Antony N Beris

List of Publications by Year
in descending order

132 papers	5,499 citations	94433 37 h-index	98798 67 g-index
137 all docs	137 docs citations	137 times ranked	2354 citing authors

#	Article	IF	Citations
1	Tensorial formulations for improved thixotropic viscoelastic modeling of human blood. Journal of Rheology, 2022, 66, 327-347.	2.6	15
2	Flux-based modeling of heat and mass transfer in multicomponent systems. Physics of Fluids, 2022, 34, .	4.0	2
3	A Thermodynamically Consistent, Microscopically-Based, Model of the Rheology of Aggregating Particles Suspensions. Entropy, 2022, 24, 717.	2.2	5
4	Steady sphere translation in weakly viscoelastic UCM/Oldroyd-B fluids with perfect slip on the sphere. European Journal of Mechanics, B/Fluids, 2022, 95, 335-346.	2.5	4
5	A comparative study of blood rheology across species. Soft Matter, 2021, 17, 4766-4774.	2.7	12
6	Hemorheology. , 2021, , 316-351.		4
7	Continuum mechanics modeling of complex fluid systems following Oldroyd's seminal 1950 work. Journal of Non-Newtonian Fluid Mechanics, 2021, 298, 104677.	2.4	14
8	Recent advances in blood rheology: a review. Soft Matter, 2021, 17, 10591-10613.	2.7	54
9	Steady sphere translation in a viscoelastic fluid with slip on the surface of the sphere. Journal of Non-Newtonian Fluid Mechanics, 2020, 275, 104217.	2.4	8
10	Application of population balance-based thixotropic model to human blood. Journal of Non-Newtonian Fluid Mechanics, 2020, 281, 104294.	2.4	13
11	Computational fluid dynamics simulation of the melting process in the fused filament fabrication additive manufacturing technique. Additive Manufacturing, 2020, 33, 101161.	3.0	32
12	Micro-Inertia Effects in Material Flow. Journal of Non-Equilibrium Thermodynamics, 2019, 44, 235-246.	4.2	2
13	Measurements of human blood viscoelasticity and thixotropy under steady and transient shear and constitutive modeling thereof. Journal of Rheology, 2019, 63, 799-813.	2.6	51
14	Variable viscosity effects for the steady flow past a sphere. Physics of Fluids, 2019, 31, 113105.	4.0	2
15	On the macroscopic modeling of the rheology and Ostwald ripening of dilute stabilized emulsions. Physics of Fluids, 2019, 31, 021206.	4.0	4
16	Investigation of blood rheology under steady and unidirectional large amplitude oscillatory shear. Journal of Rheology, 2018, 62, 577-591.	2.6	57
17	On the macroscopic modeling of dilute emulsions under flow in the presence of particle inertia. Physics of Fluids, 2018, 30, .	4.0	7
18	Effects of ex vivo aging and storage temperature on blood viscosity. Clinical Hemorheology and Microcirculation, 2018, 70, 155-172.	1.7	27

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19	On the tails of probability density functions in Newtonian and drag-reducing viscoelastic turbulent channel flows. Journal of Non-Newtonian Fluid Mechanics, 2018, 262, 38-51.	2.4	0
20	A constitutive equation for thixotropic suspensions with yield stress by coarseâ€graining a population balance model. AICHE Journal, 2017, 63, 517-531.	3.6	29
21	Dynamic shear rheology and structure kinetics modeling of a thixotropic carbon black suspension. Rheologica Acta, 2017, 56, 811-824.	2.4	28
22	On the macroscopic modelling of dilute emulsions under flow. Journal of Fluid Mechanics, 2017, 831, 433-473.	3.4	17
23	An experimental study of multimodal glass suspension rheology to test and validate a polydisperse suspension viscosity model. Rheologica Acta, 2017, 56, 995-1006.	2.4	4
24	An adaptive parallel tempering method for the dynamic dataâ€driven parameter estimation of nonlinear models. AICHE Journal, 2017, 63, 1937-1958.	3.6	34
25	Modeling the effects of polydispersity on the viscosity of noncolloidal hard sphere suspensions. Journal of Rheology, 2016, 60, 225-240.	2.6	27
26	Dynamic shear rheology of a thixotropic suspension: Comparison of an improved structure-based model with large amplitude oscillatory shear experiments. Journal of Rheology, 2016, 60, 433-450.	2.6	99
27	Modeling the viscosity of polydisperse suspensions: Improvements in prediction of limiting behavior. Physics of Fluids, 2016, 28, .	4.0	14
28	Validation of constitutive modeling of shear banding, threadlike wormlike micellar fluids. Journal of Rheology, 2016, 60, 983-999.	2.6	25
29	Non-Newtonian effects in simulations of coronary arterial blood flow. Journal of Non-Newtonian Fluid Mechanics, 2016, 233, 155-165.	2.4	50
30	A differential velocities-based study of diffusion effects in shear banding micellar solutions. Journal of Non-Newtonian Fluid Mechanics, 2016, 232, 43-54.	2.4	9
31	The effect of cholesterol and triglycerides on the steady state shear rheology of blood. Rheologica Acta, 2016, 55, 497-509.	2.4	24
32	Modeling of human blood rheology in transient shear flows. Journal of Rheology, 2015, 59, 275-298.	2.6	71
33	Letter to the Editor: Ï€Î¬Î½Ï„Î± á¿¥Îµá¿–: Everything flows. Journal of Rheology, 2015, 59, 473-474.	2.6	0
34	Modeling of the blood rheology in steady-state shear flows. Journal of Rheology, 2014, 58, 607-633.	2.6	88
35	Investigation of the inhomogeneous shear flow of a wormlike micellar solution using a thermodynamically consistent model. Journal of Non-Newtonian Fluid Mechanics, 2014, 207, 21-31.	2.4	22
36	On the skin friction coefficient in viscoelastic wall-bounded flows. International Journal of Heat and Fluid Flow, 2013, 42, 49-67.	2.4	14

