Martien A Hulsen

List of Publications by Year
in descending order

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95 papers	2,562 citations	186265 28 h-index	214800 47 g-index
99 all docs	99 docs citations	99 times ranked	1690 citing authors

#	Article	IF	Citations
1	Flow of viscoelastic fluids past a cylinder at high Weissenberg number: Stabilized simulations using matrix logarithms. Journal of Non-Newtonian Fluid Mechanics, 2005, 127, 27-39.	2.4	298
2	Direct simulations of particle suspensions in a viscoelastic fluid in sliding bi-periodic frames. Journal of Non-Newtonian Fluid Mechanics, 2004, 121, 15-33.	2.4	114
3	Viscoelasticity-induced migration of a rigid sphere in confined shear flow. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 466-474.	2.4	96
4	Particle motion in square channel flow of a viscoelastic liquid: Migration vs. secondary flows. Journal of Non-Newtonian Fluid Mechanics, 2013, 195, 1-8.	2.4	96
5	Chaotic mixing induced by a magnetic chain in a rotating magnetic field. Physical Review E, 2007, 76, 066303.	2.1	87
6	A sufficient condition for a positive definite configuration tensor in differential models. Journal of Non-Newtonian Fluid Mechanics, 1990, 38, 93-100.	2.4	80
7	Rotation of a sphere in a viscoelastic liquid subjected to shear flow. Part I: Simulation results. Journal of Rheology, 2008, 52, 1331-1346.	2.6	77
8	Direct simulation of particle suspensions in sliding bi-periodic frames. Journal of Computational Physics, 2004, 194, 742-772.	3.8	71
9	Thermodynamics of viscoelastic fluids: The temperature equation. Journal of Rheology, 1998, 42, 999-1019.	2.6	66
10	Stability analysis of injection molding flows. Journal of Rheology, 2004, 48, 765-785.	2.6	62
11	Modeling of Flow-Induced Crystallization of Particle-Filled Polymers. Macromolecules, 2006, 39, 8389-8398.	4.8	61
12	Effect of viscoelasticity on the rotation of a sphere in shear flow. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 363-372.	2.4	57
13	Simulations of viscoelasticity-induced focusing of particles in pressure-driven micro-slit flow. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 1396-1405.	2.4	54
14	An extended finite element method for the simulation of particulate viscoelastic flows. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 607-624.	2.4	53
15	A direct simulation method for flows with suspended paramagnetic particles. Journal of Computational Physics, 2008, 227, 4441-4458.	3.8	50
16	Rotation of a sphere in a viscoelastic liquid subjected to shear flow. Part II. Experimental results. Journal of Rheology, 2009, 53, 459-480.	2.6	50
17	Disaggregation of microparticle clusters by induced magnetic dipoleâ€“dipole repulsion near a surface. Lab on A Chip, 2013, 13, 1394.	6.0	50
18	Numerical study on the effect of viscoelasticity on drop deformation in simple shear and 5:1:5 planar contraction/expansion microchannel. Journal of Non-Newtonian Fluid Mechanics, 2008, 155, 80-93.	2.4	41

