Elie Raphael

List of Publications by Year
in descending order

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159 papers	6,377 citations	71102 41 h-index	76900 74 g-index
165 all docs	165 docs citations	165 times ranked	5237 citing authors

#	Article	IF	Citations
1	Soft-lubrication interactions between a rigid sphere and an elastic wall. Journal of Fluid Mechanics, 2022, 933, .	3.4	12
2	Contactless Rheology of Soft Gels Over a Broad Frequency Range. Physical Review Applied, 2022, 17, .	3.8	5
3	Mechanical properties of 2D aggregates of oil droplets as model mono-crystals. Soft Matter, 2021, 17, 1194-1201.	2.7	4
4	Capillary levelling of immiscible bilayer films. Journal of Fluid Mechanics, 2021, 911, .	3.4	3
5	Droplet migration on conical fibers. European Physical Journal E, 2021, 44, 12.	1.6	4
6	Nonlinear amplification of adhesion forces in interleaved books. European Physical Journal E, 2021, 44, 71.	1.6	1
7	Time dependence of advection-diffusion coupling for nanoparticle ensembles. Physical Review Fluids, 2021, 6, .	2.5	9
8	Contactless rheology of finite-size air-water interfaces. Physical Review Research, 2021, 3, .	3.6	9
9	Effect of the density of pillar-patterned substrates on contact mechanics: Transition from top to mixed contact with a detailed pressure-field description. Physical Review E, 2021, 104, 055007.	2.1	1
10	Microscopic Picture of Erosion and Sedimentation Processes in Dense Granular Flows. Physical Review Letters, 2020, 125, 208002.	7.8	3
11	Symmetrization of Thin Freestanding Liquid Films via a Capillary-Driven Flow. Physical Review Letters, 2020, 124, 184502.	7.8	6
12	Cooperative strings and glassy dynamics in various confined geometries. Physical Review E, 2020, 101, 032122.	2.1	5
13	Direct Measurement of the Elastohydrodynamic Lift Force at the Nanoscale. Physical Review Letters, 2020, 124, 054502.	7.8	21
14	Rearrangement of two dimensional aggregates of droplets under compression: Signatures of the energy landscape from crystal to glass. Physical Review Research, 2020, 2, .	3.6	8
15	Hydroelastic wake on a thin elastic sheet floating on water. Physical Review Fluids, 2019, 4, .	2.5	4
16	Surface energy of strained amorphous solids. Nature Communications, 2018, 9, 982.	12.8	53
17	Adhesion-induced fingering instability in thin elastic films under strain. European Physical Journal E, 2018, 41, 36.	1.6	8
18	Elastowetting of Soft Hydrogel Spheres. Langmuir, 2018, 34, 3894-3900.	3.5	14

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19	Adsorption-induced slip inhibition for polymer melts on ideal substrates. Nature Communications, 2018, 9, 1172.	12.8	11
20	Unsteady wave pattern generation by waterÂstriders. Journal of Fluid Mechanics, 2018, 848, 370-387.	3.4	13
21	Cooperative strings in glassy nanoparticles. Soft Matter, 2017, 13, 141-146.	2.7	14
22	van der Waals interaction between a moving nano-cylinder and a liquid thin film. Soft Matter, 2017, 13, 3822-3830.	2.7	4
23	Elastocapillary bending of microfibers around liquid droplets. Soft Matter, 2017, 13, 720-724.	2.7	20
24	Molecular dynamics simulation of the capillary leveling of viscoelastic polymer films. Journal of Chemical Physics, 2017, 146, 203327.	3.0	2
25	Elastohydrodynamic wake and wave resistance. Journal of Fluid Mechanics, 2017, 829, 538-550.	3.4	9
26	Liquid Droplets Act as â€œCompass Needlesâ€•for the Stresses in a Deformable Membrane. Physical Review Letters, 2017, 118, 198002.	7.8	17
27	Elastocapillary levelling of thin viscous films on soft substrates. Physical Review Fluids, 2017, 2, .	2.5	13
28	Wake and wave resistance on viscous thin films. Journal of Fluid Mechanics, 2016, 792, 829-849.	3.4	8
29	Capillary Leveling of Freestanding Liquid Nanofilms. Physical Review Letters, 2016, 117, 167801.	7.8	8
30	Stress concentration in periodically rough Hertzian contact: Hertz to soft-flat-punch transition. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20160235.	2.1	5
31	Slip-mediated dewetting of polymer microdroplets. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1168-1173.	7.1	24
32	Self-Amplification of Solid Friction in Interleaved Assemblies. Physical Review Letters, 2016, 116, 015502.	7.8	25
33	Wave drag on a submerged sphere. Physics of Fluids, 2015, 27, .	4.0	12
34	Symmetry plays a key role in the erasing of patterned surface features. Applied Physics Letters, 2015, 107, 053103.	3.3	8
35	Influence of slip on the Plateauâ€“Rayleigh instability on a fibre. Nature Communications, 2015, 6, 7409.	12.8	76
36	Cooperative strings and glassy interfaces. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 8227-8231.	7.1	70