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37	Nonequilibrium thermodynamic modeling of the structure and rheology of concentrated wormlike micellar solutions. Journal of Non-Newtonian Fluid Mechanics, 2013, 196, 51-57.	2.4	60
38	Efficient implementation of the proper outlet flow conditions in blood flow simulations through asymmetric arterial bifurcations. International Journal for Numerical Methods in Fluids, 2011, 66, 1383-1408.	1.6	15
39	An impedance model for blood flow in the human arterial system. Part I: Model development and MATLAB implementation. Computers and Chemical Engineering, 2011, 35, 1304-1316.	3.8	9
40	Application of 1D blood flow models of the human arterial network to differential pressure predictions. Journal of Biomechanics, 2011, 44, 869-876.	2.1	11
41	Multiscale Modeling of Crystallization Morphologies in High Speed Fiber Spinning of Semicrystalline Polymers. Journal of Computational and Theoretical Nanoscience, 2010, 7, 726-737.	0.4	2
42	A new method preserving the positive definiteness of a second order tensor variable in flow simulations with application to viscoelastic turbulence. Computers and Fluids, 2010, 39, 225-241.	2.5	11
43	Data reduction in viscoelastic turbulent channel flows based on extended Karhunenâ€“Loeve analysis. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 1386-1399.	2.4	3
44	Effects of viscoelasticity on the probability density functions in turbulent channel flow. Physics of Fluids, 2009, 21, 115106.	4.0	12
45	Velocity and conformation statistics based on reduced Karhunenâ€“Loeve projection data from DNS of viscoelastic turbulent channel flow. Journal of Non-Newtonian Fluid Mechanics, 2009, 160, 55-63.	2.4	14
46	A thermodynamically consistent model for the thixotropic behavior of concentrated star polymer suspensions. Journal of Non-Newtonian Fluid Mechanics, 2008, 152, 76-85.	2.4	41
47	Bracket formulation of nonequilibrium thermodynamics for systems interacting with the environment. Journal of Non-Newtonian Fluid Mechanics, 2008, 152, 2-11.	2.4	13
48	Time-evolution Kâ€“L analysis of coherent structures based on DNS of turbulent Newtonian and viscoelastic flows. Journal of Turbulence, 2008, 9, N41.	1.4	9
49	Dynamic K-L Analysis of the Coherent Structures in Turbulent Viscoelastic Channel Flows. AIP Conference Proceedings, 2008, , .	0.4	0
50	Computational and Experimental Investigation of Arterial Hemodynamics. , 2008, , .		1
51	Dynamic Kâ€Ł analysis of coherent structures based on DNS of turbulent Newtonian and viscoelastic flows. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 2100085-2100086.	0.2	0
52	Dynamic Kâ€Ł analysis of coherent structures based on DNS of turbulent Newtonian and viscoelastic flows (Poster Presentation). Proceedings in Applied Mathematics and Mechanics, 2007, 7, 2120037-2120038.	0.2	0
53	A new transpose split method for three-dimensional FFTs: performance on an Origin2000 and Alphaserver cluster. Parallel Computing, 2006, 32, 1-13.	2.1	8
54	Extensional behavior influence on viscoelastic turbulent channel flow. Journal of Non-Newtonian Fluid Mechanics, 2006, 140, 41-56.	2.4	20

