

Philip M Trevelyan

List of Publications by Year in descending order

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Version: 2024-02-01

40
papers

1,356
citations

361045

20
h-index

360668

35
g-index

40
all docs

40
docs citations

40
times ranked

553
citing authors

#	ARTICLE	IF	CITATIONS
1	Chemically Driven Hydrodynamic Instabilities. <i>Physical Review Letters</i> , 2010, 104, 044501.	2.9	129
2	Buoyancy-driven instabilities of miscible two-layer stratifications in porous media and Hele-Shaw cells. <i>Journal of Fluid Mechanics</i> , 2011, 670, 38-65.	1.4	119
3	Modelling film flows down a fibre. <i>Journal of Fluid Mechanics</i> , 2008, 603, 431-462.	1.4	108
4	Viscous fingering of a miscible reactive $A + B \rightarrow C$ interface: a linear stability analysis. <i>Journal of Fluid Mechanics</i> , 2010, 652, 501-528.	1.4	88
5	Heated falling films. <i>Journal of Fluid Mechanics</i> , 2007, 592, 295-334.	1.4	78
6	Influence of Double Diffusive Effects on Miscible Viscous Fingering. <i>Physical Review Letters</i> , 2010, 105, 204501.	2.9	74
7	Experimental evidence of reaction-driven miscible viscous fingering. <i>Physical Review E</i> , 2012, 85, 015304.	0.8	64
8	Dynamics of $A + B \rightarrow C$ reaction fronts in the presence of buoyancy-driven convection. <i>Physical Review Letters</i> , 2008, 101, 084503.	1.9	60
9	Active Role of a Color Indicator in Buoyancy-Driven Instabilities of Chemical Fronts. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 752-757.	2.1	56
10	Free-surface thin-film flows over uniformly heated topography. <i>Physical Review E</i> , 2007, 75, 026306.	0.8	55
11	Convective Mixing Induced by Acid-Base Reactions. <i>Journal of Physical Chemistry B</i> , 2011, 115, 9739-9744.	1.2	53
12	Buoyancy-driven instabilities around miscible $A + B \rightarrow C$ reaction fronts: A general classification. <i>Physical Review E</i> , 2015, 91, 023001.	1.8	53
13	Wave dynamics on a thin-liquid film falling down a heated wall. <i>Journal of Engineering Mathematics</i> , 2004, 50, 177-208.	0.6	49
14	Mixed-mode instability of a miscible interface due to coupling between Rayleigh-Taylor and double-diffusive convective modes. <i>Physics of Fluids</i> , 2013, 25, .	1.6	48
15	Dynamics of a horizontal thin liquid film in the presence of reactive surfactants. <i>Physics of Fluids</i> , 2007, 19, 112102.	1.6	44
16	Differential diffusion effects on buoyancy-driven instabilities of acid-base fronts: the case of a color indicator. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 17295.	1.3	36
17	Dynamics of a reactive falling film at large Péclet numbers. I. Long-wave approximation. <i>Physics of Fluids</i> , 2004, 16, 3191-3208.	1.6	33
18	Influence of buoyancy-driven convection on the dynamics of $A + B \rightarrow C$ reaction fronts in horizontal solution layers. <i>Chemical Engineering Science</i> , 2010, 65, 2382-2391.	1.9	29

