

Ole Hassager

List of Publications by Year in descending order

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128
papers

5,084
citations

81839

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136
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docs citations

136
times ranked

3000
citing authors

#	ARTICLE	IF	CITATIONS
1	Elongational Viscosity of Narrow Molar Mass Distribution Polystyrene. <i>Macromolecules</i> , 2003, 36, 5174-5179.	2.2	252
2	Negative wake behind bubbles in non-newtonian liquids. <i>Nature</i> , 1979, 279, 402-403.	13.7	178
3	Extensional viscosity for polymer melts measured in the filament stretching rheometer. <i>Journal of Rheology</i> , 2003, 47, 429-441.	1.3	177
4	Concentrated Polymer Solutions are Different from Melts: Role of Entanglement Molecular Weight. <i>Macromolecules</i> , 2013, 46, 5026-5035.	2.2	167
5	Highly Stretchable and Conductive Polymer Material Made from Poly(3,4-ethylenedioxythiophene) and Polyurethane Elastomers. <i>Advanced Functional Materials</i> , 2007, 17, 3069-3073.	7.8	164
6	Shear and Extensional Rheology of Polystyrene Melts and Solutions with the Same Number of Entanglements. <i>Macromolecules</i> , 2016, 49, 3925-3935.	2.2	145
7	Elongational viscosity of monodisperse and bidisperse polystyrene melts. <i>Journal of Rheology</i> , 2006, 50, 453-476.	1.3	139
8	The Considère condition and rapid stretching of linear and branched polymer melts. <i>Journal of Rheology</i> , 1999, 43, 1195-1212.	1.3	123
9	Quantitative prediction of transient and steady-state elongational viscosity of nearly monodisperse polystyrene melts. <i>Journal of Rheology</i> , 2005, 49, 1317-1327.	1.3	118
10	Analytical solutions for squeeze flow with partial wall slip. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1999, 81, 1-15.	1.0	111
11	An algorithm for the use of the Lagrangian specification in Newtonian fluid mechanics and applications to free-surface flow. <i>Journal of Fluid Mechanics</i> , 1985, 152, 173-190.	1.4	108
12	Kinetic theory and rheology of bead-rod models for macromolecular solutions. I. Equilibrium and steady flow properties. <i>Journal of Chemical Physics</i> , 1974, 60, 2111-2124.	1.2	107
13	Effect of Hydrogen Bonding on Linear and Nonlinear Rheology of Entangled Polymer Melts. <i>Macromolecules</i> , 2015, 48, 5988-5996.	2.2	103
14	Co-rotational rheological models and the Goddard expansion. <i>AIChE Journal</i> , 1974, 20, 1041-1066.	1.8	94
15	Extensional Rheology of Entangled Polystyrene Solutions Suggests Importance of Nematic Interactions. <i>ACS Macro Letters</i> , 2013, 2, 741-744.	2.3	93
16	Viscosity overshoot in the start-up of uniaxial elongation of low density polyethylene melts. <i>Journal of Rheology</i> , 2005, 49, 369-381.	1.3	90
17	Bridging the Gap between Polymer Melts and Solutions in Extensional Rheology. <i>Macromolecules</i> , 2015, 48, 4158-4163.	2.2	89
18	Elastic Properties of Nonstoichiometric Reacted PDMS Networks. <i>Macromolecules</i> , 2003, 36, 10063-10070.	2.2	78