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37	Indentation of a rigid sphere into an elastic substrate with surface tension and adhesion. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20140727.	2.1	60
38	Universal contact-line dynamics at the nanoscale. Soft Matter, 2015, 11, 9247-9253.	2.7	12
39	La transition vitreuse aux interfaces. , 2015, , 24-27.	0.1	0
40	Wake pattern and wave resistance for anisotropic moving disturbances. Physics of Fluids, 2014, 26, .	4.0	37
41	A Direct Quantitative Measure of Surface Mobility in a Glassy Polymer. Science, 2014, 343, 994-999.	12.6	192
42	Kelvin wake pattern at large Froude numbers. Journal of Fluid Mechanics, 2014, 738, .	3.4	89
43	Viscoelastic effects and anomalous transient levelling exponents in thin films. Europhysics Letters, 2014, 106, 36003.	2.0	9
44	Approach to universal self-similar attractor for the levelling of thin liquid films. Soft Matter, 2014, 10, 8608-8614.	2.7	17
45	Capillary levelling of a cylindrical hole in a viscous film. Soft Matter, 2014, 10, 2550.	2.7	31
46	Transport properties of overheated electrons trapped on a helium surface. European Physical Journal B, 2014, 87, 1.	1.5	2
47	Electro-hydrodynamic instability of stressed viscoelastic polymer films. European Physical Journal E, 2013, 36, 124.	1.6	1
48	Intermediate asymptotics of the capillary-driven thin-film equation. European Physical Journal E, 2013, 36, 82.	1.6	16
49	From adhesion to wetting of a soft particle. Soft Matter, 2013, 9, 10699.	2.7	65
50	Relaxation and intermediate asymptotics of a rectangular trench in a viscous film. Physical Review E, 2013, 88, 035001.	2.1	14
51	Capillary leveling of stepped films with inhomogeneous molecular mobility. Soft Matter, 2013, 9, 8297.	2.7	11
52	Capillary-gravity waves on depth-dependent currents: Consequences for the wave resistance. Europhysics Letters, 2012, 97, 14007.	2.0	7
53	Self-Similarity and Energy Dissipation in Stepped Polymer Films. Physical Review Letters, 2012, 109, 128303.	7.8	47
54	Capillary-driven flow induced by a stepped perturbation atop a viscous film. Physics of Fluids, 2012, 24, .	4.0	30

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55	Effects of In-plane Elastic Stress and Normal External Stress on Viscoelastic Thin Film Stability. Mathematical Modelling of Natural Phenomena, 2012, 7, 6-19.	2.4	4
56	Liquid Hertz contact: Softness of weakly deformed drops on non-wetting substrates. Europhysics Letters, 2012, 100, 54002.	2.0	13
57	Beyond Tannerâ€™s Law: Crossover between Spreading Regimes of a Viscous Droplet on an Identical Film. Physical Review Letters, 2012, 109, 154501.	7.8	34
58	Numerical solutions of thin-film equations for polymer flows. European Physical Journal E, 2012, 35, 114.	1.6	30
59	Interplay of internal stresses, electric stresses, and surface diffusion in polymer films. Physical Review E, 2011, 83, 051603.	2.1	11
60	Capillary-based static self-assembly in higher organisms. Journal of the Royal Society Interface, 2011, 8, 1357-1366.	3.4	17
61	Wave resistance for capillary gravity waves: Finite-size effects. Europhysics Letters, 2011, 96, 34003.	2.0	16
62	Wave drag on floating bodies. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 15064-15068.	7.1	25
63	Strong screening in the plum pudding model. Europhysics Letters, 2011, 94, 68010.	2.0	9
64	Self-consistent theory of capillary-gravity-wave generation by small moving objects. Physical Review E, 2010, 81, 016306.	2.1	7
65	Capillary-gravity waves generated by a sudden object motion. Physics of Fluids, 2010, 22, .	4.0	19
66	Adhesion of Nanoparticles. Langmuir, 2010, 26, 12973-12979.	3.5	81
67	Simple View on Fingering Instability of Debonding Soft Elastic Adhesives. Langmuir, 2010, 26, 3257-3260.	3.5	30
68	Dewetting dynamics of stressed viscoelastic thin polymer films. Physical Review E, 2009, 79, 031605.	2.1	21
69	Dewetting as an investigative tool for studying properties of thin polymer films. European Physical Journal: Special Topics, 2009, 166, 165-172.	2.6	31
70	Conformation of Adsorbed Comb Copolymer Dispersants. Langmuir, 2009, 25, 845-855.	3.5	190
71	On the Effective Charge of Hydrophobic Polyelectrolytes. Journal of Physical Chemistry B, 2009, 113, 3743-3749.	2.6	36
72	Tuning microcapsules surface morphology using blends of homo- and copolymers of PLGA and PLGA-PEG. Soft Matter, 2009, 5, 3054.	2.7	45