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19	Numerical simulation of contraction flows using a multi-mode Giesekus model. Journal of Non-Newtonian Fluid Mechanics, 1991, 38, 183-221.	2.4	40
20	Numerical simulations of deformable particle lateral migration in tube flow of Newtonian and viscoelastic media. Journal of Non-Newtonian Fluid Mechanics, 2016, 234, 105-113.	2.4	36
21	Modeling flow-induced crystallization in isotactic polypropylene at high shear rates. Journal of Rheology, 2015, 59, 613-642.	2.6	35
22	Tools to Simulate Distributive Mixing in Twinâ€Screw Extruders. Macromolecular Theory and Simulations, 2012, 21, 217-240.	1.4	32
23	Mathematical and physical requirements for successful computations with viscoelastic fluid models. Journal of Non-Newtonian Fluid Mechanics, 1988, 29, 93-117.	2.4	31
24	Numerical simulations of particle migration in a viscoelastic fluid subjected to Poiseuille flow. Computers and Fluids, 2011, 42, 82-91.	2.5	31
25	Numerical simulation of the fountain flow instability in injection molding. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 631-640.	2.4	30
26	Simulation of the flow of a viscoelastic fluid around a stationary cylinder using an extended finite element method. Computers and Fluids, 2012, 57, 183-194.	2.5	30
27	Chaotic advection using passive and externally actuated particles in a serpentine channel flow. Chemical Engineering Science, 2007, 62, 6677-6686.	3.8	29
28	Numerical simulation of planar elongational flow of concentrated rigid particle suspensions in a viscoelastic fluid. Journal of Non-Newtonian Fluid Mechanics, 2008, 150, 65-79.	2.4	29
29	Effects of confinement on the motion of a single sphere in a sheared viscoelastic liquid. Journal of Non-Newtonian Fluid Mechanics, 2009, 157, 101-107.	2.4	28
30	Effect of viscoelasticity on drop dynamics in 5:1:5 contraction/expansion microchannel flow. Chemical Engineering Science, 2009, 64, 4515-4524.	3.8	28
31	Structure Formation of Nonâ€Colloidal Particles in Viscoelastic Fluids Subjected to Simple Shear Flow. Macromolecular Materials and Engineering, 2011, 296, 321-330.	3.6	28
32	Alignment of particles in a confined shear flow of a viscoelastic fluid. Journal of Non-Newtonian Fluid Mechanics, 2012, 175-176, 89-103.	2.4	28
33	Dynamics of magnetic chains in a shear flow under the influence of a uniform magnetic field. Physics of Fluids, 2012, 24, .	4.0	28
34	Simulations of an elastic particle in Newtonian and viscoelastic fluids subjected to confined shear flow. Journal of Non-Newtonian Fluid Mechanics, 2014, 210, 47-55.	2.4	27
35	Numerical simulations on the dynamics of a spheroid in a viscoelastic liquid in a wide-slit microchannel. Journal of Non-Newtonian Fluid Mechanics, 2019, 263, 33-41.	2.4	27
36	Numerical simulations of the competition between the effects of inertia and viscoelasticity on particle migration in Poiseuille flow. Computers and Fluids, 2015, 107, 214-223.	2.5	26

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37	Some properties and analytical expressions for plane flow of leonov and giesekus models. Journal of Non-Newtonian Fluid Mechanics, 1988, 30, 85-92.	2.4	23
38	Direct numerical simulations of hard particle suspensions in planar elongational flow. Journal of Non-Newtonian Fluid Mechanics, 2006, 136, 167-178.	2.4	22
39	Temperature-dependent sintering of two viscous particles. Additive Manufacturing, 2018, 24, 528-542.	3.0	21
40	Chaotic advection in a cavity flow with rigid particles. Physics of Fluids, 2005, 17, 043602.	4.0	20
41	A numerical method for simulating concentrated rigid particle suspensions in an elongational flow using a fixed grid. Journal of Computational Physics, 2007, 226, 688-711.	3.8	20
42	Simulation of extrudate swell using an extended finite element method. Korea Australia Rheology Journal, 2011, 23, 147-154.	1.7	19
43	Strong vortical flows generated by the collective motion of magnetic particle chains rotating in a fluid cell. Lab on A Chip, 2015, 15, 351-360.	6.0	19
44	Sintering of Two Viscoelastic Particles: A Computational Approach. Applied Sciences (Switzerland), 2017, 7, 516.	2.5	19
45	Time dependent finite element analysis of the linear stability of viscoelastic flows with interfaces. Journal of Non-Newtonian Fluid Mechanics, 2003, 116, 33-54.	2.4	18
46	Computational analysis of the extrudate shape of three-dimensional viscoelastic, non-isothermal extrusion flows. Journal of Non-Newtonian Fluid Mechanics, 2020, 282, 104310.	2.4	18
47	Direct simulation of the dynamics of two spherical particles actuated magnetically in a viscous fluid. Computers and Fluids, 2013, 86, 569-581.	2.5	17
48	Numerical stability of the method of Brownian configuration fields. Journal of Non-Newtonian Fluid Mechanics, 2009, 157, 188-196.	2.4	15
49	Anisotropy parameter restrictions for the eXtended Pom-Pom model. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 1047-1054.	2.4	15
50	Shear-Induced Migration of Rigid Particles near an Interface between a Newtonian and a Viscoelastic Fluid. Langmuir, 2018, 34, 1795-1806.	3.5	15
51	Fluctuating viscoelasticity. Journal of Non-Newtonian Fluid Mechanics, 2018, 256, 42-56.	2.4	15
52	Viscoelastic fluid flow simulation using the contravariant deformation formulation. Journal of Non-Newtonian Fluid Mechanics, 2019, 270, 23-35.	2.4	14
53	Extended finite element method for viscous flow inside complex threeâ€dimensional geometries with moving internal boundaries. International Journal for Numerical Methods in Fluids, 2012, 70, 775-792.	1.6	13
54	Modeling of complex interfaces for pendant drop experiments. Rheologica Acta, 2016, 55, 801-822.	2.4	13

