

Manuel A Alves

List of Publications by Year in descending order

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135
papers

5,387
citations

76031

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docs citations

137
times ranked

2848
citing authors

#	ARTICLE	IF	CITATIONS
1	A study on mixed electro-osmotic/pressure-driven microchannel flows of a generalised Phan-Thien-Tanner fluid. <i>Journal of Engineering Mathematics</i> , 2021, 127, 1.	0.6	8
2	Viscoelastic fluid flow simulations in the e-VROCTM geometry. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2020, 278, 104222.	1.0	15
3	Numerical study on micro-scale extensional viscoelastic flows. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2020, 276, 104219.	1.0	4
4	Viscous flow through microfabricated axisymmetric contraction/expansion geometries. <i>Experiments in Fluids</i> , 2020, 61, 1.	1.1	17
5	Electro-elastic flow instabilities of viscoelastic fluids in contraction/expansion micro-geometries. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2020, 283, 104293.	1.0	16
6	Flow dynamics of vitreous humour during saccadic eye movements. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2020, 110, 103860.	1.5	9
7	Newtonian and viscoelastic fluid flows through an abrupt 1:4 expansion with slip boundary conditions. <i>Physics of Fluids</i> , 2020, 32, .	1.6	25
8	Continuous Production of Squalane Using 3D Printed Catalytic Supports. <i>Johnson Matthey Technology Review</i> , 2019, 63, 191-204.	0.5	6
9	Instabilities in micro-contraction flows of semi-dilute CTAB and CPyCl solutions: rheology and flow instabilities. <i>Experiments in Fluids</i> , 2019, 60, 1.	1.1	12
10	A coupled finite-volume solver for numerical simulation of electrically-driven flows. <i>Computers and Fluids</i> , 2019, 193, 104279.	1.3	20
11	Developing a framework for assessing teaching effectiveness in higher education. <i>Education for Chemical Engineers</i> , 2019, 29, 21-28.	2.8	8
12	Secondary flows of viscoelastic fluids in serpentine microchannels. <i>Microfluidics and Nanofluidics</i> , 2019, 23, 1.	1.0	29
13	Estimating Heat Transfer Coefficients and Friction Factors in Non-Newtonian Flows between Parallel Plates. <i>Heat Transfer Engineering</i> , 2019, 40, 549-558.	1.2	7
14	Electro-elastic instabilities in cross-shaped microchannels. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2018, 259, 61-77.	1.0	26
15	Purely-elastic flow instabilities and elastic turbulence in microfluidic cross-slot devices. <i>Soft Matter</i> , 2018, 14, 1344-1354.	1.2	43
16	Rheological behavior of human blood in uniaxial extensional flow. <i>Journal of Rheology</i> , 2018, 62, 447-456.	1.3	22
17	Numerical simulation of the planar extrudate swell of pseudoplastic and viscoelastic fluids with the streamfunction and the VOF methods. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2018, 252, 1-18.	1.0	39
18	Optimization of flow-focusing devices for homogeneous extensional flow. <i>Biomicrofluidics</i> , 2018, 12, 054103.	1.2	7

