JosÃ© A Covas

List of Publications by Year
in descending order

122 papers	2,178 citations	249298 26 h-index	325983 40 g-index
129 all docs	129 docs citations	129 times ranked	2019 citing authors

#	Article	IF	Citations
1	Optimization of Polymer Processing: A Review (Part Iâ€"Extrusion). Materials, 2022, 15, 384.	1.3	11
2	Optimization of Polymer Processing: A Review (Part II-Molding Technologies). Materials, 2022, 15, 1138.	1.3	8
3	On-Line Optical Monitoring of the Mixing Performance in Co-Rotating Twin-Screw Extruders. Polymers, 2022, 14, 1152.	2.0	4
4	Direct Method for Deconvoluting Two Residence Time Distribution Curves. International Polymer Processing, 2022, 16, 334-340.	0.3	1
5	Improving the thickness distribution of parts with hybrid thermoforming. International Polymer Processing, 2022, .	0.3	0
6	Inâ€process rheological monitoring of extrusionâ€based polymer processes. Polymer International, 2021, 70, 24-33.	1.6	12
7	Experimental study of <scp>PLA</scp> thermal behavior during fused filament fabrication. Journal of Applied Polymer Science, 2021, 138, 49747.	1.3	35
8	The Effect of a Phase Change on the Temperature Evolution during the Deposition Stage in Fused Filament Fabrication. Computers, 2021, 10, 19.	2.1	3
9	In-Line Rheo-Optical Investigation of the Dispersion of Organoclay in a Polymer Matrix during Twin-Screw Compounding. Polymers, 2021, 13, 2128.	2.0	5
10	Dispersion of Graphite Nanoplates in Polypropylene by Melt Mixing: The Effects of Hydrodynamic Stresses and Residence Time. Polymers, 2021, 13, 102.	2.0	3
11	Poly(Lactic Acid)/Graphite Nanoplatelet Nanocomposite Filaments for Ligament Scaffolds. Nanomaterials, 2021, 11, 2796.	1.9	7
12	Development of electrically conductive polymer nanocomposites for the automotive cable industry. Polimeros, 2021, 31, .	0.2	2
13	Online optical monitoring of polymer melting in a twinâ€screw extruder. Polymer Engineering and Science, 2020, 60, 2163-2175.	1.5	3
14	Taking advantage of the functional synergism between carbon nanotubes and graphene nanoplatelets to obtain polypropylene-based nanocomposites with enhanced oxidative resistance. European Polymer Journal, 2020, 133, 109796.	2.6	13
15	The Effect of a Phase Change During the Deposition Stage in Fused Filament Fabrication. Lecture Notes in Computer Science, 2020, , 276-285.	1.0	0
16	Film Blowing of PHB-Based Systems for Home Compostable Food Packaging. International Polymer Processing, 2020, 35, 440-447.	0.3	0
17	In-process rheological measurements during the manufacture of multiphase polymer systems. AIP Conference Proceedings, 2019, , .	0.3	0
18	Assessment of Piezoelectric Sensors for the Acquisition of Steady Melt Pressures in Polymer Extrusion. Fluids, 2019, 4, 66.	0.8	6