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19	Prediction of melt elasticity from viscosity data. <i>Polymer Engineering and Science</i> , 1974, 14, 859-867.	1.5	76
20	Nonlinear Branch-Point Dynamics of Multiarm Polystyrene. <i>Macromolecules</i> , 2006, 39, 8844-8853.	2.2	76
21	Kinetic theory and rheology of bead-rod models for macromolecular solutions. II. Linear unsteady flow properties. <i>Journal of Chemical Physics</i> , 1974, 60, 4001-4008.	1.2	73
22	Flow of viscoplastic fluids in eccentric annular geometries. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1992, 45, 149-169.	1.0	72
23	Transient filament stretching rheometer. <i>Rheologica Acta</i> , 1997, 36, 285-302.	1.1	70
24	Stress relaxation of narrow molar mass distribution polystyrene following uniaxial extension. <i>Journal of Rheology</i> , 2008, 52, 885-899.	1.3	69
25	Failure and nonfailure of fluid filaments in extension1Dedicated to the memory of Professor Gianni Astarita.1. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1998, 76, 137-151.	1.0	62
26	Linear and Nonlinear Universality in the Rheology of Polymer Melts and Solutions. <i>Physical Review Letters</i> , 2015, 115, 078302.	2.9	62
27	Linear Viscoelastic and Dielectric Relaxation Response of Unentangled UPy-Based Supramolecular Networks. <i>Macromolecules</i> , 2016, 49, 3899-3910.	2.2	62
28	Creeping motion of long bubbles and drops in capillary tubes. <i>Journal of Colloid and Interface Science</i> , 1989, 133, 135-147.	5.0	59
29	Kinetic Theory and Rheology of Macromolecular Solutions. <i>Advances in Chemical Physics</i> , 2007, , 31-117.	0.3	56
30	Transient Convection, Diffusion, and Adsorption in Surface-Based Biosensors. <i>Langmuir</i> , 2012, 28, 7557-7563.	1.6	55
31	Nonlinear Elongational Rheology of Unentangled Polystyrene and Poly(<i>p</i> - <i>tert</i> -butylstyrene) Melts. <i>Macromolecules</i> , 2018, 51, 9710-9729.	2.2	54
32	Growth of non-axisymmetric disturbances of the free surface in the filament stretching rheometer: experiments and simulation. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2002, 108, 163-186.	1.0	51
33	A constitutive analysis of transient and steady-state elongational viscosities of bidisperse polystyrene blends. <i>Journal of Rheology</i> , 2008, 52, 67-86.	1.3	50
34	A new look at extensional rheology of low-density polyethylene. <i>Rheologica Acta</i> , 2016, 55, 343-350.	1.1	50
35	Rheological characterization of media containing <i>Penicillium chrysogenum</i> . <i>Biotechnology and Bioengineering</i> , 1993, 41, 162-164.	1.7	49
36	A control scheme for filament stretching rheometers with application to polymer melts. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2013, 194, 14-22.	1.0	49

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37	A Theoretical Study of the Separation Principle in Size Exclusion Chromatography. <i>Macromolecules</i> , 2010, 43, 1651-1659.	2.2	47
38	Nonlinear shear and uniaxial extensional rheology of polyether-ester-sulfonate copolymer ionomer melts. <i>Journal of Rheology</i> , 2017, 61, 1279-1289.	1.3	46
39	Multiple Cracks Propagate Simultaneously in Polymer Liquids in Tension. <i>Physical Review Letters</i> , 2016, 117, 087801.	2.9	43
40	Polymer liquids fracture like solids. <i>Soft Matter</i> , 2017, 13, 3470-3474.	1.2	41
41	Three-dimensional simulations of viscoelastic instability in polymeric filaments. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1999, 82, 189-202.	1.0	40
42	Direct Fast Patterning of Conductive Polymers Using Agarose Stamping. <i>Advanced Materials</i> , 2007, 19, 3261-3265.	11.1	39
43	Flow of viscoplastic fluids in a rotating concentric annulus. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1992, 42, 19-36.	1.0	38
44	Observations of peeling of a polyisobutylene-based pressure-sensitive adhesive. <i>International Journal of Adhesion and Adhesives</i> , 1998, 18, 131-137.	1.4	36
45	Linear rheology of cross-linked polypropylene oxide as a pressure sensitive adhesive. <i>International Journal of Adhesion and Adhesives</i> , 2009, 29, 687-693.	1.4	36
46	Dynamics of Star Polymers in Fast Extensional Flow and Stress Relaxation. <i>Macromolecules</i> , 2016, 49, 6694-6699.	2.2	36
47	Threading"Unthreading Transition of Linear-Ring Polymer Blends in Extensional Flow. <i>ACS Macro Letters</i> , 2020, 9, 1452-1457.	2.3	36
48	Observing the chain stretch transition in a highly entangled polyisoprene melt using transient extensional rheometry. <i>Journal of Rheology</i> , 2009, 53, 1327-1346.	1.3	35
49	Stress and neutron scattering measurements on linear polymer melts undergoing steady elongational flow. <i>Rheologica Acta</i> , 2012, 51, 385-394.	1.1	34
50	Creep Measurements Confirm Steady Flow after Stress Maximum in Extension of Branched Polymer Melts. <i>Physical Review Letters</i> , 2013, 110, 168301.	2.9	34
51	Brittle fracture in associative polymers: the case of ionomer melts. <i>Soft Matter</i> , 2016, 12, 7606-7612.	1.2	34
52	Experimental evaluation of the pure configurational stress assumption in the flow dynamics of entangled polymer melts. <i>Journal of Rheology</i> , 2010, 54, 1325-1336.	1.3	33
53	Fabrication of Nanostructures by Roll"Roll Extrusion Coating. <i>Advanced Engineering Materials</i> , 2016, 18, 484-489.	1.6	33
54	Direct measurement of gas solubilities in polymers with a high-pressure microbalance. <i>Journal of Applied Polymer Science</i> , 2004, 91, 1476-1488.	1.3	32

