows During Reaction Injection Mold Filling. International Polymer Processing, 1994, 9, 279-285.	0.5	3

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109	Simulating the Non-Isothermal Mixing of Polymer Blends Using the Boundary Element Method. Journal of Reinforced Plastics and Composites, 1993, 12, 787-799.	3.1	1
110	A Finite Element Analysis of the Thermomechanical Behavior of Fiber Reinforced Composites. Journal of Thermoplastic Composite Materials, 1991, 4, 173-189.	4.2	11
111	A boundary element simulation of compression mold filling. Polymer Engineering and Science, 1988, 28, 413-420.	3.1	36
112	Boundary integral equations for analyzing the flow of a chopped fiber reinforced polymer compound in compression molding. Journal of Non-Newtonian Fluid Mechanics, 1987, 26, 185-206.	2.4	20