Alexander Oron

List of Publications by Year
in descending order

103 papers	4,638 citations	26 h-index 218381	67 g-index 98622
107 all docs	107 docs citations	107 times ranked	1998 citing authors

#	Article	IF	Citations
1	Long-scale evolution of thin liquid films. Reviews of Modern Physics, 1997, 69, 931-980.	16.4	2,461
2	Dewetting of a Heated Surface by an Evaporating Liquid Film under Conjoining/Disjoining Pressures. Journal of Colloid and Interface Science, 1999, 218, 152-166.	5.0	115
3	Nonlinear dynamics of three-dimensional long-wave Marangoni instability in thin liquid films. Physics of Fluids, 2000, 12, 1633-1645.	1.6	111
4	Some symmetries of the nonlinear heat and wave equations. Physics Letters, Section A: General, Atomic and Solid State Physics, 1986, 118, 172-176.	0.9	110
5	Three-Dimensional Nonlinear Dynamics of Thin Liquid Films. Physical Review Letters, 2000, 85, 2108-2111.	2.9	88
6	On a nonlinear thermocapillary effect in thin liquid layers. Journal of Fluid Mechanics, 1994, 273, 361-374.	1.4	87
7	Nonlinear evolution of nonuniformly heated falling liquid films. Physics of Fluids, 2002, 14, 4130-4151.	1.6	84
8	Formation of patterns induced by thermocapillarity and gravity. Journal De Physique II, 1992, 2, 131-146.	0.9	77
9	Long-wavelength thermocapillary instability with the Soret effect. Physical Review E, 2004, 69, 016313.	0.8	62
10	Evolution and breaking of liquid film flowing on a vertical cylinder. Physics of Fluids A, Fluid Dynamics, 1989, 1, 1763-1766.	1.6	61
11	Stable localized patterns in thin liquid films. Physical Review Letters, 1992, 68, 2948-2951.	2.9	53
12	Nonlinear dynamics of temporally excited falling liquid films. Physics of Fluids, 2002, 14, 2622-2636.	1.6	51
13	Long-wave Marangoni instability in a binary-liquid layer with deformable interface in the presence of Soret effect: Linear theory. Physics of Fluids, 2005, 17, 104104.	1.6	49
14	Bounded and unbounded patterns of the Benney equation. Physics of Fluids A, Fluid Dynamics, 1992, 4, 1102-1104.	1.6	48
15	Dynamics of a condensing liquid film under conjoining/disjoining pressures. Physics of Fluids, 2001, 13, 1107-1117.	1.6	47
16	Subcritical and supercritical bifurcations of the first- and second-order Benney equations. Journal of Engineering Mathematics, 2004, 50, 121-140.	0.6	46
17	Capillary rise of a meniscus with phase change. Journal of Colloid and Interface Science, 2008, 327, 145-151.	5.0	40
18	Capillary instability of thin liquid film on a cylinder. Physics of Fluids A, Fluid Dynamics, 1993, 5, 91-98.	1.6	38

