Stephen K Wilson

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Young and Youngâ€“Laplace equations for a static ridge of nematic liquid crystal, and transitions between equilibrium states. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2022, 478, 20210849.	2.1	3
2	Unsteady coating flow on a rotating cylinder in the presence of an irrotational airflow with circulation. Physics of Fluids, 2022, 34, 043105.	4.0	3
3	Coating flow on a rotating cylinder in the presence of an irrotational airflow with circulation. Journal of Fluid Mechanics, 2022, 932, .	3.4	1
4	The ventilation of buildings and other mitigating measures for COVID-19: a focus on wintertime. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20200855.	2.1	47
5	The Lifetimes of Evaporating Sessile Droplets of Water Can Be Strongly Influenced by Thermal Effects. Fluids, 2021, 6, 141.	1.7	7
6	Contact-line deposits from multiple evaporating droplets. Physical Review Fluids, 2021, 6, .	2.5	17
7	Evaporation of a thin droplet in a shallow well: theory and experiment. Journal of Fluid Mechanics, 2021, 927, .	3.4	7
8	The Strong Influence of Thermal Effects on the Lifetime of an Evaporating Droplet. , 2021, , 105-109.		0
9	Rivulet flow over and through a permeable membrane. Physical Review Fluids, 2021, 6, .	2.5	3
10	Competitive evaporation of multiple sessileÂdroplets. Journal of Fluid Mechanics, 2020, 884, .	3.4	47
11	On the Effect of Substrate Viscoelasticity on the Evaporation Kinetics and Deposition Patterns of Nanosuspension Drops. Langmuir, 2020, 36, 204-213.	3.5	21
12	Rivulet flow down a slippery substrate. Physics of Fluids, 2020, 32, 072011.	4.0	4
13	Transient flow-driven distortion of a nematic liquid crystal in channel flow with dissipative weak planar anchoring. Physical Review E, 2020, 102, 062703.	2.1	5
14	The shielding effect extends the lifetimes of two-dimensional sessile droplets. Journal of Engineering Mathematics, 2020, 120, 89-110.	1.2	16
15	Thixotropic pumping in a cylindrical pipe. Physical Review Fluids, 2020, 5, .	2.5	6
16	Squeezing a drop of nematic liquid crystal with strong elasticity effects. Physics of Fluids, 2019, 31, 083107.	4.0	5
17	The lifetimes of evaporating sessile droplets are significantly extended by strong thermal effects. Journal of Fluid Mechanics, 2018, 851, 231-244.	3.4	24
18	Rivulet flow of generalized Newtonian fluids. Physical Review Fluids, 2018, 3, .	2.5	6

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19	Unsteady motion of a long bubble or droplet in a self-rewetting system. Physical Review Fluids, 2018, 3, .	2.5	8
20	Squeeze-film flow between a curved impermeable bearing and a flat porous bed. Physics of Fluids, 2017, 29, 023101.	4.0	10
21	Unsteady flow of a thixotropic fluid in a slowly varying pipe. Physics of Fluids, 2017, 29, .	4.0	12
22	Preface to the inaugural â€œPerspectivesâ€• article entitled â€œThe importance of being thinâ€• by Stephen H. Davis. Journal of Engineering Mathematics, 2017, 105, 1-2.	1.2	0
23	Advection and Taylorâ€"Aris dispersion in rivulet flow. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2017, 473, 20170524.	2.1	11
24	Preface to the special issue celebrating 50 years of the Journal of Engineering Mathematics. Journal of Engineering Mathematics, 2017, 107, 1-4.	1.2	0
25	Simple waves and shocks in a thin film of a perfectly soluble anti-surfactant solution. Journal of Engineering Mathematics, 2017, 107, 167-178.	1.2	5
26	Flow of a thixotropic or antithixotropic fluid in a slowly varying channel: The weakly advective regime. Journal of Non-Newtonian Fluid Mechanics, 2016, 238, 140-157.	2.4	17
27	Fluid-dynamical model for antisurfactants. Physical Review E, 2016, 93, 043121.	2.1	11
28	Dynamic response of a thin sessile drop of conductive liquid to an abruptly applied or removed electric field. Physical Review E, 2016, 94, 043112.	2.1	6
29	Porous squeeze-film flow. IMA Journal of Applied Mathematics, 2015, 80, 376-409.	1.6	12
30	Evaporation of Droplets on Strongly Hydrophobic Substrates. Langmuir, 2015, 31, 3653-3660.	3.5	83
31	Closed-form solution of a thermocapillary free-film problem due to Pukhnachev. European Journal of Applied Mathematics, 2015, 26, 721-741.	2.9	2
32	Shallow flows of generalised Newtonian fluids on an inclined plane. Journal of Engineering Mathematics, 2015, 94, 115-133.	1.2	12
33	On the lifetimes of evaporating droplets with related initial and receding contact angles. Physics of Fluids, 2015, 27, .	4.0	89
34	Deformation of a nearly hemispherical conducting drop due to an electric field: Theory and experiment. Physics of Fluids, 2014, 26, 122106.	4.0	29
35	A pinned or free-floating rigid plate on a thin viscous film. Journal of Fluid Mechanics, 2014, 760, 407-430.	3.4	4
36	On the lifetimes of evaporating droplets. Journal of Fluid Mechanics, 2014, 744, .	3.4	160