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55	Karhunenâ€“Loeve representations of turbulent channel flows using the method of snapshots. International Journal for Numerical Methods in Fluids, 2006, 52, 1339-1360.	1.6	23
56	Viscoelastic effects on higher order statistics and on coherent structures in turbulent channel flow. Physics of Fluids, 2005, 17, 035106.	4.0	59
57	Continuum formulation of the Scheutjens-Fleer lattice statistical theory for homopolymer adsorption from solution. Journal of Chemical Physics, 2005, 123, 174901.	3.0	6
58	Characteristic scales and drag reduction evaluation in turbulent channel flow of nonconstant viscosity viscoelastic fluids. Physics of Fluids, 2004, 16, 1581-1586.	4.0	38
59	Flow-induced nonequilibrium thermodynamics of lamellar semicrystalline polymers. Journal of Non-Newtonian Fluid Mechanics, 2004, 120, 225-240.	2.4	5
60	Derivation of a spectral pressureless formulation for direct numerical simulation of incompressible channel flows based on a functional formalism. Journal of Non-Newtonian Fluid Mechanics, 2004, 120, 241-250.	2.4	1
61	Nonequilibrium thermodynamics and complex fluids. Journal of Non-Newtonian Fluid Mechanics, 2004, 120, 1-2.	2.4	9
62	An efficient fully implicit spectral scheme for DNS of turbulent viscoelastic channel flow. Journal of Non-Newtonian Fluid Mechanics, 2004, 122, 243-262.	2.4	45
63	Polymer-induced drag reduction: Effects of the variations in elasticity and inertia in turbulent viscoelastic channel flow. Physics of Fluids, 2003, 15, 2369-2384.	4.0	91
64	Transient phenomena in thixotropic systems. Journal of Non-Newtonian Fluid Mechanics, 2002, 102, 157-178.	2.4	307
65	Stress gradient-induced migration effects in the Taylorâ€“Couette flow of a dilute polymer solution. Journal of Non-Newtonian Fluid Mechanics, 2002, 102, 409-445.	2.4	32
66	Bracket formulation as a source for the development of dynamic equations in continuum mechanics. Journal of Non-Newtonian Fluid Mechanics, 2001, 96, 119-136.	2.4	18
67	A constitutive equation for entangled linear polymers inspired by reptation theory and consistent with non-equilibrium thermodynamics. Journal of Non-Newtonian Fluid Mechanics, 2001, 101, 95-111.	2.4	8
68	Budgets of Reynolds stress, kinetic energy and streamwise enstrophy in viscoelastic turbulent channel flow. Physics of Fluids, 2001, 13, 1016-1027.	4.0	122
69	Comment on â€œConvective Nonlinearity in Non-Newtonian Fluidsâ€• Physical Review Letters, 2001, 86, 744-744.	7.8	6
70	A hierarchical model for surface effects on chain conformation and rheology of polymer solutions. II. Application to a neutral surface. Journal of Chemical Physics, 1999, 110, 628-638.	3.0	25
71	Thermodynamically consistent reptation model without independent alignment. Journal of Chemical Physics, 1999, 110, 6593-6596.	3.0	35
72	Pseudospectral simulation of turbulent viscoelastic channel flow. Computer Methods in Applied Mechanics and Engineering, 1999, 180, 365-392.	6.6	33

