Thomas P Witelski

List of Publications by Year
in descending order

89	2,069	218677	254184
papers	citations	26 h-index	43 g-index

92	92	92	1316
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	ADI schemes for higher-order nonlinear diffusion equations. Applied Numerical Mathematics, 2003, 45, 331-351.	2.1	115
2	Axisymmetric Surface Diffusion: Dynamics and Stability of Self-Similar Pinchoff. Journal of Statistical Physics, 1998, 93, 725-776.	1.2	109
3	Lubrication Models with Small to Large Slip Lengths. Journal of Engineering Mathematics, 2005, 53, 359-383.	1.2	109
4	Dewetting films: bifurcations and concentrations. Nonlinearity, 2001, 14, 1569-1592.	1.4	97
5	New Slip Regimes and the Shape of Dewetting Thin Liquid Films. Physical Review Letters, 2005, 95, 127801.	7.8	94
6	Stability of self-similar solutions for van der Waals driven thin film rupture. Physics of Fluids, 1999, 11, 2443-2445.	4.0	91
7	Rupture of thin viscous films by van der Waals forces: Evolution and self-similarity. Physics of Fluids, 2001, 13, 1130-1140.	4.0	91
8	Dynamics of three-dimensional thin film rupture. Physica D: Nonlinear Phenomena, 2000, 147, 155-176.	2.8	80
9	Self-similar Asymptotics for Linear and Nonlinear Diffusion Equations. Studies in Applied Mathematics, 1998, 100, 153-193.	2.4	79
10	Principles that govern competition or co-existence in Rho-GTPase driven polarization. PLoS Computational Biology, 2018, 14, e1006095.	3.2	63
11	A theory of pad conditioning for chemical-mechanical polishing. Journal of Engineering Mathematics, 2004, 50, 1-24.	1.2	56
12	Blowup and dissipation in a critical-case unstable thin film equation. European Journal of Applied Mathematics, 2004, 15, 223-256.	2.9	50
13	Collision versus collapse of droplets in coarsening of dewetting thin films. Physica D: Nonlinear Phenomena, 2005, 209, 80-104.	2.8	47
14	Nonmonotonic traveling wave solutions of infiltration into porous media. Water Resources Research, 2008, 44, .	4.2	37
15	Merging traveling waves for the porous-Fisher's equation. Applied Mathematics Letters, 1995, 8, 57-62.	2.7	36
16	On Spiking Models for Synaptic Activity and Impulsive Differential Equations. SIAM Review, 2008, 50, 553-569.	9.5	35
17	The Effect of Polar Lipids on Tear Film Dynamics. Bulletin of Mathematical Biology, 2011, 73, 1171-1201.	1.9	35
18	Segregation and mixing in degenerate diffusion in population dynamics. Journal of Mathematical Biology, 1997, 35, 695-712.	1.9	34

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19	Acoustohydrodynamic tweezers via spatial arrangement of streaming vortices. Science Advances, 2021, 7, .	10.3	34
20	Shocks in nonlinear diffusion. Applied Mathematics Letters, 1995, 8, 27-32.	2.7	32
21	Perturbation Analysis for Wetting Fronts in Richard's Equation. Transport in Porous Media, 1997, 27, 121-134.	2.6	32
22	Gravity-driven thin liquid films with insoluble surfactant: smooth traveling waves. European Journal of Applied Mathematics, 2007, 18, 679-708.	2.9	32
23	Motion of wetting fronts moving into partially pre-wet soil. Advances in Water Resources, 2005, 28, 1133-1141.	3.8	31
24	The Structure of Internal Layers for Unstable Nonlinear Diffusion Equations. Studies in Applied Mathematics, 1996, 97, 277-300.	2.4	30
25	Shock Formation in a Multidimensional Viscoelastic Diffusive System. SIAM Journal on Applied Mathematics, 1995, 55, 348-368.	1.8	27
26	A discrete model for an ill-posed nonlinear parabolic PDE. Physica D: Nonlinear Phenomena, 2001, 160, 189-221.	2.8	27
27	Linear stability of source-type similarity solutions of the thin film equation. Applied Mathematics Letters, 2002, 15, 599-606.	2.7	25
28	Steady-Profile Fingering Flows in Marangoni Driven Thin Films. Physical Review Letters, 2004, 93, 247803.	7.8	24
29	Coarsening of unstable thin films subject to gravity. Physical Review E, 2008, 77, 016301.	2.1	23
30	Flow and fouling in a pleated membrane filter. Journal of Fluid Mechanics, 2016, 795, 36-59.	3.4	23
31	Traveling wave solutions for case II diffusion in polymers. Journal of Polymer Science, Part B: Polymer Physics, 1996, 34, 141-150.	2.1	20
32	On Spherically Symmetric Gravitational Collapse. Journal of Statistical Physics, 1998, 93, 863-899.	1.2	20
33	Transient and self-similar dynamics in thin film coarsening. Physica D: Nonlinear Phenomena, 2009, 238, 2380-2394.	2.8	20
34	An asymptotic solution for traveling waves of a nonlinear-diffusion Fisher's equation. Journal of Mathematical Biology, 1994, 33, 1-16.	1.9	19
35	Equilibrium interface solutions of a degenerate singular Cahn-Hilliard equation. Applied Mathematics Letters, 1998, 11, 127-133.	2.7	19
36	Symmetry and self-similarity in rupture and pinchoff: a geometric bifurcation. European Journal of Applied Mathematics, 2001, 12, 209-232.	2.9	19