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37	Rivulet flow round a horizontal cylinder subject to a uniform surface shear stress. Quarterly Journal of Mechanics and Applied Mathematics, 2014, 67, 567-597.	1.3	9
38	Thin-film flow in helically wound rectangular channels with small torsion. Physics of Fluids, 2013, 25, 083103.	4.0	6
39	Comment on â€œIncreased Evaporation Kinetics of Sessile Droplets by Using Nanoparticlesâ€• Langmuir, 2013, 29, 12328-12329.	3.5	3
40	Three-dimensional coating and rimming flow: a ring of fluid on a rotating horizontal cylinder. Journal of Fluid Mechanics, 2013, 716, 51-82.	3.4	14
41	Travelling-wave similarity solutions for a steadily translating slender dry patch in a thin fluid film. Physics of Fluids, 2013, 25, 052103.	4.0	11
42	Thermoviscous Coating and Rimming Flow. Quarterly Journal of Mechanics and Applied Mathematics, 2012, 65, 483-511.	1.3	17
43	The Stokes boundary layer for a thixotropic or antithixotropic fluid. Journal of Non-Newtonian Fluid Mechanics, 2012, 185-186, 18-38.	2.4	17
44	Similarity solutions for unsteady shear-stress-driven flow of Newtonian and power-law fluids: slender rivulets and dry patches. Journal of Engineering Mathematics, 2012, 73, 53-69.	1.2	9
45	Preface to the special issue on â€œRecent Developments and New Directions in Thin-Film Flowâ€• Journal of Engineering Mathematics, 2012, 73, 1-2.	1.2	1
46	The energetics of the breakup of a sheet and of a rivulet on a vertical substrate in the presence of a uniform surface shear stress. Journal of Fluid Mechanics, 2011, 674, 281-306.	3.4	19
47	Heat and fluid flow in a scraped-surface heat exchanger containing a fluid with temperature-dependent viscosity. Journal of Engineering Mathematics, 2010, 68, 301-325.	1.2	12
48	Quasi-Steady Spreading of A Thin Ridge of Fluid With Temperature-Dependent Surface Tension on A Heated or Cooled Substrate. Quarterly Journal of Mechanics and Applied Mathematics, 2009, 62, 365-402.	1.3	12
49	Evaporation of a thin droplet on a thin substrate with a high thermal resistance. Physics of Fluids, 2009, 21, .	4.0	35
50	The strong influence of substrate conductivity on droplet evaporation. Journal of Fluid Mechanics, 2009, 623, 329-351.	3.4	272
51	Asymptotic and numerical analysis of a simple model for blade coating. Journal of Engineering Mathematics, 2009, 63, 155-176.	1.2	11
52	Large-Biot-number non-isothermal flow of a thin film on a stationary or rotating cylinder. European Physical Journal: Special Topics, 2009, 166, 147-150.	2.6	8
53	On the effect of the atmosphere on the evaporation of sessile droplets of water. Physics of Fluids, 2009, 21, .	4.0	135
54	A mathematical model for the evaporation of a thin sessile liquid droplet: Comparison between experiment and theory. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2008, 323, 50-55.	4.7	119

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55	Modeling the Kinetics of Enzymic Reactions in Mainly Solid Reaction Mixtures. Biotechnology Progress, 2008, 19, 1228-1237.	2.6	1
56	A mathematical model for blade coating of a nematic liquid crystal. Liquid Crystals, 2007, 34, 621-631.	2.2	15
57	A thin rivulet of perfectly wetting fluid subject to a longitudinal surface shear stress. Quarterly Journal of Mechanics and Applied Mathematics, 2007, 61, 25-61.	1.3	23
58	A mathematical model of fluid flow in a scraped-surface heat exchanger. Journal of Engineering Mathematics, 2007, 57, 381-405.	1.2	14
59	Shear-driven and pressure-driven flow of a nematic liquid crystal in a slowly varying channel. Physics of Fluids, 2006, 18, 027105.	4.0	20
60	Unidirectional flow of a thin rivulet on a vertical substrate subject to a prescribed uniform shear stress at its free surface. Physics of Fluids, 2005, 17, 108105.	4.0	22
61	Steady Flow of a Nematic Liquid Crystal in a Slowly Varying Channel. Molecular Crystals and Liquid Crystals, 2005, 438, 237/[1801]-249/[1813].	0.9	6
62	A rivulet of perfectly wetting fluid draining steadily down a slowly varying substrate. IMA Journal of Applied Mathematics, 2004, 70, 293-322.	1.6	17
63	Strong temperature-dependent-viscosity effects on a rivulet draining down a uniformly heated or cooled slowly varying substrate. Physics of Fluids, 2003, 15, 827-840.	4.0	25
64	A rivulet of perfectly wetting fluid with temperature-dependent viscosity draining down a uniformly heated or cooledâ€‰slowlyâ€‰varyingâ€‰substrate. Physics of Fluids, 2003, 15, 3236.	4.0	9
65	A Slender Rivulet of a Power-Law Fluid Driven by Either Gravity or a Constant Shear Stress at the Free Surface. Quarterly Journal of Mechanics and Applied Mathematics, 2002, 55, 385-408.	1.3	22
66	On the Critical Solutions in Coating and Rimming Flow on a Uniformly Rotating Horizontal Cylinder. Quarterly Journal of Mechanics and Applied Mathematics, 2002, 55, 357-383.	1.3	38
67	On the gravity-driven draining of a rivulet of a viscoplastic material down a slowly varying substrate. Physics of Fluids, 2002, 14, 555-571.	4.0	23
68	The linear stability of a drop of fluid during spin coating or subject to a jet of air. Physics of Fluids, 2002, 14, 133-142.	4.0	17
69	Thermocapillary effects on a thin viscous rivulet draining steadily down a uniformly heated or cooled slowly varying substrate. Journal of Fluid Mechanics, 2001, 441, 195-221.	3.4	26
70	Thin-film flow of a viscoplastic material round a large horizontal stationary or rotating cylinder. Journal of Fluid Mechanics, 2001, 430, 309-333.	3.4	25
71	The linear stability of a ridge of fluid subject to a jet of air. Physics of Fluids, 2001, 13, 872-883.	4.0	12
72	On a slender dry patch in a liquid film draining under gravity down an inclined plane. European Journal of Applied Mathematics, 2001, 12, 233-252.	2.9	34