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55	Linear shear and nonlinear extensional rheology of unentangled supramolecular side-chain polymers. <i>Journal of Rheology</i> , 2018, 62, 1155-1174.	1.3	32
56	Large amplitude oscillatory extension of soft polymeric networks. <i>Rheologica Acta</i> , 2010, 49, 807-814.	1.1	31
57	Simulation of Elastic Rupture in Extension of Entangled Monodisperse Polymer Melts. <i>Physical Review Letters</i> , 2009, 102, 138301.	2.9	30
58	The Goddard expansion and the kinetic theory for solutions of rodlike macromolecules. <i>Journal of Chemical Physics</i> , 1974, 61, 4312-4316.	1.2	29
59	Stress Relaxation of Solutions of Flexible Macromolecules. <i>Journal of Chemical Physics</i> , 1972, 56, 2498-2501.	1.2	28
60	Influence of Extensional Stress Overshoot on Crystallization of LDPE. <i>Macromolecules</i> , 2017, 50, 1134-1140.	2.2	28
61	Mean Span Dimensions of Ideal Polymer Chains Containing Branches and Rings. <i>Macromolecules</i> , 2011, 44, 403-412.	2.2	27
62	The role of surface tension on the elastic decohesion of polymeric filaments. <i>Journal of Rheology</i> , 2001, 45, 527-537.	1.3	26
63	Rheological Link Between Polymer Melts with a High Molecular Weight Tail and Enhanced Formation of Shish-Kebabs. <i>ACS Macro Letters</i> , 2017, 6, 1268-1273.	2.3	26
64	Integration of conducting polymer network in non-conductive polymer substrates. <i>Synthetic Metals</i> , 2006, 156, 1203-1207.	2.1	24
65	Equilibrium partitioning of macromolecules in confining geometries: Improved universality with a new molecular size parameter. <i>Journal of Chemical Physics</i> , 2008, 128, 124904.	1.2	24
66	Planar elongation of soft polymeric networks. <i>Rheologica Acta</i> , 2010, 49, 1-13.	1.1	24
67	3D modeling of dual wind-up extensional rheometers. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2010, 165, 14-23.	1.0	24
68	Highly Anisotropic Glassy Polystyrenes Are Flexible. <i>ACS Macro Letters</i> , 2018, 7, 1126-1130.	2.3	24
69	Simulation of free surfaces in 3-D with the arbitrary Lagrange-Euler method. <i>International Journal for Numerical Methods in Engineering</i> , 1995, 38, 717-734.	1.5	23
70	Inflation and instability of a polymeric membrane. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1999, 88, 185-204.	1.0	23
71	Numerical simulation of wire-coating: The influence of temperature boundary conditions. <i>Polymer Engineering and Science</i> , 1999, 39, 2007-2018.	1.5	21
72	Oxygen Diffusion in Bilayer Polymer Films. <i>Journal of Physical Chemistry B</i> , 2003, 107, 13885-13891.	1.2	21