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37	Stability and dynamics of self-similarity in evolution equations. Journal of Engineering Mathematics, 2010, 66, 11-31.	1.2	19
38	The Linear Limit of the Dipole Problem for the Thin Film Equation. SIAM Journal on Applied Mathematics, 2006, 66, 1727-1748.	1.8	18
39	Finite-time thin film rupture driven by modified evaporative loss. Physica D: Nonlinear Phenomena, 2017, 342, 1-15.	2.8	18
40	A new model for disturbance waves. International Journal of Multiphase Flow, 2014, 66, 38-45.	3.4	16
41	Stopping and merging problems for the porous media equation. IMA Journal of Applied Mathematics, 1995, 54, 227-243.	1.6	15
42	Dynamics of air bearing sliders. Physics of Fluids, 1998, 10, 698-708.	4.0	15
43	Motion of spiral waves in the complex Ginzburgâ€“Landau equation. Physica D: Nonlinear Phenomena, 2010, 239, 348-365.	2.8	15
44	A driven system of impacting pendulums: Experiments and simulations. Journal of Sound and Vibration, 2014, 333, 1734-1753.	3.9	15
45	Experimental study of regular and chaotic transients in a non-smooth system. International Journal of Non-Linear Mechanics, 2016, 81, 55-64.	2.6	15
46	Exponential Asymptotics for Thin Film Rupture. SIAM Journal on Applied Mathematics, 2013, 73, 232-253.	1.8	14
47	Large oscillations of beams and columns including self-weight. International Journal of Non-Linear Mechanics, 2008, 43, 761-771.	2.6	13
48	Intermediate asymptotics for Richards' equation in a finite layer. Journal of Engineering Mathematics, 2003, 45, 379-399.	1.2	12
49	Exact solution for the extensional flow of a viscoelastic filament. European Journal of Applied Mathematics, 2004, 15, 679-712.	2.9	12
50	Nonlinear dynamics of dewetting thin films. AIMS Mathematics, 2020, 5, 4229-4259.	1.6	12
51	Horizontal infiltration into wet soil. Water Resources Research, 1998, 34, 1859-1863.	4.2	11
52	On the properties of polymer globules in the high density limit. Journal of Chemical Physics, 1998, 108, 9144-9149.	3.0	11
53	Localized Marangoni forcing in driven thin films. Physica D: Nonlinear Phenomena, 2005, 209, 117-134.	2.8	10
54	Instability and dynamics of volatile thin films. Physical Review Fluids, 2018, 3, .	2.5	9

