

Viswanathan Shankar

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

64
papers

1,076
citations

18
h-index

29
g-index

68
ext. papers

1,228
ext. citations

3.5
avg, IF

4.84
L-index

#	Paper	IF	Citations
64	Understanding viscoelastic flow instabilities: Oldroyd-B and beyond. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2022 , 302, 104742	2.7	3
63	Dynamics and shear banding in stress-controlled start-up shear flow of a model aging soft materials: the role of inertia and thixotropy. <i>Rheologica Acta</i> , 2022 , 61, 355	2.3	1
62	Onset of transient shear banding in viscoelastic shear start-up flows: Implications from linearized dynamics. <i>Journal of Rheology</i> , 2021 , 65, 1391-1412	4.1	4
61	The centre-mode instability of viscoelastic plane Poiseuille flow. <i>Journal of Fluid Mechanics</i> , 2021 , 915,	3.7	10
60	Instability of ultrathin viscoelastic freestanding films. <i>Physics of Fluids</i> , 2021 , 33, 032115	4.4	0
59	Distinguishing thixotropy from viscoelasticity. <i>Journal of Rheology</i> , 2021 , 65, 663-680	4.1	12
58	Linear instability of viscoelastic pipe flow. <i>Journal of Fluid Mechanics</i> , 2021 , 908,	3.7	10
57	Electrohydrodynamic instability of confined viscoelastic liquid jets. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2021 , 288, 104453	2.7	1
56	Continuous Pathway between the Elasto-Inertial and Elastic Turbulent States in Viscoelastic Channel Flow. <i>Physical Review Letters</i> , 2021 , 127, 134502	7.4	7
55	Stability of flow in a deformable channel with an unrestrained boundary. <i>Physics of Fluids</i> , 2020 , 32, 054107	4.4	1
54	Early transition, relaminarization and drag reduction in the flow of polymer solutions through microtubes. <i>Journal of Fluid Mechanics</i> , 2020 , 885,	3.7	9
53	Instability induced by wall deformability in sliding Couette flow. <i>Physics of Fluids</i> , 2020 , 32, 114102	4.4	0
52	Stability of gravity-driven free-surface flow past a deformable solid: The role of depth-dependent modulus. <i>Physical Review E</i> , 2020 , 101, 043107	2.4	1
51	Flow-induced resonant shear-wave instability between a viscoelastic fluid and an elastic solid. <i>Physics of Fluids</i> , 2019 , 31, 084107	4.4	3
50	Elasto-inertial wall mode instabilities in viscoelastic plane Poiseuille flow. <i>Journal of Fluid Mechanics</i> , 2019 , 881, 119-163	3.7	12
49	Instability driven by shear thinning and elasticity in the flow of concentrated polymer solutions through microtubes. <i>Physical Review Fluids</i> , 2019 , 4,	2.8	2
48	Stability of plane Poiseuille flow of a Bingham fluid through a deformable neo-Hookean channel. <i>Physical Review Fluids</i> , 2019 , 4,	2.8	1

47	Onset of transition in the flow of polymer solutions through deformable tubes. <i>Physics of Fluids</i> , 2019 , 31, 114103	4.4	3
46	Stability of flow through deformable channels and tubes: implications of consistent formulation. <i>Journal of Fluid Mechanics</i> , 2019 , 860, 837-885	3.7	9
45	Onset of transition in the flow of polymer solutions through microtubes. <i>Journal of Fluid Mechanics</i> , 2018 , 844, 1052-1083	3.7	18
44	Stability of plane Couette flow of Carreau fluids past a deformable solid at arbitrary Reynolds numbers. <i>Physics of Fluids</i> , 2018 , 30, 074103	4.4	7
43	Role of inertia and thixotropy in start-up flows of aging soft materials: Transient dynamics and shear banding in a rate-controlled flow field. <i>Journal of Rheology</i> , 2018 , 62, 1001-1016	4.1	14
42	Viscoelastic Pipe Flow is Linearly Unstable. <i>Physical Review Letters</i> , 2018 , 121, 024502	7.4	30
41	Planar equilibria of sessile and pendant liquid drops on geometrically non-linear elastic membranes. <i>Physics of Fluids</i> , 2018 , 30, 082114	4.4	4
40	Consistent formulations for stability of fluid flow through deformable channels and tubes. <i>Journal of Fluid Mechanics</i> , 2017 , 827, 31-66	3.7	19
39	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, 074106	4.4	9
38	Absolute and convective instabilities in combined Couette-Poiseuille flow past a neo-Hookean solid. <i>Physics of Fluids</i> , 2017 , 29, 124104	4.4	11
37	Consistent formulation of solid dissipative effects in stability analysis of flow past a deformable solid. <i>Physical Review Fluids</i> , 2016 , 1,	2.8	5
36	Passive manipulation of free-surface instability by deformable solid bilayers. <i>Physical Review E</i> , 2016 , 94, 013111	2.4	5
35	CFD simulations to study the effects of wall protrusions on microfluidic mixing. <i>Journal of Micromechanics and Microengineering</i> , 2015 , 25, 084008	2	8
34	Experimental study of the instability of laminar flow in a tube with deformable walls. <i>Physics of Fluids</i> , 2015 , 27, 024102	4.4	28
33	Manipulation of interfacial instabilities by using a soft, deformable solid layer. <i>Sadhana - Academy Proceedings in Engineering Sciences</i> , 2015 , 40, 1033-1048	1	5
32	Stability of fluid flow through deformable tubes and channels: An overview. <i>Sadhana - Academy Proceedings in Engineering Sciences</i> , 2015 , 40, 925-943	1	16
31	Suppression of Interfacial Instabilities using Soft, Deformable Solid Coatings. <i>Springer Tracts in Mechanical Engineering</i> , 2015 , 179-232	0.3	
30	Numerical simulation of mixing at 1μ and 1λ microfluidic junctions. <i>Chemical Engineering and Processing: Process Intensification</i> , 2014 , 85, 227-240	3.7	44