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73	Dewetting of thin polymer films: Influence of interface evolution. Europhysics Letters, 2009, 86, 46001.	2.0	11
74	Capillary-Gravity Waves Generated by a Slow Moving Object. Physical Review Letters, 2008, 100, 074504.	7.8	25
75	Relaxation of Residual Stress and Reentanglement of Polymers in Spin-Coated Films. Physical Review Letters, 2007, 99, 036101.	7.8	105
76	Influence of Substrate Properties on the Dewetting Dynamics of Viscoelastic Polymer Films. Journal of Adhesion, 2007, 83, 367-381.	3.0	24
77	Polymer Chains in Confined Spaces and Flow-Injection Problems:Â Some Remarks. Macromolecules, 2006, 39, 2621-2628.	4.8	138
78	Viscoelastic dewetting of constrained polymer thin films. Journal of Polymer Science, Part B: Polymer Physics, 2006, 44, 3022-3030.	2.1	42
79	Dewetting of thin polymer films. European Physical Journal E, 2006, 21, 161-174.	1.6	773
80	The role of nonlinear friction in the dewetting of thin polymer films. Europhysics Letters, 2006, 73, 906-912.	2.0	22
81	Role of Surface-Anchored Polymer Chains on the Adhesion of an Elastomer. Journal of Adhesion, 2006, 82, 517-526.	3.0	3
82	Can Nonlinear Elasticity Explain Contact-Line Roughness at Depinning?. Physical Review Letters, 2006, 96, 015702.	7.8	33
83	Dynamic Instability of Thin Viscoelastic Films under Lateral Stress. Physical Review Letters, 2006, 97, 036105.	7.8	17
84	Dewetting of thin viscoelastic polymer films on slippery substrates. Europhysics Letters, 2005, 72, 781-787.	2.0	39
85	Residual stresses in thin polymer films cause rupture and dominate early stages of dewetting. Nature Materials, 2005, 4, 754-758.	27.5	321
86	Sliding friction between an elastomer network and a grafted polymer layer: The role of cooperative effects. Europhysics Letters, 2005, 69, 971-977.	2.0	1
87	Flow injection of branched polymers inside nanopores. Europhysics Letters, 2005, 72, 83-88.	2.0	55
88	Fluctuation Spectrum of Fluid Membranes Coupled to an Elastic Meshwork: Jump of the Effective Surface Tension at the Mesh Size. Physical Review Letters, 2004, 92, 018102.	7.8	60
89	Interdigitation between surface-anchored polymer chains and an elastomer: Consequences for adhesion promotion. Europhysics Letters, 2004, 68, 543-549.	2.0	13
90	Adhesion between a Viscoelastic Material and a Solid Surface. Macromolecules, 2004, 37, 1067-1075.	4.8	85