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19	Evolution of dispersion in the melt compounding of a model polymer nanocomposite system: A multi-scale study. Polymer Testing, 2019, 76, 109-118.	2.3	3
20	Multi-parameter in-process monitoring of clay dispersion during melt compounding with PLA. EXPRESS Polymer Letters, 2019, 13, 276-285.	1.1	5
21	A New Extensional Mixing Element for Improved Dispersive Mixing in Twinâ€Screw Extrusion, Part 2: Experimental Validation for Immiscible Polymer Blends. Advances in Polymer Technology, 2018, 37, 167-175.	0.8	20
22	Using multiobjective optimization algorithms and decision making support to solve polymer extrusion problems. Polymer Engineering and Science, 2018, 58, 493-502.	1.5	6
23	Production and Processing of Polymer-Based Nanocomposites. , 2018, , 111-146.		1
24	Effects of Particle Size and Surface Chemistry on the Dispersion of Graphite Nanoplates in Polypropylene Composites. Polymers, 2018, 10, 222.	2.0	25
25	Electrically Conductive Polyetheretherketone Nanocomposite Filaments: From Production to Fused Deposition Modeling. Polymers, 2018, 10, 925.	2.0	71
26	A New Extensional Mixing Element for Improved Dispersive Mixing in Twinâ€Screw Extrusion, Part 1: Design and Computational Validation. Advances in Polymer Technology, 2017, 36, 455-465.	0.8	21
27	Tracking the progression of dispersion of graphite nanoplates in a polypropylene matrix by melt mixing. Polymer Composites, 2017, 38, 947-954.	2.3	10
28	A Journey along the Extruder with Polystyrene:C₆₀ Nanocomposites: Convergence of Feeding Formulations into a Similar Nanomorphology. Macromolecules, 2017, 50, 3301-3312.	2.2	8
29	Development of Dispersion during Compounding and Extrusion of Polypropylene/Graphite Nanoplates Composites. International Polymer Processing, 2017, 32, 614-622.	0.3	9
30	Film blowing of PHBV blends and PHBVâ€based multilayers for the production of biodegradable packages. Journal of Applied Polymer Science, 2016, 133, .	1.3	49
31	Carbon Nanofibres and Nanotubes for Composite Applications. Textile Science and Clothing Technology, 2016, , 231-260.	0.4	6
32	Probing dispersion and re-agglomeration phenomena upon melt-mixing of polymer-functionalized graphite nanoplates. Soft Matter, 2016, 12, 77-86.	1.2	34
33	A Small-Scale Experimental Extrusion Set-Up for Exploring Relationships Between Process-Induced Structures and Characteristics of Multiphase Polymer Systems. Macromolecular Materials and Engineering, 2015, 300, 1278-1289.	1.7	7
34	Rheo-optical characterization of liquid crystalline acetoxypropylcellulose melt undergoing large shear flow and relaxation after flow cessation. Polymer, 2015, 71, 102-112.	1.8	5
35	Rheology of organoclay assisted extrusion of HDPE using Particle Image Velocimetry. Chemical Engineering Research and Design, 2015, 100, 113-125.	2.7	6
36	Development of polyhydroxyalkanoate/beer spent grain fibers composites for film blowing applications. Polymer Composites, 2015, 36, 1859-1865.	2.3	50

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37	The Plasticating Sequence in Barrier Extrusion Screws Part II: Experimental Assessment. Polymer-Plastics Technology and Engineering, 2014, 53, 1456-1466.	1.9	8
38	Preparation of Polymer-Clay Nanocomposites by Melt Mixing in a Twin Screw Extruder: Using On-Line SAOS Rheometry to Assess the Level of Dispersion. International Polymer Processing, 2014, 29, 63-70.	0.3	6
39	Processing Conditions Effect on Dispersion Evolution in a Twinâ€Screw Extruder: Polypropyleneâ€Clay Nanocomposites. Chemical Engineering and Technology, 2014, 37, 257-266.	0.9	17
40	An Engineering Scale-Up Approach using Multi-Objective Optimization. International Journal of Natural Computing Research, 2014, 4, 17-30.	0.5	9
41	Predicting extrusion instabilities of commercial polyethylene from non-linear rheology measurements. Rheologica Acta, 2014, 53, 817-829.	1.1	7
42	In-line particle size assessment of polymer suspensions during processing. Polymer Testing, 2014, 37, 68-77.	2.3	10
43	Assessing the practical utility of the hole-pressure method for the in-line rheological characterization of polymer melts. Rheologica Acta, 2013, 52, 661-672.	1.1	18
44	Poly(lactic acid) composites with poly(lactic acid)â€modified carbon nanotubes. Journal of Polymer Science Part A, 2013, 51, 3740-3750.	2.5	33
45	Dispersion and re-agglomeration phenomena during melt mixing of polypropylene with multi-wall carbon nanotubes. Polymer Testing, 2013, 32, 701-707.	2.3	63
46	Multi-objective ant colony optimization for the twin-screw configuration problem. Engineering Optimization, 2012, 44, 351-371.	1.5	21
47	Monitoring the Production of Polymer Nanocomposites by Melt Compounding with On-line Rheometry. International Polymer Processing, 2012, 27, 527-534.	0.3	7
48	Bi-axially Oriented Blown Film Technology. International Polymer Processing, 2012, 27, 348-357.	0.3	3
49	Flow and Heat Transfer Along the Length of a Co-rotating Twin Screw Extruder. Polymer-Plastics Technology and Engineering, 2012, 51, 1567-1577.	1.9	34
50	A quantitative approach to assess the mixing ability of single-screw extruders for polymer extrusion. Journal of Polymer Engineering, 2012, 32, .	0.6	6
51	Laboratory modular instrumented single screw extruder for optimisation of polymer processing. Plastics, Rubber and Composites, 2012, 41, 373-383.	0.9	2
52	The effect of flow type and chemical functionalization on the dispersion of carbon nanofiber agglomerates in polypropylene. Composites Part A: Applied Science and Manufacturing, 2012, 43, 833-841.	3.8	49
53	The influence of carbon nanotube functionalization route on the efficiency of dispersion in polypropylene by twin-screw extrusion. Composites Part A: Applied Science and Manufacturing, 2012, 43, 2189-2198.	3.8	29
54	Modelling pellet flow in single extrusion with DEM. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2011, 225, 255-268.	1.4	8

