

Viswanathan Shankar

List of Publications by Year in descending order

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65
papers

1,363
citations

279798

23
h-index

377865

34
g-index

68
all docs

68
docs citations

68
times ranked

656
citing authors

#	ARTICLE	IF	CITATIONS
1	Instability of the interface between thin fluid films subjected to electric fields. Journal of Colloid and Interface Science, 2004, 274, 294-308.	9.4	120
2	Viscoelastic Pipe Flow is Linearly Unstable. Physical Review Letters, 2018, 121, 024502.	7.8	58
3	Theory of linear viscoelasticity of semiflexible rods in dilute solution. Journal of Rheology, 2002, 46, 1111-1154.	2.6	56
4	Numerical simulation of mixing at 1° and 2° microfluidic junctions. Chemical Engineering and Processing: Process Intensification, 2014, 85, 227-240.	3.6	56
5	Viscoelasticity of dilute solutions of semiflexible polymers. Physical Review E, 2001, 64, 020802.	2.1	55
6	Electrohydrodynamic instability of a confined viscoelastic liquid film. Journal of Non-Newtonian Fluid Mechanics, 2007, 143, 120-130.	2.4	53
7	Stability of wall modes in fluid flow past a flexible surface. Physics of Fluids, 2002, 14, 2324.	4.0	49
8	Stability of non-parabolic flow in a flexible tube. Journal of Fluid Mechanics, 1999, 395, 211-236.	3.4	40
9	Instability and dynamics of thin viscoelastic liquid films. European Physical Journal E, 2006, 20, 185-200.	1.6	40
10	Stability of fluid flow in a flexible tube to non-axisymmetric disturbances. Journal of Fluid Mechanics, 2000, 407, 291-314.	3.4	39
11	Stability of fluid flow through deformable neo-Hookean tubes. Journal of Fluid Mechanics, 2009, 627, 291-322.	3.4	37
12	The centre-mode instability of viscoelastic plane Poiseuille flow. Journal of Fluid Mechanics, 2021, 915, .	3.4	36
13	Instability of viscoelastic plane Couette flow past a deformable wall. Journal of Non-Newtonian Fluid Mechanics, 2004, 116, 371-393.	2.4	35
14	Stability of pressure-driven flow in a deformable neo-Hookean channel. Journal of Fluid Mechanics, 2010, 659, 318-350.	3.4	32
15	Experimental study of the instability of laminar flow in a tube with deformable walls. Physics of Fluids, 2015, 27, .	4.0	31
16	Understanding viscoelastic flow instabilities: Oldroyd-B and beyond. Journal of Non-Newtonian Fluid Mechanics, 2022, 302, 104742.	2.4	31
17	Weakly nonlinear stability of viscous flow past a flexible surface. Journal of Fluid Mechanics, 2001, 434, 337-354.	3.4	30
18	Linear instability of viscoelastic pipe flow. Journal of Fluid Mechanics, 2021, 908, .	3.4	29

#	ARTICLE	IF	CITATIONS
19	Onset of transition in the flow of polymer solutions through microtubes. Journal of Fluid Mechanics, 2018, 844, 1052-1083.	3.4	28
20	Continuous Pathway between the Elasto-Inertial and Elastic Turbulent States in Viscoelastic Channel Flow. Physical Review Letters, 2021, 127, 134502.	7.8	28
21	Asymptotic analysis of wall modes in a flexible tube revisited. European Physical Journal B, 2001, 19, 607-622.	1.5	27
22	Elasto-inertial wall mode instabilities in viscoelastic plane Poiseuille flow. Journal of Fluid Mechanics, 2019, 881, 119-163.	3.4	27
23	Distinguishing thixotropy from viscoelasticity. Journal of Rheology, 2021, 65, 663-680.	2.6	27
24	Instabilities and pattern miniaturization in confined and free elastic-viscous bilayers. Journal of Chemical Physics, 2008, 128, 154909.	3.0	23
25	Consistent formulations for stability of fluid flow through deformable channels and tubes. Journal of Fluid Mechanics, 2017, 827, 31-66.	3.4	21
26	Stability of two-layer Newtonian plane Couette flow past a deformable solid layer. Physics of Fluids, 2004, 16, 4426-4442.	4.0	20
27	Suppression of instability in liquid flow down an inclined plane by a deformable solid layer. Physical Review E, 2006, 73, 016301.	2.1	20
28	Stability of gravity-driven free-surface flow past a deformable solid at zero and finite Reynolds number. Physics of Fluids, 2007, 19, 024105.	4.0	18
29	Stability of fluid flow through deformable tubes and channels: An overview. Sadhana - Academy Proceedings in Engineering Sciences, 2015, 40, 925-943.	1.3	17
30	Instability of high-frequency modes in viscoelastic plane Couette flow past a deformable wall at low and finite Reynolds number. Journal of Non-Newtonian Fluid Mechanics, 2005, 125, 121-141.	2.4	16
31	Absolute and convective instabilities in combined Couette-Poiseuille flow past a neo-Hookean solid. Physics of Fluids, 2017, 29, 124104.	4.0	16
32	Role of inertia and thixotropy in start-up flows of aging soft materials: Transient dynamics and shear banding in a rate-controlled flow field. Journal of Rheology, 2018, 62, 1001-1016.	2.6	16
33	Early transition, relaminarization and drag reduction in the flow of polymer solutions through microtubes. Journal of Fluid Mechanics, 2020, 885, .	3.4	15
34	Stability of two-layer viscoelastic plane Couette flow past a deformable solid layer. Journal of Non-Newtonian Fluid Mechanics, 2004, 117, 163-182.	2.4	14
35	Electric-fieldâ€ and contact-forceâ€ induced tunable patterns in slipping soft elastic films. Europhysics Letters, 2010, 89, 36002.	2.0	14
36	Role of wall deformability on interfacial instabilities in gravity-driven two-layer flow with a free surface. Physics of Fluids, 2010, 22, .	4.0	14