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19	Characterization of superimposed instabilities in the planar extensional flow of viscoelastic fluids. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	2
20	Stabilization of an open-source finite-volume solver for viscoelastic fluid flows. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2017, 239, 85-104.	1.0	185
21	Rheological behaviour of vitreous humour. <i>Rheologica Acta</i> , 2017, 56, 377-386.	1.1	70
22	Measurement of electroosmotic and electrophoretic velocities using pulsed and sinusoidal electric fields. <i>Electrophoresis</i> , 2017, 38, 1022-1037.	1.3	17
23	Measurement of relaxation times in extensional flow of weakly viscoelastic polymer solutions. <i>Rheologica Acta</i> , 2017, 56, 11-20.	1.1	57
24	Purely elastic instabilities in a microfluidic flow focusing device. <i>Physical Review Fluids</i> , 2017, 2, .	1.0	8
25	Electro-osmotic and pressure-driven flow of viscoelastic fluids in microchannels: Analytical and semi-analytical solutions. <i>Physics of Fluids</i> , 2016, 28, .	1.6	49
26	Microfluidic converging/diverging channels optimised for homogeneous extensional deformation. <i>Biomicrofluidics</i> , 2016, 10, 043508.	1.2	32
27	Lid-driven cavity flow of viscoelastic liquids. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2016, 234, 129-138.	1.0	42
28	Vortex behavior of the Oldroyd-B fluid in the 4-1 planar contraction simulated with the streamfunction-log-conformation formulation. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2016, 237, 1-15.	1.0	32
29	The stabilizing effect of shear thinning on the onset of purely elastic instabilities in serpentine microflows. <i>Soft Matter</i> , 2016, 12, 6167-6175.	1.2	46
30	Tricritical spiral vortex instability in cross-slot flow. <i>Physical Review E</i> , 2016, 93, 031101.	0.8	42
31	Numerical study of the square-root conformation tensor formulation for confined and free-surface viscoelastic fluid flows. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , 2016, 3, .	0.7	9
32	Influence of channel aspect ratio on the onset of purely-elastic flow instabilities in three-dimensional planar cross-slots. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2016, 227, 65-79.	1.0	26
33	A review of hemorheology: Measuring techniques and recent advances. <i>Korea Australia Rheology Journal</i> , 2016, 28, 1-22.	0.7	43
34	Simplified method for estimating heat transfer coefficients: constant wall temperature case. <i>Heat and Mass Transfer</i> , 2015, 51, 1041-1047.	1.2	7
35	A numerical study of the Kernel-conformation transformation for transient viscoelastic fluid flows. <i>Journal of Computational Physics</i> , 2015, 302, 653-673.	1.9	18
36	Purely elastic flow instabilities in microscale cross-slot devices. <i>Soft Matter</i> , 2015, 11, 8856-8862.	1.2	51

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37	Extensional rheometry of magnetic dispersions. <i>Journal of Rheology</i> , 2015, 59, 193-209.	1.3	19
38	Heat Transfer in Fully Developed Laminar Flow of Power Law Fluids. <i>Journal of Heat Transfer</i> , 2014, 136, .	1.2	11
39	Spatiotemporal flow instabilities of wormlike micellar solutions in rectangular microchannels. <i>Applied Physics Letters</i> , 2014, 104, 124101.	1.5	20
40	Symmetry-breaking Bifurcations in T-channel Flows: Effects of Fluid Viscoelasticity. <i>Procedia Engineering</i> , 2014, 79, 28-34.	1.2	6
41	A new viscoelastic benchmark flow: Stationary bifurcation in a cross-slot. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2014, 214, 57-68.	1.0	32
42	Pressure-driven electrokinetic slip flows of viscoelastic fluids in hydrophobic microchannels. <i>Microfluidics and Nanofluidics</i> , 2014, 16, 1131-1142.	1.0	34
43	Numerical solution of the FENE-CR model in complex flows. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2014, 204, 50-61.	1.0	15
44	Slip flows of Newtonian and viscoelastic fluids in a 4:1 contraction. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2014, 214, 28-37.	1.0	14
45	Optimized cross-slot microdevices for homogeneous extension. <i>RSC Advances</i> , 2014, 4, 7799.	1.7	26
46	Serpentine channels: micro-rheometers for fluid relaxation times. <i>Lab on A Chip</i> , 2014, 14, 351-358.	3.1	67
47	Annular flow of viscoelastic fluids: Analytical and numerical solutions. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2014, 212, 80-91.	1.0	18
48	Viscoelastic fluid flow past a confined cylinder: Three-dimensional effects and stability. <i>Chemical Engineering Science</i> , 2014, 111, 364-380.	1.9	34
49	Viscoelastic instabilities in micro-scale flows. <i>Experimental Thermal and Fluid Science</i> , 2014, 59, 128-139.	1.5	60
50	Analytical and numerical study of the electro-osmotic annular flow of viscoelastic fluids. <i>Journal of Colloid and Interface Science</i> , 2014, 420, 152-157.	5.0	43
51	Steady flow of power-law fluids in a 1:3 planar sudden expansion. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2013, 198, 48-58.	1.0	30
52	Viscoelastic secondary flows in serpentine channels. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2013, 201, 10-16.	1.0	44
53	Three-dimensional transient complex free surface flows: Numerical simulation of XPP fluid. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2013, 195, 88-98.	1.0	17
54	Microdevices for extensional rheometry of low viscosity elastic liquids: a review. <i>Microfluidics and Nanofluidics</i> , 2013, 14, 1-19.	1.0	113