29	Instability of viscous flow over a deformable two-layered gel: experiments and theory. <i>Physical Review E</i> , 2014 , 90, 043004	2.4	10
28	Manipulation of instabilities in core-annular flows using a deformable solid layer. <i>Physics of Fluids</i> , 2013 , 25, 014104	4.4	7
27	Suppression of purely elastic instabilities in the torsional flow of viscoelastic fluid past a soft solid. <i>Physics of Fluids</i> , 2013 , 25, 124102	4.4	12
26	Role of wall deformability on interfacial instabilities in gravity-driven two-layer flow with a free surface. <i>Physics of Fluids</i> , 2010 , 22, 094103	4.4	11
25	Stability of pressure-driven flow in a deformable neo-Hookean channel. <i>Journal of Fluid Mechanics</i> , 2010 , 659, 318-350	3.7	30
24	Electric-field and contact-force induced tunable patterns in slipping soft elastic films. <i>Europhysics Letters</i> , 2010 , 89, 36002	1.6	14
23	Stability of fluid flow through deformable neo-Hookean tubes. <i>Journal of Fluid Mechanics</i> , 2009 , 627, 291-322	3.7	34
22	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	3.9	7
21	Instabilities and pattern miniaturization in confined and free elastic-viscous bilayers. <i>Journal of Chemical Physics</i> , 2008 , 128, 154909	3.9	22
20	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	2.7	6
19	Electrohydrodynamic instability of a confined viscoelastic liquid film. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2007 , 143, 120-130	2.7	51
18	Stability of gravity-driven free-surface flow past a deformable solid at zero and finite Reynolds number. <i>Physics of Fluids</i> , 2007 , 19, 024105	4.4	18
17	Instability suppression in viscoelastic film flows down an inclined plane lined with a deformable solid layer. <i>Physical Review E</i> , 2007 , 76, 046314	2.4	8
16	Suppression of instability in liquid flow down an inclined plane by a deformable solid layer. <i>Physical Review E</i> , 2006 , 73, 016301	2.4	17
15	Instability and dynamics of thin viscoelastic liquid films. <i>European Physical Journal E</i> , 2006 , 20, 185-200	1.5	36
14	Instability of high-frequency modes in viscoelastic plane Couette flow past a deformable wall at low and finite Reynolds number. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2005 , 125, 121-141	2.7	16
13	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	2.7	5
12	Stability of two-layer Newtonian plane Couette flow past a deformable solid layer. <i>Physics of Fluids</i> , 2004 , 16, 4426-4442	4.4	17

11	Instability of viscoelastic plane Couette flow past a deformable wall. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2004 , 116, 371-393	2.7	33
10	Stability of two-layer viscoelastic plane Couette flow past a deformable solid layer. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2004 , 117, 163-182	2.7	13
9	Instability of the interface between thin fluid films subjected to electric fields. <i>Journal of Colloid and Interface Science</i> , 2004 , 274, 294-308	9.3	112
8	Stability of wall modes in fluid flow past a flexible surface. <i>Physics of Fluids</i> , 2002 , 14, 2324	4.4	43
7	Theory of linear viscoelasticity of semiflexible rods in dilute solution. <i>Journal of Rheology</i> , 2002 , 46, 1111-1154	4.15	50
6	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	1.2	10
5	Asymptotic analysis of wall modes in a flexible tube revisited. <i>European Physical Journal B</i> , 2001 , 19, 607-622	1.2	27
4	Viscoelasticity of dilute solutions of semiflexible polymers. <i>Physical Review E</i> , 2001 , 64, 020802	2.4	49
3	Weakly nonlinear stability of viscous flow past a flexible surface. <i>Journal of Fluid Mechanics</i> , 2001 , 434, 337-354	3.7	30
2	Stability of fluid flow in a flexible tube to non-axisymmetric disturbances. <i>Journal of Fluid Mechanics</i> , 2000 , 407, 291-314	3.7	37
1	Stability of non-parabolic flow in a flexible tube. <i>Journal of Fluid Mechanics</i> , 1999 , 395, 211-236	3.7	39