

Antony N Beris

List of Publications by Year in descending order

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132
papers

5,499
citations

94433

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67
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137
all docs

137
docs citations

137
times ranked

2354
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermodynamics of Flowing Systems: with Internal Microstructure. , 1994, , .		424
2	Creeping motion of a sphere through a Bingham plastic. Journal of Fluid Mechanics, 1985, 158, 219-244.	3.4	393
3	Direct numerical simulation of the turbulent channel flow of a polymer solution. Physics of Fluids, 1997, 9, 743-755.	4.0	374
4	Transient phenomena in thixotropic systems. Journal of Non-Newtonian Fluid Mechanics, 2002, 102, 157-178.	2.4	307
5	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
6	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
7	Budgets of Reynolds stress, kinetic energy and streamwise enstrophy in viscoelastic turbulent channel flow. Physics of Fluids, 2001, 13, 1016-1027.	4.0	122
8	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
9	Calculations of steady-state viscoelastic flow in an undulating tube. Journal of Non-Newtonian Fluid Mechanics, 1989, 31, 231-287.	2.4	100
10	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
11	Drop formation in liquid-liquid systems before and after jetting. Physics of Fluids, 1995, 7, 2617-2630.	4.0	93
12	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
13	Modeling of the blood rheology in steady-state shear flows. Journal of Rheology, 2014, 58, 607-633.	2.6	88
14	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
15	Non-axisymmetric modes in viscoelastic taylor-couette flow. Journal of Non-Newtonian Fluid Mechanics, 1993, 50, 225-251.	2.4	84
16	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
17	Dynamic breakup of liquid-liquid jets. Physics of Fluids, 1994, 6, 2640-2655.	4.0	79
18	Perturbation theory for viscoelastic fluids between eccentric rotating cylinders. Journal of Non-Newtonian Fluid Mechanics, 1983, 13, 109-148.	2.4	71

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19	Generalized constitutive equation for polymeric liquid crystals Part 1. Model formulation using the Hamiltonian (poisson bracket) formulation. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1990, 35, 51-72.	2.4	71
20	Modeling of human blood rheology in transient shear flows. <i>Journal of Rheology</i> , 2015, 59, 275-298.	2.6	71
21	Finite element calculation of viscoelastic flow in a journal bearing: I. small eccentricities. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1984, 16, 141-172.	2.4	69
22	Nonequilibrium thermodynamic modeling of the structure and rheology of concentrated wormlike micellar solutions. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2013, 196, 51-57.	2.4	60
23	Viscoelastic effects on higher order statistics and on coherent structures in turbulent channel flow. <i>Physics of Fluids</i> , 2005, 17, 035106.	4.0	59
24	Investigation of blood rheology under steady and unidirectional large amplitude oscillatory shear. <i>Journal of Rheology</i> , 2018, 62, 577-591.	2.6	57
25	Recent advances in blood rheology: a review. <i>Soft Matter</i> , 2021, 17, 10591-10613.	2.7	54
26	Measurements of human blood viscoelasticity and thixotropy under steady and transient shear and constitutive modeling thereof. <i>Journal of Rheology</i> , 2019, 63, 799-813.	2.6	51
27	Curing Behavior of Thick-Sectioned RTM Composites. <i>Journal of Composite Materials</i> , 1998, 32, 1273-1296.	2.4	50
28	Non-Newtonian effects in simulations of coronary arterial blood flow. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2016, 233, 155-165.	2.4	50
29	Galerkin finite element analysis of complex viscoelastic flows. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1986, 58, 201-226.	6.6	49
30	Steady laminar flow of liquidâ€“liquid jets at high Reynolds numbers*. <i>Physics of Fluids A, Fluid Dynamics</i> , 1993, 5, 1703-1717.	1.6	48
31	Modeling of the rheology and flow-induced concentration changes in polymer solutions. <i>Physical Review Letters</i> , 1992, 69, 273-276.	7.8	47
32	An efficient fully implicit spectral scheme for DNS of turbulent viscoelastic channel flow. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2004, 122, 243-262.	2.4	45
33	Time-dependent fiber spinning equations. 1. Analysis of the mathematical behavior. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1988, 26, 341-361.	2.4	44
34	On the admissibility criteria for linear viscoelasticity kernels. <i>Rheologica Acta</i> , 1993, 32, 505-510.	2.4	44
35	Finite element calculation of viscoelastic flow in a journal bearing: II. Moderate eccentricity. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1986, 19, 323-347.	2.4	42
36	Applications of domain decomposition spectral collocation methods in viscoelastic flows through model porous media. <i>Journal of Rheology</i> , 1992, 36, 1417-1453.	2.6	41

