

# Martin Zatloukal

## List of Publications by Year in descending order

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Version: 2024-02-01

115  
papers

1,781  
citations

304743

22  
h-index

315739

38  
g-index

136  
all docs

136  
docs citations

136  
times ranked

1271  
citing authors

#	ARTICLE	IF	CITATIONS
1	3D modeling of filtration process via polyurethane nanofiber based nonwoven filters prepared by electrospinning process. <i>Chemical Engineering Science</i> , 2011, 66, 613-623.	3.8	240
2	3D air filtration modeling for nanofiber based filters in the ultrafine particle size range. <i>Chemical Engineering Science</i> , 2012, 82, 299-311.	3.8	117
3	Polyurethane/multiwalled carbon nanotube nanowebs prepared by an electrospinning process. <i>Journal of Applied Polymer Science</i> , 2009, 111, 2711-2714.	2.6	96
4	On the effect of pressure on the shear and elongational viscosities of polymer melts. <i>Polymer Engineering and Science</i> , 2004, 44, 1328-1337.	3.1	93
5	Meltblown technology for production of polymeric microfibers/nanofibers: A review. <i>Physics of Fluids</i> , 2019, 31, .	4.0	80
6	Differential viscoelastic constitutive equations for polymer melts in steady shear and elongational flows. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2003, 113, 209-227.	2.4	64
7	Influence of the repeated extrusion on the degradation of polyethylene. Structural changes in low density polyethylene. <i>European Polymer Journal</i> , 2008, 44, 2652-2658.	5.4	45
8	Improvement in techniques for the determination of extensional rheological data from entrance flows: computational and experimental analysis. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2002, 107, 13-37.	2.4	39
9	Modelling elongational and shear rheology of two LDPE melts. <i>Rheologica Acta</i> , 2009, 48, 691-697.	2.4	37
10	On the predictive/fitting capabilities of the advanced differential constitutive equations for branched LDPE melts. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2006, 135, 58-67.	2.4	34
11	Experimental investigation of flow induced molecular weight fractionation phenomenon for two linear HDPE polymer melts having same Mn and Mw but different Mz and Mz+1 average molecular weights. <i>Chemical Engineering Science</i> , 2012, 81, 146-156.	3.8	34
12	The use of novel digital image analysis technique and rheological tools to characterize nanofiber nonwovens. <i>Polymer Testing</i> , 2010, 29, 82-94.	4.8	32
13	Imaging and analysis of wave type interfacial instability in the coextrusion of low-density polyethylene melts. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 156, 150-164.	2.4	31
14	Experimental investigation of flow induced molecular weight fractionation during extrusion of HDPE polymer melts. <i>Chemical Engineering Science</i> , 2011, 66, 4814-4823.	3.8	29
15	Modification of polymers by protein hydrolysate?A way to biodegradable materials. <i>Polymers for Advanced Technologies</i> , 2003, 14, 854-860.	3.2	26
16	On PVT and Rheological Measurements of Polymer Melts. <i>International Polymer Processing</i> , 2005, 20, 286-295.	0.5	26
17	Effect of molecular weight on secondary Newtonian plateau at high shear rates for linear isotactic melt blown polypropylenes. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2018, 251, 107-118.	2.4	26
18	Steady-state modeling of extrusion cast film process, neck-in phenomenon, and related experimental research: A review. <i>Physics of Fluids</i> , 2020, 32, .	4.0	26