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55	ON AXISYMMETRIC TRAVELING WAVES AND RADIAL SOLUTIONS OF SEMIâ€LINEAR ELLIPTIC EQUATIONS. Natural Resource Modelling, 2000, 13, 339-388.	2.0	7
56	Taylor dispersion in osmotically driven laminar flows in phloem. Journal of Fluid Mechanics, 2021, 913, .	3.4	7
57	Similarity solutions of the lubrication equation. Applied Mathematics Letters, 1997, 10, 107-113.	2.7	6
58	Interaction of Spiral Waves in the Complex Ginzburg-Landau Equation. Physical Review Letters, 2008, 101, 224101.	7.8	6
59	Anomalous exponents of self-similar blow-up solutions to an aggregation equation in odd dimensions. Applied Mathematics Letters, 2012, 25, 2317-2321.	2.7	6
60	Obtaining self-similar scalings in focusing flows. Physical Review E, 2015, 92, 043016.	2.1	6
61	Critical wave speeds for a family of scalar reaction-diffusion equations. Applied Mathematics Letters, 2001, 14, 65-73.	2.7	5
62	Steady states of thin film droplets on chemically heterogeneous substrates. IMA Journal of Applied Mathematics, 2020, 85, 980-1020.	1.6	5
63	Uncovering the dynamics of a circadian-dopamine model influenced by the lightâ€“dark cycle. Mathematical Biosciences, 2022, 344, 108764.	1.9	5
64	STABILITY OF SHEAR BANDS IN AN ELASTOPLASTIC MODEL FOR GRANULAR FLOW: THE ROLE OF DISCRETENESS. Mathematical Models and Methods in Applied Sciences, 2003, 13, 1629-1671.	3.3	4
65	On the planar extensional motion of an inertially driven liquid sheet. Physics of Fluids, 2009, 21, 042101.	4.0	4
66	Computing finite-time singularities in interfacial flows. , 2002, , 451-487.		4
67	Decay of solutions to nonlinear parabolic equations: renormalization and rigorous results. Discrete and Continuous Dynamical Systems - Series B, 2003, 3, 565-588.	0.9	4
68	An Application of Pattern Recognition and Infrared Spectroscopy to Water Analysis. International Journal of Environmental Analytical Chemistry, 1991, 44, 127-136.	3.3	3
69	Perturbed reversible systems. Physics Letters, Section A: General, Atomic and Solid State Physics, 1995, 207, 83-86.	2.1	3
70	Stability of Gas Bearing Sliders for Large Bearing Number: Convective Instability of the Tapered SliderÂ©. Tribology Transactions, 1999, 42, 216-222.	2.0	3
71	Introduction to Practical Asymptotics III. Journal of Engineering Mathematics, 2005, 53, 199-199.	1.2	3
72	Growing surfactant waves in thin liquid films driven by gravity. Applied Mathematics Research EXpress, 2006, , .	1.0	3

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73	Global existence of solutions to a tear film model with locally elevated evaporation rates. Physica D: Nonlinear Phenomena, 2017, 350, 13-25.	2.8	3
74	Forbidden Regions for Shock Formation in Diffusive Systems. Studies in Applied Mathematics, 1995, 95, 297-317.	2.4	2
75	Boundary-Value Problems for Hyperbolic Equations Related to Steady Granular Flow. Mathematics and Mechanics of Solids, 2007, 12, 665-699.	2.4	2
76	Dynamics of spiral waves in the complex Ginzburgâ€“Landau equation in bounded domains. Physica D: Nonlinear Phenomena, 2020, 414, 132699.	2.8	2
77	Inaccessible States in Timeâ€Ðependent Reaction Diffusion. Studies in Applied Mathematics, 1996, 97, 301-319.	2.4	1
78	Large Bearing Number Stability Analysis for Tango Class Gas Bearing Sliders. Tribology Transactions, 1999, 42, 668-674.	2.0	1
79	The subtle art of blowing bubbles. Nature Physics, 2009, 5, 315-316.	16.7	1
80	A PARAMETRICALLY FORCED NONLINEAR SYSTEM WITH REVERSIBLE EQUILIBRIA. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1230020.	1.7	1
81	Preface to the special issue on â€œThin films and fluid interfacesâ€• Journal of Engineering Mathematics, 2015, 94, 1-3.	1.2	1
82	Oil capture from a water surface by a falling sphere. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2016, 497, 126-132.	4.7	1
83	Pressure-dipole solutions of the thin-film equation. European Journal of Applied Mathematics, 2019, 30, 358-399.	2.9	1
84	Steady states and dynamics of a thin-film-type equation with non-conserved mass. European Journal of Applied Mathematics, 2020, 31, 968-1001.	2.9	1
85	Thermal Marangoni-driven dynamics of spinning liquid films. Physical Review Fluids, 2019, 4, .	2.5	1
86	Short-time pattern formation in thin film equations. Discrete and Continuous Dynamical Systems, 2009, 23, 867-885.	0.9	1
87	Biaxial extensional motion of an inertially driven radially expanding liquid sheet. Physics of Fluids, 2013, 25, 062105.	4.0	0
88	DYNAMICS AND STABILITY OF VAN-DER-WAALS-DRIVEN THIN FILM RUPTURE. , 2002, , 241-241.		0
89	A vicinal surface model for epitaxial growth with logarithmic free energy. Discrete and Continuous Dynamical Systems - Series B, 2018, 23, 4433-4453.	0.9	0