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37	Spectral calculations of viscoelastic flows: evaluation of the Giesekus constitutive equation in model flow problems. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1992, 44, 197-228.	2.4	41
38	A thermodynamically consistent model for the thixotropic behavior of concentrated star polymer suspensions. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2008, 152, 76-85.	2.4	41
39	Intelligent Curing of Thick Composites Using a Knowledge-Based System. <i>Journal of Composite Materials</i> , 1997, 31, 22-51.	2.4	38
40	Characteristic scales and drag reduction evaluation in turbulent channel flow of nonconstant viscosity viscoelastic fluids. <i>Physics of Fluids</i> , 2004, 16, 1581-1586.	4.0	38
41	The Dynamical Behavior of Liquid Crystals: A Continuum Description through Generalized Brackets. <i>Molecular Crystals and Liquid Crystals</i> , 1991, 201, 51-86.	0.7	37
42	Implementation of Model-Based Optimal Temperature Profiles for Autoclave Curing of Composites Using a Knowledge-Based System. <i>Industrial & Engineering Chemistry Research</i> , 1994, 33, 2443-2452.	3.7	36
43	Viscoelastic flow in a periodically constricted tube: The combined effect of inertia, shear thinning, and elasticity. <i>Journal of Rheology</i> , 1991, 35, 605-646.	2.6	35
44	Spectral methods for the viscoelastic time-dependent flow equations with applications to Taylor-Couette flow. <i>International Journal for Numerical Methods in Fluids</i> , 1993, 17, 49-74.	1.6	35
45	Thermodynamically consistent reptation model without independent alignment. <i>Journal of Chemical Physics</i> , 1999, 110, 6593-6596.	3.0	35
46	Flow of test fluid M1 in corrugated tubes. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1990, 35, 405-412.	2.4	34
47	Viscoelastic flow in an undulating tube. Part II. Effects of high elasticity, large amplitude of undulation and inertia. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1991, 39, 375-405.	2.4	34
48	Hopf-Hopf and steady-Hopf mode interactions in Taylor-Couette flow of an upper convected Maxwell liquid. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1996, 63, 1-31.	2.4	34
49	An adaptive parallel tempering method for the dynamic data-driven parameter estimation of nonlinear models. <i>AIChE Journal</i> , 2017, 63, 1937-1958.	3.6	34
50	Pseudospectral simulation of turbulent viscoelastic channel flow. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1999, 180, 365-392.	6.6	33
51	Simulation of time-dependent viscoelastic channel Poiseuille flow at high Reynolds numbers. <i>Chemical Engineering Science</i> , 1996, 51, 1451-1471.	3.8	32
52	Stress gradient-induced migration effects in the Taylor-Couette flow of a dilute polymer solution. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2002, 102, 409-445.	2.4	32
53	Computational fluid dynamics simulation of the melting process in the fused filament fabrication additive manufacturing technique. <i>Additive Manufacturing</i> , 2020, 33, 101161.	3.0	32
54	Unified view of transport phenomena based on the generalized bracket formulation. <i>Industrial & Engineering Chemistry Research</i> , 1991, 30, 873-881.	3.7	31

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55	A hierarchical model for surface effects on chain conformation and rheology of polymer solutions. I. General formulation. <i>Journal of Chemical Physics</i> , 1999, 110, 616-627.	3.0	31
56	Time-dependent fiber spinning equations. 2. Analysis of the stability of numerical approximations. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1988, 26, 363-394.	2.4	29
57	A constitutive equation for thixotropic suspensions with yield stress by coarse-graining a population balance model. <i>AIChE Journal</i> , 2017, 63, 517-531.	3.6	29
58	Dynamic shear rheology and structure kinetics modeling of a thixotropic carbon black suspension. <i>Rheologica Acta</i> , 2017, 56, 811-824.	2.4	28
59	Generalized constitutive equation for polymeric liquid crystals. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1990, 36, 243-254.	2.4	27
60	Modeling the effects of polydispersity on the viscosity of noncolloidal hard sphere suspensions. <i>Journal of Rheology</i> , 2016, 60, 225-240.	2.6	27
61	Effects of ex vivo aging and storage temperature on blood viscosity. <i>Clinical Hemorheology and Microcirculation</i> , 2018, 70, 155-172.	1.7	27
62	Remarks concerning compressible viscoelastic fluid models. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1990, 36, 411-417.	2.4	26
63	A model for the necking phenomenon in high-speed fiber spinning based on flow-induced crystallization. <i>Journal of Rheology</i> , 1998, 42, 971-994.	2.6	26
64	Second-order boundary element method calculations of hydrodynamic interactions between particles in close proximity. <i>International Journal for Numerical Methods in Fluids</i> , 1992, 14, 1063-1086.	1.6	25
65	A hierarchical model for surface effects on chain conformation and rheology of polymer solutions. II. Application to a neutral surface. <i>Journal of Chemical Physics</i> , 1999, 110, 628-638.	3.0	25
66	Validation of constitutive modeling of shear banding, threadlike wormlike micellar fluids. <i>Journal of Rheology</i> , 2016, 60, 983-999.	2.6	25
67	The effect of cholesterol and triglycerides on the steady state shear rheology of blood. <i>Rheologica Acta</i> , 2016, 55, 497-509.	2.4	24
68	Karhunen's Loeve representations of turbulent channel flows using the method of snapshots. <i>International Journal for Numerical Methods in Fluids</i> , 2006, 52, 1339-1360.	1.6	23
69	A numerical study of heat and momentum transfer for tube bundles in crossflow. <i>International Journal for Numerical Methods in Fluids</i> , 1989, 9, 1381-1394.	1.6	22
70	Investigation of the inhomogeneous shear flow of a wormlike micellar solution using a thermodynamically consistent model. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2014, 207, 21-31.	2.4	22
71	Extensional behavior influence on viscoelastic turbulent channel flow. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2006, 140, 41-56.	2.4	20
72	An Analysis of Single and Double Generator Thermodynamic Formalisms for Complex Fluids. II. The Microscopic Description. <i>Journal of Non-Equilibrium Thermodynamics</i> , 1998, 23, .	4.2	18