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55	Internal mass transfer enhancement in flow-through catalytic membranes. <i>Chemical Engineering Science</i> , 2013, 104, 1090-1106.	1.9	4
56	Analytical solution of two-fluid electro-osmotic flows of viscoelastic fluids. <i>Journal of Colloid and Interface Science</i> , 2013, 395, 277-286.	5.0	48
57	Regime mapping and the role of the intermediate region in wall-coated microreactors. <i>Chemical Engineering Science</i> , 2013, 94, 166-184.	1.9	7
58	Flow cells as quasi-ideal systems for biofouling simulation of industrial piping systems. <i>Biofouling</i> , 2013, 29, 953-966.	0.8	28
59	On Symmetric Boundary Conditions in the Context of Viscoelastic Fluid Flows. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2013, 13, 287-288.	0.2	0
60	Extensional flow of hyaluronic acid solutions in an optimized microfluidic cross-slot device. <i>Biomicrofluidics</i> , 2013, 7, 044108.	1.2	68
61	Shear viscosity and nonlinear behavior of whole blood under large amplitude oscillatory shear. <i>Biorheology</i> , 2013, 50, 269-282.	1.2	57
62	Experimental characterisation of a novel viscoelastic rectifier design. <i>Biomicrofluidics</i> , 2012, 6, 44112.	1.2	17
63	Optimized Cross-Slot Flow Geometry for Microfluidic Extensional Rheometry. <i>Physical Review Letters</i> , 2012, 109, 128301.	2.9	116
64	A Simplified Method for Calculating Heat Transfer Coefficients and Friction Factors in Laminar Pipe Flow of Non-Newtonian Fluids. <i>Journal of Heat Transfer</i> , 2012, 134, .	1.2	25
65	Development Length in Planar Channel Flows of Newtonian Fluids Under the Influence of Wall Slip. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2012, 134, .	0.8	9
66	Geometric scaling of a purely elastic flow instability in serpentine channels. <i>Journal of Fluid Mechanics</i> , 2012, 712, 203-218.	1.4	75
67	Three-dimensional effects in laminar flow past a confined cylinder. <i>Chemical Engineering Science</i> , 2012, 84, 155-169.	1.9	27
68	Nanogel formation of polymer solutions flowing through porous media. <i>Soft Matter</i> , 2012, 8, 6445.	1.2	20
69	Extensional rheology and elastic instabilities of a wormlike micellar solution in a microfluidic cross-slot device. <i>Soft Matter</i> , 2012, 8, 536-555.	1.2	95
70	High performance microfluidic rectifiers for viscoelastic fluid flow. <i>RSC Advances</i> , 2012, 2, 920-929.	1.7	16
71	Divergent streamlines and free vortices in Newtonian fluid flows in microfluidic flow-focusing devices. <i>Journal of Fluid Mechanics</i> , 2012, 711, 171-191.	1.4	21
72	Electro-osmosis of viscoelastic fluids and prediction of electro-elastic flow instabilities in a cross slot using a finite-volume method. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2012, 179-180, 55-68.	1.0	35