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55	Numerical simulations of the dynamics of a slippery particle in Newtonian and viscoelastic fluids subjected to shear and Poiseuille flows. Journal of Non-Newtonian Fluid Mechanics, 2016, 228, 46-54.	2.4	13
56	Simulation of bubble growth during the foaming process and mechanics of the solid foam. Rheologica Acta, 2019, 58, 131-144.	2.4	13
57	Benchmark solutions for flows with rheologically complex interfaces. Journal of Non-Newtonian Fluid Mechanics, 2020, 286, 104436.	2.4	12
58	Accurate quantification of magnetic particle properties by intra-pair magnetophoresis for nanobiotechnology. Applied Physics Letters, 2013, 103, 043704.	3.3	11
59	On the streamfunctionâ€“vorticity formulation in sliding bi-period frames: Application to bulk behavior for polymer blends. Journal of Computational Physics, 2006, 212, 268-287.	3.8	10
60	Modeling and simulation of viscoelastic film retraction. Journal of Non-Newtonian Fluid Mechanics, 2017, 249, 26-35.	2.4	10
61	Direct numerical simulation of a bubble suspension in small amplitude oscillatory shear flow. Rheologica Acta, 2017, 56, 555-565.	2.4	9
62	Numerical simulations of cell sorting through inertial microfluidics. Physics of Fluids, 2022, 34, .	4.0	9
63	Numerical simulation of the divergent flow regime in a circular contraction flow of a viscoelastic fluid. Theoretical and Computational Fluid Dynamics, 1993, 5, 33-48.	2.2	8
64	A lower bound for the invariants of the configuration tensor for some well-known differential models. Journal of Non-Newtonian Fluid Mechanics, 1995, 60, 349-355.	2.4	8
65	On the validity of 2D analysis of non-isothermal sintering in SLS. Chemical Engineering Science, 2020, 213, 115365.	3.8	8
66	Separation of particles in non-Newtonian fluids flowing in T-shaped microchannels. Advanced Modeling and Simulation in Engineering Sciences, 2015, 2, .	1.7	7
67	Die shape optimization for extrudate swell using feedback control. Journal of Non-Newtonian Fluid Mechanics, 2021, 293, 104552.	2.4	7
68	Numerical Study of the Effect of Thixotropy on Extrudate Swell. Polymers, 2021, 13, 4383.	4.5	7
69	The effect of wall slip on the dynamics of a spherical particle in Newtonian and viscoelastic fluids subjected to shear and Poiseuille flows. Journal of Non-Newtonian Fluid Mechanics, 2016, 236, 123-131.	2.4	6
70	Numerical simulations of the separation of elastic particles in a T-shaped bifurcation. Journal of Non-Newtonian Fluid Mechanics, 2016, 233, 75-84.	2.4	6
71	The deformation fields method revisited: Stable simulation of instationary viscoelastic fluid flow using integral models. Journal of Non-Newtonian Fluid Mechanics, 2018, 262, 68-78.	2.4	6
72	A Numerical Study of Particle Migration and Sedimentation in Viscoelastic Couette Flow. Fluids, 2019, 4, 25.	1.7	6