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73	Lattice-based simulations of chain conformations in semi-crystalline polymers with application to flow-induced crystallization. Journal of Non-Newtonian Fluid Mechanics, 1999, 82, 331-366.	2.4	12
74	A non-equilibrium internal exchange of energy andmatter and its Onsagers-type variational theory of relaxation. International Journal of Heat and Mass Transfer, 1999, 42, 2695-2715.	4.8	8
75	A hierarchical model for surface effects on chain conformation and rheology of polymer solutions. I. General formulation. Journal of Chemical Physics, 1999, 110, 616-627.	3.0	31
76	Title is missing!. Open Systems and Information Dynamics, 1998, 5, 333-368.	1.2	11
77	Efficient Pseudospectral Flow Simulations in Moderately Complex Geometries. Journal of Computational Physics, 1998, 144, 517-549.	3.8	17
78	Direct numerical simulation of viscoelastic turbulent channel flow exhibiting drag reduction: effect of the variation of rheological parameters. Journal of Non-Newtonian Fluid Mechanics, 1998, 79, 433-468.	2.4	204
79	A model for the necking phenomenon in high-speed fiber spinning based on flow-induced crystallization. Journal of Rheology, 1998, 42, 971-994.	2.6	26
80	Curing Behavior of Thick-Sectioned RTM Composites. Journal of Composite Materials, 1998, 32, 1273-1296.	2.4	50
81	An Analysis of Single and Double Generator Thermodynamic Formalisms for Complex Fluids. II. The Microscopic Description. Journal of Non-Equilibrium Thermodynamics, 1998, 23, .	4.2	18
82	New approach for simulating chain conformations in dense polymers using fully populated lattice models. Computers in Physics, 1998, 12, 641.	0.5	6
83	Intelligent Curing of Thick Composites Using a Knowledge-Based System. Journal of Composite Materials, 1997, 31, 22-51.	2.4	38
84	Direct numerical simulation of the turbulent channel flow of a polymer solution. Physics of Fluids, 1997, 9, 743-755.	4.0	374
85	An Efficient and Robust Spectral Solver for Nonseparable Elliptic Equations. Journal of Computational Physics, 1997, 133, 186-191.	3.8	12
86	Simulation of time-dependent viscoelastic channel Poiseuille flow at high Reynolds numbers. Chemical Engineering Science, 1996, 51, 1451-1471.	3.8	32
87	Heuristics guided optimization of a batch autoclave curing process. Computers and Chemical Engineering, 1996, 20, 275-294.	3.8	12
88	Spectral collocation/domain decomposition method for viscoelastic flow simulations in model porous geometries. Computer Methods in Applied Mechanics and Engineering, 1996, 129, 9-28.	6.6	17
89	Hopf-Hopf and steady-Hopf mode interactions in Taylor-Couette flow of an upper convected Maxwell liquid. Journal of Non-Newtonian Fluid Mechanics, 1996, 63, 1-31.	2.4	34
90	Effect of artificial stress diffusivity on the stability of numerical calculations and the flow dynamics of time-dependent viscoelastic flows. Journal of Non-Newtonian Fluid Mechanics, 1995, 60, 53-80.	2.4	181

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91	Linear stability analysis of viscoelastic Poiseuille flow using an Arnoldi-based orthogonalization algorithm. Journal of Non-Newtonian Fluid Mechanics, 1995, 56, 151-182.	2.4	101
92	Drop formation in liquidâ€“liquid systems before and after jetting. Physics of Fluids, 1995, 7, 2617-2630.	4.0	93
93	Uniformly valid approximations for the conformational integrals resulting from Gaussian closure in	2.6	6
94	Dynamic breakup of liquidâ€“liquid jets. Physics of Fluids, 1994, 6, 2640-2655.	4.0	79
95	Analysis of periodic 3D viscous flows using a quadratic discrete Galerkin boundary element method. International Journal for Numerical Methods in Fluids, 1994, 18, 953-981.	1.6	2
96	On the compatibility between various macroscopic formalisms for the concentration and flow of dilute polymer solutions. Journal of Rheology, 1994, 38, 1235-1250.	2.6	82
97	Implementation of Model-Based Optimal Temperature Profiles for Autoclave Curing of Composites Using a Knowledge-Based System. Industrial & Engineering Chemistry Research, 1994, 33, 2443-2452.	3.7	36
98	Thermodynamics of Flowing Systems: with Internal Microstructure. , 1994, , .		424
99	Spectral methods for the viscoelastic time-dependent flow equations with applications to Taylor-Couette flow. International Journal for Numerical Methods in Fluids, 1993, 17, 49-74.	1.6	35
100	On the admissibility criteria for linear viscoelasticity kernels. Rheologica Acta, 1993, 32, 505-510.	2.4	44
101	Non-axisymmetric modes in viscoelastic taylor-couette flow. Journal of Non-Newtonian Fluid Mechanics, 1993, 50, 225-251.	2.4	84
102	A rheological model for particulate ceramic slurries at low temperatures. Scripta Metallurgica Et Materialia, 1993, 29, 1095-1099.	1.0	4
103	Steady laminar flow of liquidâ€“liquid jets at high Reynolds numbers*. Physics of Fluids A, Fluid Dynamics, 1993, 5, 1703-1717.	1.6	48
104	Modeling of the Rheology and Flow-Induced Concentration Changes in Polymer Solutions. Physical Review Letters, 1993, 70, 2659-2659.	7.8	10
105	Modeling of the rheology and flow-induced concentration changes in polymer solutions. Physical Review Letters, 1992, 69, 273-276.	7.8	47
106	Applications of domain decomposition spectral collocation methods in viscoelastic flows through model porous media. Journal of Rheology, 1992, 36, 1417-1453.	2.6	41
107	Pseudospectral calculations of viscoelastic flow in a periodically constricted tube. Computer Methods in Applied Mechanics and Engineering, 1992, 98, 307-328.	6.6	12
108	LU decomposition optimized for a parallel computer with a hierarchical distributed memory. Parallel Computing, 1992, 18, 959-971.	2.1	11