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55	The influence of the dispersion method on the electrical properties of vapor-grown carbon nanofiber/epoxy composites. Nanoscale Research Letters, 2011, 6, 370.	3.1	20
56	Liquid sensing properties of melt processed polypropylene/poly(Îµ-caprolactone) blends containing multiwalled carbon nanotubes. Composites Science and Technology, 2011, 71, 1451-1460.	3.8	50
57	Application of evolutionary algorithms to the definition of the optimal twinâ€screw extruder configuration for starch cationization. Polymer Engineering and Science, 2011, 51, 330-340.	1.5	19
58	Morphology and Rheology of Polypropylene/Polystyrene/Clay Nanocomposites in Batch and Continuous Melt Mixing Processes. Macromolecular Materials and Engineering, 2011, 296, 341-348.	1.7	38
59	On-line Rheometry: A Tool to Monitor Polymer Nanocomposites Production. , 2011, , .		0
60	Setting the operating conditions in Free Form Extrusion via modeling of Heat Transfer. , 2011, , .		0
61	Nanoclays Dispersion in a PA6/PP Blend by Twin Screw Compounding. Macromolecular Symposia, 2011, 301, 55-62.	0.4	4
62	Modeling of Agglomerate Dispersion in Single Screw Extruders. International Polymer Processing, 2010, 25, 251-257.	0.3	10
63	Dynamics of Filler Size and Spatial Distribution in a Plasticating Single Screw Extruder â€“ Modeling and Experimental Observations. International Polymer Processing, 2010, 25, 188-198.	0.3	17
64	Synthesis, extrusion and rheological behaviour of PU/HA composites for biomedical applications. Journal of Materials Science: Materials in Medicine, 2010, 21, 2057-2066.	1.7	13
65	Melt Processing of Chitosanâ€Based Fibers and Fiberâ€Mesh Scaffolds for the Engineering of Connective Tissues. Macromolecular Bioscience, 2010, 10, 1495-1504.	2.1	18
66	Modelling of the Thermal Behaviour of Free Form Extrusion. Materials Science Forum, 2010, 636-637, 833-839.	0.3	2
67	Extrusion Scale-up: An Optimization-based Methodology. International Polymer Processing, 2009, 24, 67-82.	0.3	17
68	Contribution of the melting stage to the evolution of the morphology and chemical conversion of immiscible polyamide/polyethylene blends in twinâ€screw extruders. Journal of Applied Polymer Science, 2009, 114, 1768-1776.	1.3	12
69	Melting of polymer blends in single-screw extrusion - an experimental study. International Journal of Material Forming, 2009, 2, 729-732.	0.9	5
70	Recent Developments on On-line Rheometry to Monitor the Extrusion Process. , 2009, , .		0
71	Use of Multi-objective Evolutionary Algorithms in Extrusion Scale-Up. Advances in Soft Computing, 2009, , 86-94.	0.4	0
72	Robustness in multi-objective optimization using evolutionary algorithms. Computational Optimization and Applications, 2008, 39, 75-96.	0.9	98