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73	Behavior of viscoelastic models with thermal fluctuations. European Physical Journal E, 2020, 43, 24.	1.6	6
74	Numerical analysis of the crystallization kinetics in SLS. Additive Manufacturing, 2020, 33, 101126.	3.0	6
75	Constitutive framework for rheologically complex interfaces with an application to elastoviscoplasticity. Journal of Non-Newtonian Fluid Mechanics, 2022, 301, 104726.	2.4	6
76	Numerical simulations of viscoelastic film stretching and retraction. Journal of Non-Newtonian Fluid Mechanics, 2019, 266, 118-126.	2.4	5
77	Finite Element Modeling of a Viscous Fluid Flowing through an External Gear Pump. Macromolecular Theory and Simulations, 2021, 30, 2000060.	1.4	5
78	A 2D hysteretic DEM model for arbitrarily shaped polygonal particles. Powder Technology, 2021, 378, 327-338.	4.2	5
79	Transient modeling of fiber spinning with filament pull-out. Journal of Non-Newtonian Fluid Mechanics, 2014, 208-209, 72-87.	2.4	4
80	Numerical simulations of linear viscoelasticity of monodisperse emulsions of Newtonian drops in a Newtonian fluid from dilute to concentrated regime. Rheologica Acta, 2014, 53, 401-416.	2.4	4
81	Magnetic interaction of Janus magnetic particles suspended in a viscous fluid. Physical Review E, 2016, 93, 022607.	2.1	4
82	A numerical model for the development of the morphology of disperse blends in complex flow. Rheologica Acta, 2019, 58, 79-95.	2.4	4
83	Numerical simulations of the polydisperse droplet size distribution of disperse blends in complex flow. Rheologica Acta, 2021, 60, 187-207.	2.4	4
84	An extended finite element method for a diffuse-interface model. Journal of Computational and Applied Mathematics, 2014, 272, 25-40.	2.0	3
85	Fluid Flow and Distributive Mixing Analysis in the Cavity Transfer Mixer. Macromolecular Theory and Simulations, 2018, 27, 1700075.	1.4	3
86	Brownian configuration fields: A new method for simulating viscoelastic fluid flow. Macromolecular Symposia, 1997, 121, 205-217.	0.7	2
87	Rheology of a Dilute Suspension of Spheres in a Viscoelastic Fluid Under Large Amplitude Oscillations. Journal of Computational and Theoretical Nanoscience, 2010, 7, 780-786.	0.4	2
88	Bubble impingement in the presence of a solid particle: A computational study. Computers and Fluids, 2018, 170, 349-356.	2.5	2
89	Fully implicit interface tracking for a viscous drop under simple shear. Computers and Fluids, 2019, 184, 91-98.	2.5	2
90	Numerical stability of four positive (semi-)definite reformulations for viscoelastic fluid models in benchmark flows. Journal of Non-Newtonian Fluid Mechanics, 2021, 297, 104666.	2.4	1

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91	Threeâ€Dimensional Finite Element Modeling Of A Viscous Fluid Flowing Through An External Gear Pump. Macromolecular Theory and Simulations, 2022, 31, 2100046.	1.4	1
92	Numerical Study of Residual Stresses Due to External Cooling in Extruded Polymer Profiles. Macromolecular Theory and Simulations, 0, , 2100074.	1.4	1
93	The effect of non-Newtonian behavior on contact formation in an external gear pump. Journal of Non-Newtonian Fluid Mechanics, 2022, , 104818.	2.4	1
94	Effect of Viscoelasticity on Drop Deformation in 5:1:5 Contractionâ•Expansion Micro-Channel Flow. AIP Conference Proceedings, 2008, , .	0.4	0
95	Numerical Modeling of the Blend Morphology Evolution in Twinâ€Screw Extruders. Macromolecular Theory and Simulations, 2022, 31, .	1.4	0