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19	Suppression of the Rayleigh-Taylor instability of thin liquid films by the Marangoni effect. Physics of Fluids, 2007, 19, .	1.6	33
20	Weighted-residual integral boundary-layer model for the nonlinear dynamics of thin liquid films falling on an undulating vertical wall. Physics of Fluids, 2008, 20, .	1.6	33
21	Rayleigh-Taylor instability in thin liquid films subjected to harmonic vibration. Physics of Fluids, 2017, 29, .	1.6	33
22	Nonlinear dynamics of irradiated thin volatile liquid films. Physics of Fluids, 2000, 12, 29-41.	1.6	32
23	The dynamic behavior of charged aerosols. Journal of Colloid and Interface Science, 1989, 133, 66-79.	5.0	29
24	Marangoni convection in a binary liquid layer with Soret effect at small Lewis number: Linear stability analysis. Physics of Fluids, 2009, 21, 054101.	1.6	27
25	Novel pattern forming states for Marangoni convection in volatile binary liquids. Physics of Fluids, 2011, 23, .	1.6	27
26	Evolution of two-dimensional waves in externally perturbed flow on a vertical cylinder. Physical Review A, 1991, 43, 4558-4561.	1.0	26
27	Thermal singularities in film rupture. Physics of Fluids, 1996, 8, 3433-3435.	1.6	26
28	Energy integral method model for the nonlinear dynamics of an axisymmetric thin liquid film falling on a vertical cylinder. Physics of Fluids, 2009, 21, .	1.6	26
29	Linear and nonlinear theory of long-wave Marangoni instability with the Soret effect at finite Biot numbers. Physics of Fluids, 2006, 18, 054104.	1.6	25
30	Marangoni convection in binary mixtures. Physical Review E, 2007, 76, 016306.	0.8	25
31	Three-dimensional oscillatory long-wave Marangoni convection in a binary liquid layer with the Soret effect: Bifurcation analysis. Physics of Fluids, 2007, 19, .	1.6	24
32	Nonlinear pattern formation in thin liquid films under external vibrations. Physical Review E, 2013, 88, 023025.	0.8	24
33	Instability of a non-wetting film with interfacial viscous stress. Journal of Fluid Mechanics, 1995, 298, 287-309.	1.4	23
34	The dynamic behavior of charged aerosols. Journal of Colloid and Interface Science, 1989, 133, 80-90.	5.0	22
35	Nonlinear dynamics of a thin liquid film on an axially oscillating cylindrical surface. Physics of Fluids, 2010, 22, .	1.6	22
36	Nonlinear evolution and breaking of interfacial Rayleigh–Taylor waves. Physics of Fluids A, Fluid Dynamics, 1989, 1, 1155-1165.	1.6	20

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37	Stabilization of thin liquid films by internal heat generation. Physics of Fluids, 1998, 10, 537-539.	1.6	20
38	STABILITY AND BIFURCATIONS OF PARAMETRICALLY EXCITED THIN LIQUID FILMS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2004, 14, 4117-4141.	0.7	19
39	Stability of a two-layer binary-fluid system with a diffuse interface. Physics of Fluids, 2008, 20, 112105.	1.6	19
40	Vibration-induced floatation of a heavy liquid drop on a lighter liquid film. Physics of Fluids, 2019, 31, .	1.6	19
41	Long-wave Marangoni instability in a binary liquid layer on a thick solid substrate. Physical Review E, 2007, 76, 026309.	0.8	18
42	Thermocapillary instabilities in a liquid layer subjected to an oblique temperature gradient. Journal of Fluid Mechanics, 2021, 906, .	1.4	18
43	Thermocapillary modulation of self-rewetting films. Journal of Fluid Mechanics, 2017, 819, 562-591.	1.4	17
44	Evolution of the coupled Bénard-Marangoni convection. Physical Review A, 1989, 39, 2063-2069.	1.0	16
45	Bifurcations and pattern formation in the "regularized" Kuramoto-Sivashinsky equation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 163, 299-308.	0.9	15
46	Dynamics of thin liquid films falling on vertical cylindrical surfaces subjected to ultrasound forcing. Physical Review E, 2007, 76, 045301.	0.8	15
47	Weighted-residual integral boundary-layer model of temporally excited falling liquid films. European Journal of Mechanics, B/Fluids, 2009, 28, 37-60.	1.2	15
48	Nonlinear dynamics of long-wave Marangoni convection in a binary mixture with the Soret effect. Physics of Fluids, 2013, 25, .	1.6	15
49	Liquid film flow along a substrate with an asymmetric topography sustained by the thermocapillary effect. Physics of Fluids, 2016, 28, .	1.6	15
50	Stability of a falling liquid film in the presence of interfacial viscous stress. Physics of Fluids A, Fluid Dynamics, 1993, 5, 506-508.	1.6	14
51	On compactons induced by a non-convex convection. Communications in Nonlinear Science and Numerical Simulation, 2014, 19, 1329-1337.	1.7	14
52	Nonlinear dynamics of confined thin liquid-vapor bilayer systems with phase change. Physics of Fluids, 2011, 23, .	1.6	13
53	Numerical analysis of a weighted-residual integral boundary-layer model for nonlinear dynamics of falling liquid films. European Journal of Mechanics, B/Fluids, 2009, 28, 1-36.	1.2	12
54	The height of a static liquid column pulled out of an infinite pool. Physics of Fluids, 2010, 22, 102101.	1.6	11