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73	Determination of the concentration profile and homogeneity of antioxidants and degradation products in a cross-linked polyethylene type A (PEXa) pipe. <i>Polymer Testing</i> , 2009, 28, 378-385.	2.3	21
74	An all-polymer micropump based on the conductive polymer poly (3,4-ethylenedioxythiophene) and a polyurethane channel system. <i>Journal of Micromechanics and Microengineering</i> , 2007, 17, 860-866.	1.5	20
75	Stress relaxation and reversed flow of low-density polyethylene melts following uniaxial extension. <i>Journal of Rheology</i> , 2012, 56, 1535-1554.	1.3	20
76	How to tune rubber elasticity. , 2004, , .		19
77	Modelling of the release of organic compounds from polyethylene pipes to water. <i>Journal of Water Supply: Research and Technology - AQUA</i> , 2007, 56, 435-443.	0.6	19
78	Micropatterning of a stretchable conductive polymer using inkjet printing and agarose stamping. <i>Synthetic Metals</i> , 2007, 157, 961-967.	2.1	19
79	Stress relaxation of bi-disperse polystyrene melts. <i>Rheologica Acta</i> , 2016, 55, 303-314.	1.1	19
80	Dilatancy in dense suspensions of model hard-sphere-like colloids under shear and extensional flow. <i>Journal of Rheology</i> , 2020, 64, 1179-1196.	1.3	19
81	Simulation of transport phenomena in ultrafiltration. <i>Chemical Engineering Science</i> , 1993, 48, 2983-2999.	1.9	18
82	Variational principle for the KBKZ rheological equation of state with potential function. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1981, 9, 321-328.	1.0	17
83	Do Polymers Really Climb Rods?. <i>Journal of Rheology</i> , 1985, 29, 361-364.	1.3	16
84	Gravity waves and Rayleigh Taylor instability on a Jeffrey-fluid. <i>Rheologica Acta</i> , 1991, 30, 301-306.	1.1	16
85	Polymeric liquids in extension: fluid mechanics or rheometry?. <i>Rheologica Acta</i> , 2010, 49, 543-554.	1.1	16
86	Extension induced phase separation and crystallization in semidilute solutions of ultra high molecular weight polyethylene. <i>Polymer</i> , 2018, 136, 215-223.	1.8	16
87	Spectral element simulation of ultrafiltration. <i>Chemical Engineering Science</i> , 1998, 53, 3099-3115.	1.9	15
88	Toward a Design for Flowable and Extensible Ionomers: An Example of Diamine-Neutralized Entangled Poly(styrene-co-4-vinylbenzoic acid) Ionomer Melts. <i>Macromolecules</i> , 2021, 54, 2306-2315.	2.2	15
89	Constitutive equations for the Doi-Edwards model without independent alignment. <i>Rheologica Acta</i> , 2010, 49, 555-562.	1.1	13
90	3D Simulation of Nano-Imprint Lithography. <i>Nanoscale Research Letters</i> , 2010, 5, 274-278.	3.1	13

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91	On co-rotational and other rate type constitutive equations. Journal of Non-Newtonian Fluid Mechanics, 1978, 4, 261-268.	1.0	12
92	Nematic effects and strain coupling in entangled polymer melts under strong flow. Physical Review E, 2016, 94, 020502.	0.8	12
93	On the universality in the extensional rheology of monodisperse polymer melts and oligomer dilutions thereof. Rheologica Acta, 2019, 58, 333-340.	1.1	12
94	Viscous flow with large fluid-fluid interface displacement. , 1998, 28, 859-881.		11
95	Modeling of pressure effects in HVDC cables. IEEE Transactions on Dielectrics and Electrical Insulation, 1999, 6, 845-851.	1.8	11
96	Oscillatory squeeze flow for the study of linear viscoelastic behavior. Journal of Rheology, 2016, 60, 407-418.	1.3	11
97	Electro-thermal model of thermal breakdown in multilayered dielectric elastomers. AICHE Journal, 2019, 65, 859-864.	1.8	11
98	Structural Studies of Three-Arm Star Block Copolymers Exposed to Extreme Stretch Suggests a Persistent Polymer Tube. Physical Review Letters, 2018, 120, 207801.	2.9	11
99	Flow induced crystallization prevents melt fracture of HDPE in uniaxial extensional flow. Journal of Rheology, 2018, 62, 1051-1060.	1.3	11
100	Proof of the identity between the depletion layer thickness and half the average span for an arbitrary polymer chain. Journal of Chemical Physics, 2008, 129, 074904.	1.2	10
101	Constitutive equation for polymer networks with phonon fluctuations. Physical Review E, 2008, 77, 011802.	0.8	9
102	Reversed planar elongation of soft polymeric networks. Rheologica Acta, 2011, 50, 729-740.	1.1	9
103	A new approach to heart valve tissue engineering: mimicking the heart ventricle with a ventricular assist device in a novel bioreactor. Journal of Tissue Engineering and Regenerative Medicine, 2011, 5, 292-300.	1.3	8
104	Reply to: "On the "viscosity overshoot" during the uniaxial extension of a low density polyethylene". Journal of Non-Newtonian Fluid Mechanics, 2012, 171-172, 106.	1.0	8
105	The dynamics of cylindrical samples in dual wind-up extensional rheometers. Journal of Rheology, 2011, 55, 571-580.	1.3	7
106	Stress-controlled oscillatory flow initiated at time zero: A linear viscoelastic analysis. Journal of Rheology, 2020, 64, 545-550.	1.3	7
107	Mechanism of spontaneous hole formation in thin polymeric films. Physical Review B, 2012, 85, .	1.1	6
108	<sc>Electro-thermal</sc> and "mechanical model of thermal breakdown in multilayered dielectric elastomers. AICHE Journal, 2020, 66, e16275.	1.8	6