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19	Analysis of entrance pressure drop techniques for extensional viscosity determination. <i>Polymer Testing</i> , 2009, 28, 843-853.	4.8	25
20	Numerical Simulation of Polymer Coextrusion Flows. <i>International Polymer Processing</i> , 2001, 16, 198-207.	0.5	24
21	Theoretical and experimental analysis of interfacial instabilities in coextrusion flows. <i>Journal of Applied Polymer Science</i> , 2005, 98, 153-162.	2.6	24
22	Viscoelastic stress calculation in multi-layer coextrusion dies: Die design and extensional viscosity effects on the onset of wave™ interfacial instabilities. <i>Polymer Engineering and Science</i> , 2002, 42, 1520-1533.	3.1	23
23	Modeling of the film blowing process by using variational principles. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2004, 123, 201-213.	2.4	23
24	Rheological characterization and modeling of linear and branched metallocene polypropylenes prepared by reactive processing. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 156, 1-6.	2.4	22
25	A simple phenomenological non-Newtonian fluid model. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2010, 165, 592-595.	2.4	22
26	Increase of long-chain branching by thermo-oxidative treatment of LDPE: Chromatographic, spectroscopic, and rheological evidence. <i>Journal of Rheology</i> , 2013, 57, 105-129.	2.6	22
27	Historical Review of Die Drool Phenomenon in Plastics Extrusion. <i>Polymer Reviews</i> , 2014, 54, 139-184.	10.9	22
28	Measurements and modeling of temperature-strain rate dependent uniaxial and planar extensional viscosities for branched LDPE polymer melt. <i>Polymer</i> , 2016, 104, 258-267.	3.8	22
29	On the predictive/fitting capabilities of the advanced differential constitutive equations for linear polyethylene melts. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2008, 150, 56-64.	2.4	20
30	The effect of polyolefin extensional rheology on non-isothermal film blowing process stability. <i>International Journal of Heat and Mass Transfer</i> , 2013, 56, 694-708.	4.8	19
31	Effect of molecular weight, branching and temperature on dynamics of polypropylene melts at very high shear rates. <i>Polymer</i> , 2018, 144, 179-183.	3.8	19
32	Visualisation and analysis of interfacial instability in coextrusion of LDPE melt. <i>Plastics, Rubber and Composites</i> , 2004, 33, 27-35.	2.0	18
33	On the role of extensional rheology and Deborah number on the neck-in phenomenon during flat film casting. <i>International Journal of Heat and Mass Transfer</i> , 2017, 111, 1296-1313.	4.8	18
34	Influence of long chain branching on fiber diameter distribution for polypropylene nonwovens produced by melt blown process. <i>Journal of Rheology</i> , 2019, 63, 519-532.	2.6	18
35	Theoretical and experimental analysis of the die drool phenomenon for metallocene LLDPE. <i>Polymer Engineering and Science</i> , 2007, 47, 871-881.	3.1	17
36	Investigation of die drool phenomenon for HDPE polymer melt. <i>Chemical Engineering Science</i> , 2010, 65, 6128-6133.	3.8	17

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37	Modeling of nonisothermal film blowing process for non-Newtonian fluids by using variational principles. <i>Journal of Applied Polymer Science</i> , 2011, 122, 2807-2820.	2.6	17
38	Study on the influence of electron beam irradiation on the thermal, mechanical, and rheological properties of ethylene-octene copolymer with high comonomer content. <i>Journal of Applied Polymer Science</i> , 2013, 128, 3026-3033.	2.6	17
39	Effect of die exit stress state, Deborah number, uniaxial and planar extensional rheology on the neck-in phenomenon in polymeric flat film production. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2018, 255, 39-56.	2.4	17
40	Historical Review of Secondary Entry Flows in Polymer Melt Extrusion. <i>Polymer Reviews</i> , 2019, 59, 338-390.	10.9	17
41	Influence of molecular weight, temperature, and extensional rheology on melt blowing process stability for linear isotactic polypropylene. <i>Physics of Fluids</i> , 2020, 32, .	4.0	16
42	Numerical simulations of polymer flow in flat spiral dies. <i>Polymer Engineering and Science</i> , 2001, 41, 1683-1694.	3.1	14
43	Evaluation of Thermally Induced Degradation of Branched Polypropylene by Using Rheology and Different Constitutive Equations. <i>Polymers</i> , 2016, 8, 317.	4.5	13
44	Effect of die design on die drool phenomenon for metallocene based LLDPE: Theoretical and experimental investigation. <i>Journal of Applied Polymer Science</i> , 2009, 111, 1728-1737.	2.6	11
45	The Effect of PVAc Solution Viscosity on Diameter of PVAc Nanofibres Prepared by Technology of Electrospinning. <i>AIP Conference Proceedings</i> , 2011, , .	0.4	11
46	Effect of heat transfer coefficient, draw ratio, and die exit temperature on the production of flat polypropylene membranes. <i>Physics of Fluids</i> , 2019, 31, 053101.	4.0	11
47	Theoretical and experimental investigation of interfacial instability phenomena occurring during viscoelastic coextrusion. <i>Plastics, Rubber and Composites</i> , 2005, 34, 403-409.	2.0	10
48	Investigation of PPA interactions with polymer melts in single layer extrusion and coextrusion flows. <i>Plastics, Rubber and Composites</i> , 2007, 36, 248-253.	2.0	10
49	A defect-rich layered double hydroxide nanofiber filter with solar-driven regeneration for wastewater treatment. <i>Chemical Engineering Journal</i> , 2022, 430, 132842.	12.7	10
50	Stability analysis of non-isothermal film blowing process for non-Newtonian fluids using variational principles. <i>Chemical Engineering Science</i> , 2012, 73, 439-453.	3.8	9
51	Effect of die exit geometry on internal die drool phenomenon during linear HDPE melt extrusion. <i>International Journal of Heat and Mass Transfer</i> , 2013, 56, 667-673.	4.8	9
52	Modelling of viscoelastic coextrusion flows in multi-manifold flat dies. <i>Plastics, Rubber and Composites</i> , 2004, 33, 305-310.	2.0	8
53	Application of variational principles in modeling of the film blowing process for high stalk bubbles. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2006, 133, 63-72.	2.4	8
54	Reduction of monomeric friction coefficient for linear isotactic polypropylene melts in very fast uniaxial extensional flow. <i>Physics of Fluids</i> , 2021, 33, 051703.	4.0	8