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55	Nonlinear dynamics of a thin nonisothermal liquid film on an axially oscillating cylindrical surface. Physical Review E, 2011, 84, 061605.	0.8	11
56	Fluid transport in thin liquid films using traveling thermal waves. Physics of Fluids, 2013, 25, 072101.	1.6	11
57	Evolution and formation of dispersive-dissipative patterns. Physical Review E, 1997, 55, R1267-R1270.	0.8	10
58	Thermocapillary instability in a viscoelastic liquid layer under an imposed oblique temperature gradient. Physics of Fluids, 2021, 33, .	1.6	10
59	Marangoni instability in the linear Jeffreys fluid with a deformable surface. Physical Review Fluids, 2020, 5, .	1.0	10
60	Turbulent deposition of charged particles under the influence of an external electric field. Journal of Colloid and Interface Science, 1988, 121, 531-542.	5.0	9
61	The dynamic behavior of charged aerosols. Journal of Colloid and Interface Science, 1989, 133, 57-65.	5.0	9
62	Marangoni instability in a liquid sheet. Advances in Space Research, 1995, 16, 83-86.	1.2	9
63	Effect of sonic waves on gas filtration by granular beds. Journal of Aerosol Science, 2013, 57, 125-130.	1.8	9
64	Long-wave Marangoni convection in a layer of surfactant solution. Physics of Fluids, 2014, 26, .	1.6	9
65	Long-wave oscillatory convection in a binary liquid: Hexagonal patterns. Europhysics Letters, 2009, 86, 14005.	0.7	8
66	Oscillatory long-wave Marangoni convection in a layer of a binary liquid: Hexagonal patterns. Physical Review E, 2011, 84, 056327.	0.8	8
67	Flatons: Flat-top solitons in extended Gardner-like equations. Communications in Nonlinear Science and Numerical Simulation, 2020, 91, 105442.	1.7	8
68	On turbulent deposition of particles to rough surfaces. Journal of Aerosol Science, 1986, 17, 903-920.	1.8	7
69	Long-Wave Coupled Marangoni - Rayleigh Instability in a Binary Liquid Layer in the Presence of the Soret Effect. Mathematical Modelling of Natural Phenomena, 2008, 3, 1-26.	0.9	7
70	Analysis of time-dependent nonlinear dynamics of the axisymmetric liquid film on a vertical circular cylinder: Energy integral model. Physics of Fluids, 2011, 23, 012105.	1.6	7
71	Oscillatory Longwave Marangoni Convection in a Binary Liquid: Rhombic Patterns. SIAM Journal on Applied Mathematics, 2013, 73, 2203-2223.	0.8	7
72	Thermocapillary instabilities in a liquid layer subjected to an oblique temperature gradient: Effect of a prescribed normal temperature gradient at the substrate. Physics of Fluids, 2020, 32, .	1.6	7