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73	Towards modelling of Free Form Extrusion: analytical solution of transient heat transfer. International Journal of Material Forming, 2008, 1, 703-706.	0.9	28
74	Global Mixing Indices for Single Screw Extrusion. International Journal of Material Forming, 2008, 1, 723-726.	0.9	3
75	A New Dual Controlled Stressâˆ•Rate Extensional Rheometer for High Viscosity Systems. AIP Conference Proceedings, 2008, , .	0.3	3
76	Multilayer plug concept to enhance thickness distribution control of deep thermoformed parts. Plastics, Rubber and Composites, 2008, 37, 293-300.	0.9	3
77	Computational and Experimental Study of Mixing in a Single Screw Extruder. AIP Conference Proceedings, 2007, , .	0.3	2
78	Modelling Flow and Heat Transfer in Co-Rotating Twin-Screw Extruders. AIP Conference Proceedings, 2007, , .	0.3	0
79	Predicting Distributive and Dispersive Mixing in Polymer Extrusion. AIP Conference Proceedings, 2007, , .	0.3	1
80	Modelling Flow and Heat Transfer in Co-Rotating Twin-Screw Extruders. AIP Conference Proceedings, 2007, , .	0.3	1
81	The Use of DEM to Capture the Dynamics of the Flow of Solid Pellets in a Single Screw Extruder. AIP Conference Proceedings, 2007, , .	0.3	0
82	Phase morphology development during processing of compatibilized and uncompatibilized PBT/ABS blends. Journal of Applied Polymer Science, 2007, 104, 102-110.	1.3	20
83	The Effect of the Compatibilization Route of PA/PO Blends on the Physico-chemical Phenomena Developing Along a Twin-screw Extruder. Macromolecular Symposia, 2006, 233, 86-94.	0.4	10
84	Evolution of the peroxide-induced degradation of polypropylene along a twin-screw extruder: Experimental data and theoretical predictions. Journal of Applied Polymer Science, 2006, 99, 2082-2090.	1.3	42
85	Helical flow during rotational pipe extrusion. Plastics, Rubber and Composites, 2006, 35, 59-66.	0.9	2
86	EvoluÃ§Ã£o da morfologia de fases de blendas PA6/AES em extrusora de dupla rosca e moldagem por injeÃ§Ã£o. Polimeros, 2005, 15, 176-185.	0.2	14
87	Monitoring Reactive Processes along the Extruder. International Polymer Processing, 2005, 20, 121-127.	0.3	6
88	On the Use of the Heating Stage to Control the Thickness Distribution in Thermoformed Parts. International Polymer Processing, 2004, 19, 186-198.	0.3	7
89	Optimisation-based design of extruders. Plastics, Rubber and Composites, 2004, 33, 416-425.	0.9	3
90	Modelling of the Grafting of Maleic Anhydride onto Polyethylene in an Extruder. Materials Science Forum, 2004, 455-456, 763-766.	0.3	3