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37	Suppression of purely elastic instabilities in the torsional flow of viscoelastic fluid past a soft solid. <i>Physics of Fluids</i> , 2013, 25, 124102.	4.0	13
38	Instability of viscous flow over a deformable two-layered gel: Experiments and theory. <i>Physical Review E</i> , 2014, 90, 043004.	2.1	13
39	Stability of flow through deformable channels and tubes: implications of consistent formulation. <i>Journal of Fluid Mechanics</i> , 2019, 860, 837-885.	3.4	13
40	Stability of plane Couette flow of a power-law fluid past a neo-Hookean solid at arbitrary Reynolds number. <i>Physics of Fluids</i> , 2017, 29, .	4.0	12
41	Effect of tangential interface motion on the viscous instability in fluid flow past flexible surfaces. <i>European Physical Journal B</i> , 2001, 23, 533-550.	1.5	10
42	Instability suppression in viscoelastic film flows down an inclined plane lined with a deformable solid layer. <i>Physical Review E</i> , 2007, 76, 046314.	2.1	10
43	CFD simulations to study the effects of wall protrusions on microfluidic mixing. <i>Journal of Micromechanics and Microengineering</i> , 2015, 25, 084008.	2.6	10
44	Elastohydrodynamic Suppression of Free-Surface Instabilities in Annular Liquid Film Flow Outside Wires and Inside Tubes. <i>Industrial & Engineering Chemistry Research</i> , 2008, 47, 6473-6485.	3.7	9
45	Stability of plane Couette flow of Carreau fluids past a deformable solid at arbitrary Reynolds numbers. <i>Physics of Fluids</i> , 2018, 30, .	4.0	8
46	Stability of two-layer viscoelastic plane Couette flow past a deformable solid layer: implications of fluid viscosity stratification. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2005, 125, 143-158.	2.4	7
47	Manipulation of instabilities in core-annular flows using a deformable solid layer. <i>Physics of Fluids</i> , 2013, 25, .	4.0	7
48	Passive manipulation of free-surface instability by deformable solid bilayers. <i>Physical Review E</i> , 2016, 94, 013111.	2.1	7
49	Suppression or enhancement of interfacial instability in two-layer plane Couette flow of FENE-P fluids past a deformable solid layer. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2007, 141, 43-58.	2.4	6
50	Planar equilibria of sessile and pendant liquid drops on geometrically non-linear elastic membranes. <i>Physics of Fluids</i> , 2018, 30, 082114.	4.0	6
51	Flow-induced resonant shear-wave instability between a viscoelastic fluid and an elastic solid. <i>Physics of Fluids</i> , 2019, 31, .	4.0	6
52	Consistent formulation of solid dissipative effects in stability analysis of flow past a deformable solid. <i>Physical Review Fluids</i> , 2016, 1, .	2.5	6
53	Onset of transient shear banding in viscoelastic shear start-up flows: Implications from linearized dynamics. <i>Journal of Rheology</i> , 2021, 65, 1391-1412.	2.6	6
54	Manipulation of interfacial instabilities by using a soft, deformable solid layer. <i>Sadhana - Academy Proceedings in Engineering Sciences</i> , 2015, 40, 1033-1048.	1.3	5

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55	Onset of transition in the flow of polymer solutions through deformable tubes. Physics of Fluids, 2019, 31, 114103.	4.0	3
56	Instability driven by shear thinning and elasticity in the flow of concentrated polymer solutions through microtubes. Physical Review Fluids, 2019, 4, .	2.5	3
57	Instability induced by wall deformability in sliding Couette flow. Physics of Fluids, 2020, 32, .	4.0	3
58	Stability of flow in a deformable channel with an unrestrained boundary. Physics of Fluids, 2020, 32, 054107.	4.0	2
59	Stability of gravity-driven free-surface flow past a deformable solid: The role of depth-dependent modulus. Physical Review E, 2020, 101, 043107.	2.1	2
60	Electrohydrodynamic instability of confined viscoelastic liquid jets. Journal of Non-Newtonian Fluid Mechanics, 2021, 288, 104453.	2.4	2
61	Stability of plane Poiseuille flow of a Bingham fluid through a deformable neo-Hookean channel. Physical Review Fluids, 2019, 4, .	2.5	2
62	A linear route to elasto-inertial turbulence. , 2022, 3, 100051.		2
63	Instability of ultrathin viscoelastic freestanding films. Physics of Fluids, 2021, 33, 032115.	4.0	1
64	Dynamics and shear banding in stress-controlled start-up shear flow of a model aging soft materials: the role of inertia and thixotropy. Rheologica Acta, 2022, 61, 355.	2.4	1
65	Suppression of Interfacial Instabilities using Soft, Deformable Solid Coatings. Springer Tracts in Mechanical Engineering, 2015, , 179-232.	0.3	0