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73	Setup and Validation of Flow Cell Systems for Biofouling Simulation in Industrial Settings. Scientific World Journal, The, 2012, 2012, 1-10.	0.8	22
74	Numerical simulation of drop impact and jet buckling problems using the eXtended Pomâ€“Pom model. Journal of Non-Newtonian Fluid Mechanics, 2012, 169-170, 91-103.	1.0	44
75	Application of the log-conformation tensor to three-dimensional time-dependent free surface flows. Journal of Non-Newtonian Fluid Mechanics, 2012, 175-176, 44-54.	1.0	27
76	Forced convection in electro-osmotic/Poiseuille micro-channel flows of viscoelastic fluids: fully developed flow with imposed wall heat flux. Microfluidics and Nanofluidics, 2012, 12, 431-449.	1.0	13
77	Microfluidic systems for the analysis of viscoelastic fluid flow phenomena in porous media. Microfluidics and Nanofluidics, 2012, 12, 485-498.	1.0	75
78	Viscoelastic flows in mixing-separating cells. Journal of Engineering Mathematics, 2011, 71, 3-13.	0.6	12
79	Numerical Solution of the UCM Model Using the LOG-Conformation Technique. , 2011, , .		0
80	Dynamics of high-Deborah-number entry flows: a numerical study. Journal of Fluid Mechanics, 2011, 677, 272-304.	1.4	67
81	Laminar flow in three-dimensional squareâ€“square expansions. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 1033-1048.	1.0	20
82	Flow of low viscosity Boger fluids through a microfluidic hyperbolic contraction. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 1286-1296.	1.0	64
83	The kernel-conformation constitutive laws. Journal of Non-Newtonian Fluid Mechanics, 2011, , .	1.0	10
84	Electro-osmotic flow of viscoelastic fluids in microchannels under asymmetric zeta potentials. Journal of Engineering Mathematics, 2011, 71, 15-30.	0.6	77
85	Effect of the skimming layer on electro-osmoticâ€“Poiseuille flows of viscoelastic fluids. Microfluidics and Nanofluidics, 2011, 10, 107-122.	1.0	51
86	Effect of the contraction ratio upon viscoelastic fluid flow in three-dimensional squareâ€“square contractions. Chemical Engineering Science, 2011, 66, 998-1009.	1.9	32
87	Extensional flow of blood analog solutions in microfluidic devices. Biomicrofluidics, 2011, 5, 14108.	1.2	99
88	Steady viscoelastic fluid flow between parallel plates under electro-osmotic forces: Phan-Thienâ€“Tanner model. Journal of Colloid and Interface Science, 2010, 344, 513-520.	5.0	94
89	Numerical solution of the PTT constitutive equation for unsteady three-dimensional free surface flows. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 247-262.	1.0	28
90	Efficient microfluidic rectifiers for viscoelastic fluid flow. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 652-671.	1.0	65

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91	Purely elastic instabilities in three-dimensional cross-slot geometries. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2010, 165, 743-751.	1.0	35
92	New Formulation for Stress Calculation: Application to Viscoelastic Flow in a T-Junction. <i>Numerical Heat Transfer, Part B: Fundamentals</i> , 2010, 56, 351-371.	0.6	22
93	On extensibility effects in the cross-slot flow bifurcation. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 156, 58-69.	1.0	63
94	The log-conformation tensor approach in the finite-volume method framework. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 157, 55-65.	1.0	90
95	Analytical solution of mixed electro-osmotic/pressure driven flows of viscoelastic fluids in microchannels. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 159, 50-63.	1.0	202
96	Purely elastic flow asymmetries in flow-focusing devices. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 160, 31-39.	1.0	41
97	Velocity overshoots in gradual contraction flows. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 160, 47-54.	1.0	11
98	Three-dimensional flow of Newtonian and Boger fluids in square–square contractions. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 160, 122-139.	1.0	39
99	Investigating the stability of viscoelastic stagnation flows in T-shaped microchannels. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 163, 9-24.	1.0	73
100	The effect of expansion ratio for creeping expansion flows of UCM fluids. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 163, 35-44.	1.0	24
101	Numerical simulation of viscoelastic flows using integral constitutive equations: A finite difference approach. <i>Journal of Computational Physics</i> , 2008, 227, 4207-4243.	1.9	23
102	Simulations of extensional flow in microrheometric devices. <i>Microfluidics and Nanofluidics</i> , 2008, 5, 809-826.	1.0	89
103	Uniform flow of viscoelastic fluids past a confined falling cylinder. <i>Rheologica Acta</i> , 2008, 47, 325-348.	1.1	15
104	Viscoelastic flow in a 3D square/square contraction: Visualizations and simulations. <i>Journal of Rheology</i> , 2008, 52, 1347-1368.	1.3	23
105	A Novel Microfluidic Mixing Element for Viscoelastic Fluids. <i>AIP Conference Proceedings</i> , 2008, , .	0.3	1
106	Numerical Simulation of Heat Transfer Enhancement in Laminar Flow of Viscoelastic Fluids through a Rectangular Channel. <i>AIP Conference Proceedings</i> , 2008, , .	0.3	1
107	Viscoelastic Fluid Flow Through Gradual Contractions: Experiments And Simulations. <i>AIP Conference Proceedings</i> , 2008, , .	0.3	0
108	Design of a Cross-Slot Flow Channel for Extensional Viscosity Measurements. <i>AIP Conference Proceedings</i> , 2008, , .	0.3	15