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91	Design of calibrators for extruded profiles. Part I: Modeling the thermal interchanges. Polymer Engineering and Science, 2004, 44, 2216-2228.	1.5	25
92	Evolution of peroxide-induced thermomechanical degradation of polypropylene along the extruder. Journal of Applied Polymer Science, 2004, 91, 2711-2720.	1.3	43
93	A study of grafting reactions during processing of polyolefins. Advances in Polymer Technology, 2004, 23, 196-210.	0.8	19
94	RPSGAe â€" Reduced Pareto Set Genetic Algorithm: Application to Polymer Extrusion. Lecture Notes in Economics and Mathematical Systems, 2004, , 221-249.	0.3	29
95	THE USE OF EVOLUTIONARY ALGORITHMS TO SOLVE PRACTICAL PROBLEMS IN POLYMER EXTRUSION. Advances in Natural Computation, 2004, , 177-199.	0.1	1
96	A study of residence time distribution in co-rotating twin-screw extruders. Part II: Experimental validation. Polymer Engineering and Science, 2003, 43, 1849-1862.	1.5	60
97	Analysis of the Morphological Development of PBT/ABS Blends during the Twin Screw Extrusion and Injection Molding Processes. International Polymer Processing, 2003, 18, 376-381.	0.3	18
98	Infrared sheet heating in roll fed thermoforming: Part 2 - Factors influencing inverse heating solution. Plastics, Rubber and Composites, 2003, 32, 32-39.	0.9	9
99	Interfacial chemistry and morphology of in-situ compatibilised PA-6 and PBT based blends. Macromolecular Symposia, 2003, 198, 135-146.	0.4	5
100	Optimization of Processing Conditions for Polymer Twin-Screw Extrusion. International Polymer Processing, 2002, 17, 201-213.	0.3	36
101	Visualisation and Analysis of the Flow along the Kneading Block of a Twin-screw Extruder. International Polymer Processing, 2002, 17, 301-308.	0.3	12
102	IR sheet heating in roll fed thermoforming: Part 1 - Solving direct and inverse heating problems. Plastics, Rubber and Composites, 2002, 31, 307-317.	0.9	17
103	Recycling of poly(ethylene terephthalate) as polymer-polymer composites. Polymer Engineering and Science, 2002, 42, 826-835.	1.5	130
104	On-Line Rheometry for Twin-Screw Extrusion (Along the Extruder) and its Applications. Applied Rheology, 2002, 12, 18-24.	3.5	14
105	Evolution of Chemistry, Morphology and Rheology of Various Polymer Systems along a Twinâ€Screw Extruder. Canadian Journal of Chemical Engineering, 2002, 80, 1065-1074.	0.9	21
106	Monitoring the evolution of the properties of PA-6/EPM-g-MA blends in a twin-screw extruder. Polymer Engineering and Science, 2002, 42, 2032-2041.	1.5	7
107	Effect of composition and processing conditions on the chemical and morphological evolution of PA-6/EPM/ EPM-g-MA blends in a corotating twin-screw extruder. Journal of Applied Polymer Science, 2001, 80, 1535-1546.	1.3	23
108	Monitoring polyolefin modification along the axis of a twin screw extruder. I. Effect of peroxide concentration. Journal of Applied Polymer Science, 2001, 81, 58-68.	1.3	20

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109	Monitoring the Evolution of Morphology of Polymer Blends Upon Manufacturing of Microfibrillar Reinforced Composites. International Journal of Polymeric Materials and Polymeric Biomaterials, 2001, 50, 445-467.	1.8	10
110	The Design of Extrusion Screws: An Optimization Approach. International Polymer Processing, 2001, 16, 229-240.	0.3	29
111	Experimental and theoretical study of twin-screw extrusion of polypropylene. Journal of Applied Polymer Science, 2000, 78, 1419-1430.	1.3	72
112	Rheology of PA-6/EPM/EPM-g-MA blends along a twin-screw extruder. Advances in Polymer Technology, 2000, 19, 260-276.	0.8	15
113	Monitoring polyolefin modification along the axis of a twin-screw extruder. II. Maleic anhydride grafting. Journal of Polymer Science Part A, 2000, 38, 3919-3932.	2.5	53
114	An optimization approach to practical problems in plasticating single screw extrusion. Polymer Engineering and Science, 1999, 39, 443-456.	1.5	35
115	Evolution of morphology and of chemical conversion along the screw in a corotating twin-screw extruder. Journal of Applied Polymer Science, 1999, 71, 135-141.	1.3	70
116	Chemical and morphological evolution of PA-6/Epm/Epm-g-MA blends in a twin screw extruder. Journal of Polymer Science Part A, 1999, 37, 1311-1320.	2.5	37
117	Production and characterization of innovative carbon fiber-polycarbonate composites. Polymer Composites, 1998, 19, 147-151.	2.3	37
118	The Inverse Problem in Polymer Processing. , 1995, , 385-405.		5
119	The effect of reprocessing on the properties of PVC. Journal of Vinyl Technology, 1993, 15, 124-131.	0.2	2
120	Single screw extrusion of poly(vinyl chloride): Effect on fusion and properties. Polymer Engineering and Science, 1992, 32, 743-750.	1.5	20
121	Optimizing the processing of rigid PVC compounds. Journal of Vinyl Technology, 1991, 13, 123-129.	0.2	2
122	The Morphology during Extrusion of PA6/PP Blends in the Presence of Nanoclays. Materials Science Forum, 0, 636-637, 840-845.	0.3	2