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91	Interfacial Layering in a Three-Component Polymer System. Macromolecules, 2004, 37, 4664-4675.	4.8	9
92	Roughening transition in a moving contact line. Physical Review E, 2003, 67, 031603.	2.1	32
93	Capillary gravity waves: A â€œfixed-depth" analysis. Europhysics Letters, 2003, 61, 796-802.	2.0	13
94	Dewetting of Thin Polymer Films near the Glass Transition. Physical Review Letters, 2002, 88, 196101.	7.8	53
95	Dewetting of thin-film polymers. Physical Review E, 2002, 66, 061607.	2.1	39
96	Relaxation of a moving contact line and the Landau-Levich effect. Europhysics Letters, 2002, 57, 304-304.	2.0	5
97	Spreading of latex particles on a substrate. Europhysics Letters, 2002, 60, 717-723.	2.0	32
98	A Scaling Theory of the Competition between Interdiffusion and Cross-Linking at Polymer Interfaces. Macromolecules, 2002, 35, 4036-4043.	4.8	43
99	Surface flows of granular materials: a short introduction to some recent models. Comptes Rendus Physique, 2002, 3, 187-196.	0.9	41
100	Dissipation in dynamics of a moving contact line. Physical Review E, 2001, 64, 031601.	2.1	24
101	â€œMarginal pinchingâ€•in soap films. Europhysics Letters, 2001, 55, 834-840.	2.0	50
102	Comb-like polymers inside nanoscale pores. Advances in Colloid and Interface Science, 2001, 94, 229-236.	14.7	99
103	Relaxation of a moving contact line and the Landau-Levich effect. Europhysics Letters, 2001, 55, 228-234.	2.0	43
104	Aubouy, Manghi, and RaphaÃ«l Reply:. Physical Review Letters, 2001, 87, .	7.8	2
105	Dewetting on porous media with aspiration. European Physical Journal E, 2000, 2, 367.	1.6	25
106	Interfacial Properties of Polymeric Liquids. Physical Review Letters, 2000, 84, 4858-4861.	7.8	21
107	Strengthening of a Polymer Interface:â€‰ Interdiffusion and Cross-Linking. Macromolecules, 2000, 33, 9444-9451.	4.8	57
108	A Simple Description of Thick Avalanches at the Surface of a Granular Material. Materials Research Society Symposia Proceedings, 2000, 627, 1.	0.1	0

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109	Thick surface flows of granular materials: Effect of the velocity profile on the avalanche amplitude. Physical Review E, 1999, 60, 2009-2019.	2.1	33
110	Surface-Anchored Polymer Chains: Their Role in Adhesion and Friction. Advances in Polymer Science, 1999, , 185-225.	0.8	198
111	Capillary-gravity waves: The effect of viscosity on the wave resistance. Europhysics Letters, 1999, 48, 49-52.	2.0	21
112	Avalanches of dry sand. Lecture Notes in Physics, 1999, , 358-370.	0.7	0
113	Rebounds in a Capillary Tube. Langmuir, 1999, 15, 3679-3682.	3.5	85
114	Scaling Description of a Colloidal Particle Clothed with Polymers. Macromolecules, 1998, 31, 4357-4363.	4.8	55
115	Surface flows of granular materials:â€ƒA modified picture for thick avalanches. Physical Review E, 1998, 58, 4692-4700.	2.1	97
116	From thin to thick granular surface flows: The stop flow problem. Physical Review E, 1998, 58, 7645-7649.	2.1	10
117	Propagation of a pressure step in a granular material: The role of wall friction. Physical Review E, 1997, 55, 5759-5773.	2.1	38
118	Progressive construction of an â€œOlympicâ€•gel. Journal of Statistical Physics, 1997, 89, 111-118.	1.2	35
119	Injection Threshold for a Statistically Branched Polymer inside a Nanopore. Macromolecules, 1996, 29, 8379-8382.	4.8	47
120	Scaling Description of Polymer Interfaces:â€‰ Flat Layers. Macromolecules, 1996, 29, 7261-7268.	4.8	99
121	Adhesion between a polydisperse polymer brush and an elastomer. AIP Conference Proceedings, 1996, , .	0.4	3
122	Erratum to â€œPolymer adsorption at liquid/air interfaces under lateral pressureâ€•[Physica A 204 (1994) 1â€“16]. Physica A: Statistical Mechanics and Its Applications, 1996, 227, 158-160.	2.6	1
123	Capillary gravity waves caused by a moving disturbance: Wave resistance. Physical Review E, 1996, 53, 3448-3455.	2.1	91
124	Static Properties of a Star Polymer in a High Molecular Weight Solvent. Journal De Physique II, 1996, 6, 587-591.	0.9	4
125	Effective Mass of a Charged Particle Travelling above a Dielectric Fluid Surface. Europhysics Letters, 1995, 31, 293-298.	2.0	16
126	End-Tethered Chains in Polymeric Matrixes. Macromolecules, 1995, 28, 2979-2981.	4.8	99