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109	Spectral calculations of viscoelastic flows: evaluation of the Giesekus constitutive equation in model flow problems. Journal of Non-Newtonian Fluid Mechanics, 1992, 44, 197-228.	2.4	41
110	Second-order boundary element method calculations of hydrodynamic interactions between particles in close proximity. International Journal for Numerical Methods in Fluids, 1992, 14, 1063-1086.	1.6	25
111	The Dynamical Behavior of Liquid Crystals: A Continuum Description through Generalized Brackets. Molecular Crystals and Liquid Crystals, 1991, 201, 51-86.	0.7	37
112	Unified view of transport phenomena based on the generalized bracket formulation. Industrial & Engineering Chemistry Research, 1991, 30, 873-881.	3.7	31
113	Viscoelastic flow in a periodically constricted tube: The combined effect of inertia, shear thinning, and elasticity. Journal of Rheology, 1991, 35, 605-646.	2.6	35
114	Viscoelastic flow in an undulating tube. Part II. Effects of high elasticity, large amplitude of undulation and inertia. Journal of Non-Newtonian Fluid Mechanics, 1991, 39, 375-405.	2.4	34
115	Evaluating all real roots of nonlinear equations using a global fixed-point homotopy method. AICHE Journal, 1991, 37, 1749-1752.	3.6	7
116	Remarks concerning compressible viscoelastic fluid models. Journal of Non-Newtonian Fluid Mechanics, 1990, 36, 411-417.	2.4	26
117	Flow of test fluid M1 in corrugated tubes. Journal of Non-Newtonian Fluid Mechanics, 1990, 35, 405-412.	2.4	34
118	Reaction phenomena in a nonthermal equilibrium plasma. AICHE Journal, 1990, 36, 1439-1443.	3.6	4
119	Generalized constitutive equation for polymeric liquid crystals. Journal of Non-Newtonian Fluid Mechanics, 1990, 36, 243-254.	2.4	27
120	Generalized constitutive equation for polymeric liquid crystals Part 1. Model formulation using the Hamiltonian (poisson bracket) formulation. Journal of Non-Newtonian Fluid Mechanics, 1990, 35, 51-72.	2.4	71
121	A numerical study of heat and momentum transfer for tube bundles in crossflow. International Journal for Numerical Methods in Fluids, 1989, 9, 1381-1394.	1.6	22
122	The stability of numerical approximations to nonlinear hyperbolic equations. Computer Methods in Applied Mechanics and Engineering, 1989, 76, 179-204.	6.6	2
123	Calculations of steady-state viscoelastic flow in an undulating tube. Journal of Non-Newtonian Fluid Mechanics, 1989, 31, 231-287.	2.4	100
124	Flowâ€Induced Orientation in Monodomain Systems of Polymeric Liquid Crystals. Journal of Rheology, 1989, 33, 537-557.	2.6	12
125	Time-dependent fiber spinning equations. 1. Analysis of the mathematical behavior. Journal of Non-Newtonian Fluid Mechanics, 1988, 26, 341-361.	2.4	44
126	Time-dependent fiber spinning equations. 2. Analysis of the stability of numerical approximations. Journal of Non-Newtonian Fluid Mechanics, 1988, 26, 363-394.	2.4	29

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127	Spectral/finite-element calculations of the flow of a maxwell fluid between eccentric rotating cylinders. Journal of Non-Newtonian Fluid Mechanics, 1987, 22, 129-167.	2.4	87
128	Galerkin finite element analysis of complex viscoelastic flows. Computer Methods in Applied Mechanics and Engineering, 1986, 58, 201-226.	6.6	49
129	Finite element calculation of viscoelastic flow in a journal bearing: II. Moderate eccentricity. Journal of Non-Newtonian Fluid Mechanics, 1986, 19, 323-347.	2.4	42
130	Creeping motion of a sphere through a Bingham plastic. Journal of Fluid Mechanics, 1985, 158, 219-244.	3.4	393
131	Finite element calculation of viscoelastic flow in a journal bearing: I. small eccentricities. Journal of Non-Newtonian Fluid Mechanics, 1984, 16, 141-172.	2.4	69
132	Perturbation theory for viscoelastic fluids between eccentric rotating cylinders. Journal of Non-Newtonian Fluid Mechanics, 1983, 13, 109-148.	2.4	71