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55	Pressure and Temperature Dependence of LDPE Viscosity and Free Volume: The Effect of Molecular Structure. <i>International Polymer Processing</i> , 2006, 21, 98-103.	0.5	7
56	Influence of process aids on zigzag type of interfacial instabilities in multilayer flows: theoretical and experimental investigation. <i>Plastics, Rubber and Composites</i> , 2006, 35, 149-154.	2.0	7
57	Frame-invariant formulation of novel generalized Newtonian fluid constitutive equation for polymer melts. <i>Physics of Fluids</i> , 2020, 32, .	4.0	7
58	The effect of combination electrospun and meltblown filtration materials on their filtration efficiency. <i>AIP Conference Proceedings</i> , 2015, , .	0.4	6
59	Investigation of convective heat transfer in 9-layer film blowing process by using variational principles. <i>International Journal of Heat and Mass Transfer</i> , 2015, 86, 258-267.	4.8	6
60	Morphology of Nano and Micro Fiber Structures in Ultrafine Particles Filtration. <i>AIP Conference Proceedings</i> , 2011, , .	0.4	5
61	Rheological Indicators for Environmental Stress Cracking Resistance of Polyethylene. <i>International Polymer Processing</i> , 2015, 30, 70-81.	0.5	5
62	Pressure dependent viscosity of Surlyn/montmorillonite nanocomposite. <i>Plastics, Rubber and Composites</i> , 2004, 33, 299-304.	2.0	4
63	Characterization of Carbon Nanotube Based Polymer Composites Through Rheology. , 2009, , .		4
64	Stress-strain Hysteresis of a Carbon Nanotube Network as Polymer Nanocomposite Filler under Cyclic Deformation. <i>AIP Conference Proceedings</i> , 2011, , .	0.4	4
65	Viscoelastic non-isothermal modeling of film extrusion for membrane production including flow induced crystallization. <i>Physics of Fluids</i> , 2022, 34, .	4.0	4
66	Visualisation and Analysis of Polyethylene Coextrusion Melt Flow. , 2009, , .		3
67	On Pressure Affected Shear Viscosity of Poly(Lactic) Acid. <i>AIP Conference Proceedings</i> , 2011, , .	0.4	3
68	Investigation of Vortex Development during Polymer Melt Flows by Flow Birefringence. <i>AIP Conference Proceedings</i> , 2011, , .	0.4	3
69	Rheological evaluation of melt blown polymer melt. , 2013, , .		3
70	Influence of coextrusion die channel height on interfacial instability of low density polyethylene melt flow. <i>Plastics, Rubber and Composites</i> , 2014, 43, 25-31.	2.0	3
71	Entry flow vortices in polymer melt extrusion: A review. <i>AIP Conference Proceedings</i> , 2017, , .	0.4	3
72	Tensile Strength Characteristics of Polymer Melts. <i>International Polymer Processing</i> , 2002, 17, 223-227.	0.5	3