#	ARTICLE	IF	CITATIONS
19	Thermal effects on the diffusive layer convection instability of an exothermic acid-base reaction front. <i>Physical Review E</i> , 2013, 88, 033009.	0.8	23
20	Density profiles around $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \langle \text{mml:mrow} \langle \text{mml:mi} \text{A} \langle \text{mml:mi} \rangle \langle \text{mml:mo} \rangle + \langle \text{mml:mo} \rangle \langle \text{mml:mi} \text{B} \langle \text{mml:mi} \rangle \langle \text{mml:mo} \rangle \rangle \rangle \rangle$ reaction-diffusion fronts in partially miscible systems: A general classification. <i>Physical Review E</i> , 2016, 94, 043115.	0.8	22
21	Dynamics of a reactive falling film at large Péclet numbers. II. Nonlinear waves far from criticality: Integral-boundary-layer approximation. <i>Physics of Fluids</i> , 2004, 16, 3209-3226.	1.6	21
22	Dynamics of a vertically falling film in the presence of a first-order chemical reaction. <i>Physics of Fluids</i> , 2002, 14, 2402.	1.6	20
23	An analytical, numerical, and experimental comparison of the fluid velocity in the vicinity of an open tank with one and two lateral exhaust slot hoods and a uniform crossdraft. <i>Annals of Occupational Hygiene</i> , 2000, 44, 407-419.	1.9	12
24	Analytical asymptotic solutions of $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \text{display="inline"} \langle \text{mml:mrow} \langle \text{mml:mi} \text{n} \langle \text{mml:mi} \rangle \langle \text{mml:mi} \text{A} \langle \text{mml:mi} \rangle \langle \text{mml:mo} \rangle + \langle \text{mml:mo} \rangle \langle \text{mml:mi} \text{m} \langle \text{mml:mi} \rangle \langle \text{mml:mi} \text{B} \langle \text{mml:mi} \rangle \langle \text{mml:mo} \rangle \rangle \rangle \rangle$ equations in two-layer systems: A general study. <i>Physical Review E</i> , 2008, 78, 026122.	0.8	12
25	Interfacial hydrodynamic waves driven by chemical reactions. <i>Journal of Engineering Mathematics</i> , 2007, 59, 207-220.	0.6	10
26	Onset conditions for a Rayleigh-Taylor instability with step function density profiles. <i>Journal of Engineering Mathematics</i> , 2014, 86, 31-48.	0.6	10
27	Asymptotic properties of radial $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \langle \text{mml:mrow} \langle \text{mml:mi} \text{A} \langle \text{mml:mi} \rangle \langle \text{mml:mo} \rangle + \langle \text{mml:mo} \rangle \langle \text{mml:mi} \text{B} \langle \text{mml:mi} \rangle \langle \text{mml:mo} \rangle \rangle \rangle$ reaction fronts. <i>Physical Review E</i> , 2018, 98, .	0.8	12
28	Mass-transport enhancement in regions bounded by rigid walls. <i>Journal of Engineering Mathematics</i> , 2002, 42, 45-64.	0.6	8
29	Analytical small-time asymptotic properties of $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \text{display="inline"} \langle \text{mml:mrow} \langle \text{mml:mi} \text{A} \langle \text{mml:mi} \rangle \langle \text{mml:mo} \rangle + \langle \text{mml:mo} \rangle \langle \text{mml:mi} \text{B} \langle \text{mml:mi} \rangle \langle \text{mml:mo} \rangle \hat{\tau} \langle \text{mml:mo} \rangle \langle \text{mml:mi} \text{C} \langle \text{mml:mi} \rangle \rangle \rangle$. <i>Physical Review E</i> , 2009, 80, 046118.	0.8	8
30	Dynamics of a Reactive Thin Film. <i>Mathematical Modelling of Natural Phenomena</i> , 2012, 7, 99-145.	0.9	6
31	Circulation and reaction enhancement of mass transport in a cavity. <i>Chemical Engineering Science</i> , 2001, 56, 5177-5188.	1.9	5
32	Higher-order large-time asymptotics for a reaction of the form $nA + mB \rightarrow C$. <i>Physical Review E</i> , 2009, 79, 016105.	0.8	5
33	Potential flow in a semi-infinite channel with multiple sub-channels using the Schwarz-Christoffel transformation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2000, 189, 341-359.	3.4	3
34	Interfacial instabilities driven by chemical reactions. <i>European Physical Journal: Special Topics</i> , 2009, 166, 121-125.	1.2	3
35	Rayleigh-Taylor instabilities in miscible fluids with initially piecewise linear density profiles. <i>Journal of Engineering Mathematics</i> , 2020, 121, 57-83.	0.6	3
36	Publisher's Note: Higher-order large-time asymptotics for a reaction of the form $nA + mB \rightarrow C$ [Phys. Rev. E 79, 016105 (2009)]. <i>Physical Review E</i> , 2009, 79, .	0.8	0

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37	Chemically-Driven Miscible Viscous Fingering: How Can a Reaction Destabilize Typically Stable Fluid Displacements?. Springer Proceedings in Complexity, 2013, , 9-13.	0.2	0
38	Modelling film flows down a fibre – ERRATUM. Journal of Fluid Mechanics, 2020, 890, .	1.4	0
39	Approximating the large time asymptotic reaction zone solution for fractional order kinetics $A^n B^m$. Discrete and Continuous Dynamical Systems - Series S, 2012, 5, 219-234.	0.6	0
40	Rayleigh–Taylor instability of classical diffusive density profiles for miscible fluids in porous media: a linear stability analysis. Journal of Engineering Mathematics, 2022, 132, 1.	0.6	0