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109	Extensional rheometry of model liquids: Simulations of filament stretching. <i>Physics of Fluids</i> , 2021, 33, .	1.6	6
110	Small-Angle Neutron Scattering Study of the Structural Relaxation of Elongationally Oriented, Moderately Stretched Three-Arm Star Polymers. <i>Physical Review Letters</i> , 2021, 127, 177801.	2.9	5
111	A new moving finite element method based on quadratic approximation functions. <i>International Journal for Numerical Methods in Engineering</i> , 1989, 28, 415-430.	1.5	4
112	Some experimental results for the end-linked polydimethylsiloxane network system. <i>E-Polymers</i> , 2004, 4, .	1.3	4
113	Processor operated correlator with applications to laser Doppler signals. <i>Review of Scientific Instruments</i> , 1984, 55, 737-742.	0.6	3
114	Molecular model for solubility of gases in flexible polymers. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2003, 41, 701-706.	2.4	2
115	Dynamic Dilution Effects in Polymeric Networks. <i>E-Polymers</i> , 2006, 6, .	1.3	2
116	The chromatographic separation of particles using optical electric fields. <i>Lab on A Chip</i> , 2013, 13, 928.	3.1	2
117	Stretch and orientational mode decoupling in relaxation of highly stretched polymer melts. <i>Physical Review Research</i> , 2020, 2, .	1.3	2
118	Kinetic theory and rheology of dilute polymer solutions. <i>Rheologica Acta</i> , 1974, 13, 645-647.	1.1	1
119	The physics of deformation and flow. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1983, 13, 103-105.	1.0	1
120	Meßverfahren zur Bestimmung der Grenzflächengeschwindigkeit aufsteigender Luftblasen. <i>Chemie-Ingenieur-Technik</i> , 1978, 50, 807-807.	0.4	0
121	Numerical Analysis of Forming Processes. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1986, 21, 385-386.	1.0	0
122	Nonlinear Viscoelastic Behavior. , 1989, , 237-269.		0
123	Constitutive Equation for Polymer Networks with Phonon Fluctuations. <i>AIP Conference Proceedings</i> , 2008, , .	0.3	0
124	Elongational Dynamics of Narrow Molar Mass Distribution Linear and Branched Polystyrene Melts. <i>AIP Conference Proceedings</i> , 2008, , .	0.3	0
125	Kinetic theory and rheology of dilute polymer solutions. , 1975, , 1153-1155.		0
126	THE MOTION OF VISCOELASTIC FLUIDS AROUND SPHERES AND BUBBLESâ€¦The manuscript was prepared while the author held a position as visiting professor at the Mathematics Research Center and the Department of Chemical Engineering, The University of Wisconsin.. , 1985, , 1-11.		0

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127	10.1122/1.5143653.1., 2020,,.		0
128	10.1122/1.5143653.7., 2020,,.		0