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73	Bracket formulation as a source for the development of dynamic equations in continuum mechanics. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2001, 96, 119-136.	2.4	18
74	Spectral collocation/domain decomposition method for viscoelastic flow simulations in model porous geometries. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1996, 129, 9-28.	6.6	17
75	Efficient Pseudospectral Flow Simulations in Moderately Complex Geometries. <i>Journal of Computational Physics</i> , 1998, 144, 517-549.	3.8	17
76	On the macroscopic modelling of dilute emulsions under flow. <i>Journal of Fluid Mechanics</i> , 2017, 831, 433-473.	3.4	17
77	Efficient implementation of the proper outlet flow conditions in blood flow simulations through asymmetric arterial bifurcations. <i>International Journal for Numerical Methods in Fluids</i> , 2011, 66, 1383-1408.	1.6	15
78	Tensorial formulations for improved thixotropic viscoelastic modeling of human blood. <i>Journal of Rheology</i> , 2022, 66, 327-347.	2.6	15
79	Velocity and conformation statistics based on reduced Karhunen-Loève projection data from DNS of viscoelastic turbulent channel flow. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 160, 55-63.	2.4	14
80	On the skin friction coefficient in viscoelastic wall-bounded flows. <i>International Journal of Heat and Fluid Flow</i> , 2013, 42, 49-67.	2.4	14
81	Modeling the viscosity of polydisperse suspensions: Improvements in prediction of limiting behavior. <i>Physics of Fluids</i> , 2016, 28, .	4.0	14
82	Continuum mechanics modeling of complex fluid systems following Oldroyd's seminal 1950 work. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2021, 298, 104677.	2.4	14
83	Bracket formulation of nonequilibrium thermodynamics for systems interacting with the environment. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2008, 152, 2-11.	2.4	13
84	Application of population balance-based thixotropic model to human blood. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2020, 281, 104294.	2.4	13
85	Flow-Induced Orientation in Monodomain Systems of Polymeric Liquid Crystals. <i>Journal of Rheology</i> , 1989, 33, 537-557.	2.6	12
86	Pseudospectral calculations of viscoelastic flow in a periodically constricted tube. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1992, 98, 307-328.	6.6	12
87	Heuristics guided optimization of a batch autoclave curing process. <i>Computers and Chemical Engineering</i> , 1996, 20, 275-294.	3.8	12
88	An Efficient and Robust Spectral Solver for Nonseparable Elliptic Equations. <i>Journal of Computational Physics</i> , 1997, 133, 186-191.	3.8	12
89	Lattice-based simulations of chain conformations in semi-crystalline polymers with application to flow-induced crystallization. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1999, 82, 331-366.	2.4	12
90	Effects of viscoelasticity on the probability density functions in turbulent channel flow. <i>Physics of Fluids</i> , 2009, 21, 115106.	4.0	12