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73	The dynamics of thin fluid films. European Journal of Applied Mathematics, 2001, 12, 193-194.	2.9	1
74	The rate of spreading in spin coating. Journal of Fluid Mechanics, 2000, 413, 65-88.	3.4	55
75	Thin-film and curtain flows on the outside of a rotating horizontal cylinder. Journal of Fluid Mechanics, 1999, 394, 29-49.	3.4	33
76	Blade coating of a power-law fluid. Physics of Fluids, 1999, 11, 958-970.	4.0	42
77	The effect of a uniform vertical magnetic field on the onset of oscillatory marangoni convection in a horizontal layer of conducting fluid. Acta Mechanica, 1999, 132, 129-146.	2.1	19
78	The onset of oscillatory Marangoni convection in a semi-infinitely deep layer of fluid. Zeitschrift Fur Angewandte Mathematik Und Physik, 1999, 50, 546.	1.4	8
79	Spin coating and air-jet blowing of thin viscous drops. Physics of Fluids, 1999, 11, 30-47.	4.0	33
80	The unsteady expansion and contraction of a long two-dimensional vapour bubble between superheated or subcooled parallel plates. Journal of Fluid Mechanics, 1999, 391, 1-27.	3.4	28
81	On the gravity-driven draining of a rivulet of viscous fluid downâ€‰aâ€‰slowly varying substrate with variation transverse to the direction of flow. Physics of Fluids, 1998, 10, 13-22.	4.0	35
82	On the linear growth rates of the long-wave modes in BÃ©nardâ€“Marangoni convection. Physics of Fluids, 1997, 9, 2455-2457.	4.0	16
83	The linear stability of flat-plate boundary-layer flow of fluid with temperature-dependent viscosity. Physics of Fluids, 1997, 9, 2885-2898.	4.0	23
84	A mathematical model for drying paint layers. Journal of Engineering Mathematics, 1997, 32, 377-394.	1.2	61
85	The derivation and analysis of a model of the drying process of a paint film. Journal of Coatings Technology and Research, 1997, 80, 162-167.	0.2	12
86	The effect of uniform internal heat generation on the onset of steady Marangoni convection in a horizontal layer of fluid. Acta Mechanica, 1997, 124, 63-78.	2.1	17
87	The linear stability of channel flow of fluid with temperature-dependent viscosity. Journal of Fluid Mechanics, 1996, 323, 107-132.	3.4	70
88	An asymptotic analysis of small holes in thin fluid layers. Journal of Engineering Mathematics, 1996, 30, 445-457.	1.2	6
89	The effect of an axial temperature gradient on the steady motion of a large droplet in a tube. Journal of Engineering Mathematics, 1995, 29, 205-217.	1.2	13
90	The effect of a uniform magnetic field on the onset of steady Marangoni convection in a layer of conducting fluid with a prescribed heat flux at its lower boundary. Physics of Fluids, 1994, 6, 3591-3600.	4.0	30

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91	The levelling of paint films. IMA Journal of Applied Mathematics, 1993, 50, 149-166.	1.6	35
92	The steady thermocapillaryâ€driven motion of a large droplet in a closed tube. Physics of Fluids A, Fluid Dynamics, 1993, 5, 2064-2066.	1.6	15
93	Incompressible water-entry problems at small deadrise angles. Journal of Fluid Mechanics, 1991, 222, 215.	3.4	265
94	Patterns formed in a thin film with spatially homogeneous and non-homogeneous Derjaguin disjoining pressure. European Journal of Applied Mathematics, 0, , 1-25.	2.9	0