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109	Extensional Effects in Viscoelastic Fluid Flow through a Micro-Scale Double Cross-Slot. AIP Conference Proceedings, 2008, , .	0.3	2
110	Purely-Elastic Flow Instabilities in a 3D Six Arms Cross-Slot Geometry. AIP Conference Proceedings, 2008, , .	0.3	0
111	Viscoelastic Fluid Flow Through 3D Square-Square Expansions. AIP Conference Proceedings, 2008, , .	0.3	1
112	Purely Elastic Flow Asymmetries. Physical Review Letters, 2007, 99, 164503.	2.9	173
113	Plane sudden expansion flows of viscoelastic liquids. Journal of Non-Newtonian Fluid Mechanics, 2007, 146, 79-91.	1.0	40
114	Divergent flow in contractions. Journal of Non-Newtonian Fluid Mechanics, 2007, 144, 140-148.	1.0	54
115	Effect of contraction ratio upon viscoelastic flow in contractions: The axisymmetric case. Journal of Non-Newtonian Fluid Mechanics, 2007, 147, 92-108.	1.0	54
116	Viscous flow through microfabricated hyperbolic contractions. Experiments in Fluids, 2007, 43, 437-451.	1.1	111
117	Diffusion cloud around and downstream of active sphere immersed in granular bed through which fluid flows. Chemical Engineering Science, 2007, 62, 2813-2820.	1.9	4
118	Mass transfer from cylinders and plane surfaces buried in packed beds in alignment with the flow direction. Chemical Engineering Science, 2006, 61, 1174-1183.	1.9	12
119	Mass Transfer and Concentration Contours around Surfaces Buried in Granular Beds and Exposed to Fluid Flow. Defect and Diffusion Forum, 2006, 258-260, 592-599.	0.4	0
120	Visualizations of Boger fluid flows in a 4:1 square-square contraction. AIChE Journal, 2005, 51, 2908-2922.	1.8	42
121	A simple and inexpensive technique to measure molecular diffusion coefficients. Journal of Phase Equilibria and Diffusion, 2005, 26, 447.	0.5	7
122	A Simple and Inexpensive Technique to Measure Molecular Diffusion Coefficients. Journal of Phase Equilibria and Diffusion, 2005, 26, 447-451.	0.5	3
123	Mass transfer between flowing fluid and sphere buried in packed bed of inerts. AIChE Journal, 2004, 50, 65-74.	1.8	19
124	On the effect of contraction ratio in viscoelastic flow through abrupt contractions. Journal of Non-Newtonian Fluid Mechanics, 2004, 122, 117-130.	1.0	62
125	Adaptive multiresolution approach for two-dimensional PDEs. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 405-425.	3.4	18
126	A convergent and universally bounded interpolation scheme for the treatment of advection. International Journal for Numerical Methods in Fluids, 2003, 41, 47-75.	0.9	288

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127	Solution of hyperbolic PDEs using a stable adaptive multiresolution method. <i>Chemical Engineering Science</i> , 2003, 58, 1777-1792.	1.9	21
128	Benchmark solutions for the flow of Oldroyd-B and PTT fluids in planar contractions. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2003, 110, 45-75.	1.0	207
129	Numerical simulation of viscoelastic contraction flows. , 2003, , 826-829.		3
130	Adaptive multiresolution approach for solution of hyperbolic PDEs. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2002, 191, 3909-3928.	3.4	31
131	The flow of viscoelastic fluids past a cylinder: finite-volume high-resolution methods. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2001, 97, 207-232.	1.0	149
132	Study of steady pipe and channel flows of a single-mode Phan-Thien-Tanner fluid. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2001, 101, 55-76.	1.0	90
133	Numerical simulations of viscoelastic flow around sharp corners. , 2001, , 772-775.		2
134	Effect of a high-resolution differencing scheme on finite-volume predictions of viscoelastic flows. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2000, 93, 287-314.	1.0	79
135	Mass transfer and dispersion around active sphere buried in a packed bed. <i>AICHE Journal</i> , 1999, 45, 2495-2502.	1.8	19