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73	Investigation of Polyurethane Electrospinning Process Efficiency. , 2009, , .		2
74	The effect of nanofiber based filter morphology on bacteria deactivation during water filtration. , 2013, , .		2
75	Historical review of die drool phenomenon during plastics extrusion. AIP Conference Proceedings, 2013, , .	0.4	2
76	Experimental and numerical analysis of performance of two fluted mixer designs. Plastics, Rubber and Composites, 2014, 43, 337-346.	2.0	2
77	Electrospun polyurethane membrane with Ag/ZnO microparticles as an antibacterial surface on polyurethane sheets. Journal of Applied Polymer Science, 2016, 133, .	2.6	2
78	A Virtual Reality Visualization Tool for Three-Dimensional Biomedical Nanostructures. Journal of Physics: Conference Series, 2018, 1098, 012001.	0.4	2
79	Chemical modification of poly(1-butene) resins through reactive processing. Polymer Engineering and Science, 2020, 60, 1437-1445.	3.1	2
80	Effect of second to first normal stress difference ratio at the die exit on neck-in phenomenon in polymeric flat film production. AIP Conference Proceedings, 2017, , .	0.4	2
81	Flow-induced birefringence study of secondary flow in entrance region of rectangular slit channel for long-chain-branched polyethylene melt. Physics of Fluids, 2022, 34, .	4.0	2
82	Effect of oligomers extraction in polycondensation reactions on number and weight average degree of polymerization. European Polymer Journal, 2002, 38, 1925-1927.	5.4	1
83	Evaluation of the structure (or nonlinearity) parameter $x$ by peak-shift method from volumetric heating data of PET. Journal of Physics and Chemistry of Solids, 2008, 69, 975-980.	4.0	1
84	Modeling of Non-Isothermal Film Blowing Process for Polyolefines by Using Variational Principles. , 2009, , .		1
85	Investigation of Internal Die Drool Phenomenon for Different HDPEs. , 2009, , .		1
86	Isobaric heating of polystyrene and evaluation of the Narayanaswamy parameter $x$ from volume recovery data. Journal of Non-Crystalline Solids, 2009, 355, 91-95.	3.1	1
87	High Strain Rate Rheology of Polymer Melts. , 2009, , .		1
88	Rheological Characterization and Constitutive Modeling of Two LDPE Melts. , 2009, , .		1
89	3D Air Filtration Modeling for Nanofiber Based Filters in the Ultrafine Particle Size Range. , 2011, , .		1
90	Experimental Investigation of Die Drool and Slip-stick Phenomena during HDPE Polymer Melt Extrusion. AIP Conference Proceedings, 2011, , .	0.4	1

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91	Characterization of die drool sample produced by HDPE melt extrusion. , 2013, , .		1
92	Investigation of thermal degradation of branched polypropylene via rheology. AIP Conference Proceedings, 2015, , .	0.4	1
93	Effect of viscoelastic stress state at die exit on extrusion film casting process: Theoretical study. AIP Conference Proceedings, 2015, , .	0.4	1
94	Three-dimensional finite element method simulation study of fusion screw geometry. Plastics, Rubber and Composites, 2015, 44, 11-18.	2.0	1
95	Effect of molecular weight and extensional rheology on melt blown process stability for linear isotactic polypropylenes. AIP Conference Proceedings, 2019, , .	0.4	1
96	The effect of heat transfer coefficient on crystalline phase development during production of casted film. AIP Conference Proceedings, 2019, , .	0.4	1
97	Generalized Newtonian fluid constitutive equation for polymer liquids considering chain stretch and monomeric friction reduction for very fast flows modeling. Physics of Fluids, 2021, 33, 083106.	4.0	1
98	Investigation of heat transfer in 9-layer film blowing process by using variational principles. AIP Conference Proceedings, 2013, , .	0.4	1
99	Development of Novel Orifice Die Design for Precise Entrance Pressure Drop Measurements. , 2009, , .		0
100	3D Simulation of the Fluted Mixer Element Behavior. , 2009, , .		0
101	The Use of Digital Image Analysis and Rheological Tools to Characterize Nanofiber Based Textiles. , 2009, , .		0
102	Increase of Long-chain Branching by Thermo-oxidative Treatment of LDPE. , 2011, , .		0
103	Planar Extensional Viscosity Measurements for LDPE Polymer Melt by Using Novel Orifice Die Design and Cogswell Model. , 2011, , .		0
104	Variational Principle Based Stability Analysis of Non-isothermal Film Blowing Process for Non-Newtonian Fluids. , 2011, , .		0
105	Effect of Fluoropolymer Antidripping Agent on Rheological Behavior of LLDPE. , 2011, , .		0
106	Effect of particle-fiber friction coefficient on ultrafine aerosol particles clogging in nanofiber based filter. , 2013, , .		0
107	Evaluation of variational principle based model for LDPE large scale film blowing process. , 2013, , .		0
108	Evaluation of temperature-strain rate dependent uniaxial and planar elongational viscosities for branched LDPE polymer melt. , 2013, , .		0

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109	Investigation of crosslinking behaviour of silane grafted polyethylene through rheology. , 2013, , .		0
110	Foreword: Novel Trends in Rheology V. , 2013, , .		0
111	Investigation of flow behavior for linear melt blown polypropylenes with different molecular weights in very wide shear rate range. AIP Conference Proceedings, 2017, , .	0.4	0
112	Historical notes on flow visualization in polymer melt processing. AIP Conference Proceedings, 2019, , .	0.4	0
113	10.1063/5.0020773.1. , 2020, , .		0
114	10.1063/5.0075476.14. , 2022, , .		0
115	10.1063/5.0075476.18. , 2022, , .		0