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91	A comparative study of blood rheology across species. <i>Soft Matter</i> , 2021, 17, 4766-4774.	2.7	12
92	LU decomposition optimized for a parallel computer with a hierarchical distributed memory. <i>Parallel Computing</i> , 1992, 18, 959-971.	2.1	11
93	Title is missing!. <i>Open Systems and Information Dynamics</i> , 1998, 5, 333-368.	1.2	11
94	A new method preserving the positive definiteness of a second order tensor variable in flow simulations with application to viscoelastic turbulence. <i>Computers and Fluids</i> , 2010, 39, 225-241.	2.5	11
95	Application of 1D blood flow models of the human arterial network to differential pressure predictions. <i>Journal of Biomechanics</i> , 2011, 44, 869-876.	2.1	11
96	Modeling of the Rheology and Flow-Induced Concentration Changes in Polymer Solutions. <i>Physical Review Letters</i> , 1993, 70, 2659-2659.	7.8	10
97	Nonequilibrium thermodynamics and complex fluids. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2004, 120, 1-2.	2.4	9
98	Time-evolution Ká€L analysis of coherent structures based on DNS of turbulent Newtonian and viscoelastic flows. <i>Journal of Turbulence</i> , 2008, 9, N41.	1.4	9
99	An impedance model for blood flow in the human arterial system. Part I: Model development and MATLAB implementation. <i>Computers and Chemical Engineering</i> , 2011, 35, 1304-1316.	3.8	9
100	A differential velocities-based study of diffusion effects in shear banding micellar solutions. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2016, 232, 43-54.	2.4	9
101	A non-equilibrium internal exchange of energy and matter and its Onsagers-type variational theory of relaxation. <i>International Journal of Heat and Mass Transfer</i> , 1999, 42, 2695-2715.	4.8	8
102	A constitutive equation for entangled linear polymers inspired by reptation theory and consistent with non-equilibrium thermodynamics. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2001, 101, 95-111.	2.4	8
103	A new transpose split method for three-dimensional FFTs: performance on an Origin2000 and Alphaser server cluster. <i>Parallel Computing</i> , 2006, 32, 1-13.	2.1	8
104	Steady sphere translation in a viscoelastic fluid with slip on the surface of the sphere. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2020, 275, 104217.	2.4	8
105	Evaluating all real roots of nonlinear equations using a global fixed-point homotopy method. <i>AIChE Journal</i> , 1991, 37, 1749-1752.	3.6	7
106	On the macroscopic modeling of dilute emulsions under flow in the presence of particle inertia. <i>Physics of Fluids</i> , 2018, 30, .	4.0	7
107	Uniformly valid approximations for the conformational integrals resulting from Gaussian closure in	2.6	6
108	New approach for simulating chain conformations in dense polymers using fully populated lattice models. <i>Computers in Physics</i> , 1998, 12, 641.	0.5	6

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109	Comment on "Convective Nonlinearity in Non-Newtonian Fluids", Physical Review Letters, 2001, 86, 744-744.	7.8	6
110	Continuum formulation of the Scheutjens-Fleer lattice statistical theory for homopolymer adsorption from solution. Journal of Chemical Physics, 2005, 123, 174901.	3.0	6
111	Flow-induced nonequilibrium thermodynamics of lamellar semicrystalline polymers. Journal of Non-Newtonian Fluid Mechanics, 2004, 120, 225-240.	2.4	5
112	A Thermodynamically Consistent, Microscopically-Based, Model of the Rheology of Aggregating Particles Suspensions. Entropy, 2022, 24, 717.	2.2	5
113	Reaction phenomena in a nonthermal equilibrium plasma. AIChE Journal, 1990, 36, 1439-1443.	3.6	4
114	A rheological model for particulate ceramic slurries at low temperatures. Scripta Metallurgica Et Materialia, 1993, 29, 1095-1099.	1.0	4
115	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
116	On the macroscopic modeling of the rheology and Ostwald ripening of dilute stabilized emulsions. Physics of Fluids, 2019, 31, 021206.	4.0	4
117	Hemorheology. , 2021, , 316-351.		4
118	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
119	Data reduction in viscoelastic turbulent channel flows based on extended Karhunen-Loeve analysis. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 1386-1399.	2.4	3
120	The stability of numerical approximations to nonlinear hyperbolic equations. Computer Methods in Applied Mechanics and Engineering, 1989, 76, 179-204.	6.6	2
121	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
122	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
123	Micro-Inertia Effects in Material Flow. Journal of Non-Equilibrium Thermodynamics, 2019, 44, 235-246.	4.2	2
124	Variable viscosity effects for the steady flow past a sphere. Physics of Fluids, 2019, 31, 113105.	4.0	2
125	Flux-based modeling of heat and mass transfer in multicomponent systems. Physics of Fluids, 2022, 34, .	4.0	2
126	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

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127	Computational and Experimental Investigation of Arterial Hemodynamics. , 2008, , .		1
128	Dynamic Ká€L 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
129	Dynamic Ká€L 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
130	Dynamic K-L Analysis of the Coherent Structures in Turbulent Viscoelastic Channel Flows. AIP Conference Proceedings, 2008, , .	0.4	0
131	Letter to the Editor: Î€Î±-Î±/2Î±, Î± á¿¥Î±á¿-: Everything flows. Journal of Rheology, 2015, 59, 473-474.	2.6	0
132	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