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73	An asymptotic description of electrostatic precipitation of charged particles in turbulent flow. Journal of Aerosol Science, 1987, 18, 357-367.	1.8	6
74	Nonlinear dynamics of a thin liquid film on an axially oscillating cylindrical surface subjected to double-frequency forcing. Physical Review E, 2013, 87, 052403.	0.8	6
75	Long-wave Marangoni convection in a layer of surfactant solution: Bifurcation analysis. Physics of Fluids, 2015, 27, .	1.6	6
76	Dynamics of nonisothermal two-thin-fluid-layer systems subjected to harmonic tangential forcing under Rayleighâ€"Taylor instability conditions. Physics of Fluids, 2020, 32, 082113.	1.6	6
77	Creating localized-droplet train by traveling thermal waves. Physics of Fluids, 2014, 26, .	1.6	5
78	Stability analysis of a thin liquid film on an axially oscillating cylindrical surface in the high-frequency limit. Physical Review E, 2014, 90, 023007.	0.8	5
79	Nonlinear dynamics of a thin liquid film deposited on a laterally oscillating corrugated surface in the high-frequency limit. Physics of Fluids, 2016, 28, 112101.	1.6	5
80	Coupled double-diffusive thermocapillary instability: Linear and nonlinear analysis. Journal of Engineering Mathematics, 1997, 32, 343-364.	0.6	4
81	Ratchet flow of thin liquid films induced by a two-frequency tangential forcing. Physics of Fluids, 2018, 30, 022101.	1.6	4
82	Thermocapillary flow of a thin liquid film in a confined two-layer system under a hydrophobic plate. Physical Review Fluids, 2017, 2, .	1.0	4
83	Dynamics of a two-layer flow with an interfacial heat source/sink: viscosity stratification. Journal of Fluid Mechanics, 2022, 934, .	1.4	4
84	Linear stability of a tri-layer fluid system driven by the thermocapillary effect. Acta Astronautica, 1997, 40, 655-661.	1.7	3
85	Short commentary: Theory of thin liquid films: some questions and challenges. European Physical Journal E, 2003, 12, 455-458.	0.7	3
86	Long-Wave Marangoni Instability in a Binary-Liquid Layer with a Deformable Interface in the Presence of the Soret Effect: The Case of Finite Biot Numbers. Journal of Non-Equilibrium Thermodynamics, 2007, 32, .	2.4	3
87	Fifth International Symposium on Bifurcations and Instabilities in Fluid Dynamics (BIFD2013). Fluid Dynamics Research, 2014, 46, 041001.	0.6	3
88	Equilibrium shapes and floatability of static and vertically vibrated heavy liquid drops on the surface of a lighter fluid. Journal of Fluid Mechanics, 2021, 922, .	1.4	3
89	Oscillatory Longwave Marangoni Convection in a Binary Liquid. Part 2: Square Patterns. SIAM Journal on Applied Mathematics, 2014, 74, 1005-1024.	0.8	2
90	Mass variation of a thin liquid film driven by an acoustic wave. Physics of Fluids, 2015, 27, .	1.6	2

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91	Healing of an axisymmetric thin liquid film on a harmonically oscillating horizontal cylindrical surface. Acta Mechanica, 2015, 226, 3587-3596.	1.1	2
92	Parametric excitation of an axisymmetric flow of a thin liquid film down a vertical fiber. Acta Mechanica, 2018, 229, 549-569.	1.1	2
93	Compact patterns in a class of sublinear Gardner equations. Communications in Nonlinear Science and Numerical Simulation, 2022, 110, 106384.	1.7	2
94	Electrostatic precipitation of charged particles from a turbulent flow between coaxial cylinders. Journal of Colloid and Interface Science, 1989, 127, 401-416.	5.0	1
95	Regular and irregular regimes of binary fluid convection excited by parametric resonance. Physical Review E, 1997, 55, 3743-3746.	0.8	1
96	Bifurcations of a weighted-residual integral boundary-layer model for nonlinear dynamics of falling liquid films. Journal of Physics: Conference Series, 2007, 64, 012007.	0.3	1
97	Nonlinear effect of surface disturbances on mass flux and its modeling in Marangoni dropwise condensation. International Journal of Heat and Mass Transfer, 2016, 94, 419-425.	2.5	1
98	Driving mechanisms of ratchet flow in thin liquid films under tangential two-frequency forcing. Physics of Fluids, 2019, 31, 072101.	1.6	1
99	Buoyancy instabilities in a liquid layer subjected to an oblique temperature gradient. Journal of Fluid Mechanics, 2022, 937, .	1.4	1
100	Hydrodynamic response of fuel rod with longitudinal fins to upstream generated vortices. Nuclear Engineering and Design, 1984, 83, 123-129.	0.8	0
101	Dewetting of a Hot Coated Solid Surface. Fluid Mechanics and Its Applications, 2000, , 205-216.	0.1	0
102	Third International Symposium on Instability and Bifurcations in Fluid Dynamics. Journal of Physics: Conference Series, 2010, 216, 011001.	0.3	0
103	Regularization of Singularities in the Theory of Thin Liquid Films. , 1999, , 339-348.		0