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127	Adhesion promoters. The Journal of Physical Chemistry, 1994, 98, 9405-9410.	2.9	77
128	Weak adhesive junctions in the presence of intermolecular interactions. International Journal of Fracture, 1994, 67, R23-R30.	2.2	3
129	Polymer adsorption at liquid/air interfaces under lateral pressure. Physica A: Statistical Mechanics and Its Applications, 1994, 204, 1-16.	2.6	5
130	Structure of an Irreversibly Adsorbed Polymer Layer Immersed in a Solution of Mobile Chains. Macromolecules, 1994, 27, 5182-5186.	4.8	25
131	Corrections: Structure of an Irreversibly Adsorbed Polymer Layer Immersed in a Solution of Mobile Chains. Macromolecules, 1994, 27, 7230-7230.	4.8	0
132	Interplay between intermolecular interactions and chain pullout in the adhesion of elastomer. Macromolecules, 1994, 27, 608-609.	4.8	26
133	Three-Dimensional Convex Particles at Interfaces. Journal of Colloid and Interface Science, 1993, 155, 509-511.	9.4	2
134	The cohesive zone problem: A comparison between de gennes' approach and the weight function derivation. International Journal of Fracture, 1993, 61, R51-R54.	2.2	1
135	Climbing of a high-molecular-weight liquid on a vertical solid surface grafted with long polymer chains. Macromolecules, 1993, 26, 5885-5889.	4.8	10
136	Conformation of star polymers in high-molecular-weight solvents. Macromolecules, 1993, 26, 1996-2006.	4.8	56
137	Contact Line Elasticity of a Completely Wetting Liquid Rising on a Wall. Europhysics Letters, 1993, 21, 483-488.	2.0	12
138	Irreversible Adsorption of a Polymer Melt on a Colloidal Particle. Europhysics Letters, 1993, 24, 87-92.	2.0	18
139	Irreversible Adsorption of a Polymer Melt on a Colloidal Particle. Europhysics Letters, 1993, 24, 427-427.	2.0	1
140	Surface-tethered polymers in polymeric matrices. Journal De Physique II, 1993, 3, 443-448.	0.9	21
141	Attenuation of Ultrasound in Silicone-Oil-In-Water Emulsions. Europhysics Letters, 1992, 17, 565-570.	2.0	23
142	Rubber-rubber adhesion with connector molecules. The Journal of Physical Chemistry, 1992, 96, 4002-4007.	2.9	204
143	Aggregation of flexibleâ€rigidâ€flexible triblock copolymers. Makromolekulare Chemie Macromolecular Symposia, 1992, 62, 1-17.	0.6	26
144	Convex particles at interfaces. Journal De Physique, I, 1992, 2, 571-579.	1.2	16

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145	One long chain among shorter chains : the Flory approach revisited. Journal De Physique II, 1992, 2, 1811-1823.	0.9	6
146	Plates, fences and needles: an example of the Skoulios effect. Physica A: Statistical Mechanics and Its Applications, 1991, 177, 294-300.	2.6	27
147	Conformation changes of a polyelectrolyte chain in a poor solvent. Journal De Physique, I, 1991, 1, 1-7.	1.2	24
148	Equilibrium of a spherical particle at a curved liquid/liquid interface. Journal of Colloid and Interface Science, 1990, 136, 581-583.	9.4	15
149	Specific properties of amphiphilic particles at fluid interfaces. Journal De Physique, 1990, 51, 1527-1536.	1.8	84
150	Annealed and Quenched Polyelectrolytes. Europhysics Letters, 1990, 13, 623-628.	2.0	139
151	Scaling theory of molten polymers in small pores. Macromolecules, 1990, 23, 2276-2280.	4.8	30
152	â€œJanus Beadsâ€• Realization and Behaviour at Water/Oil Interfaces. Europhysics Letters, 1989, 9, 251-255.	2.0	339
153	Dynamics of wetting with nonideal surfaces. The single defect problem. Journal of Chemical Physics, 1989, 90, 7577-7584.	3.0	93
154	Capillary rise of a wetting fluid in a semi-circular groove. Journal De Physique, 1989, 50, 485-491.	1.8	12
155	Demixing of a molten polymer blend in a confined geometry. Journal De Physique, 1989, 50, 803-808.	1.8	6
156	Erratum - Capillary rise of a wetting fluid in a semi-circular groove. Journal De Physique, 1989, 50, 1135-1135.	1.8	2
157	Segregation of Polymer Blends in Small Pores. NATO ASI Series Series B: Physics, 1989, , 301-304.	0.2	0
158	Rotation of rectangular wire in rectangular molar tubes. American Journal of Orthodontics, 1981, 80, 136-144.	0.4	13
159	Stretching a Solid Modifies its Wettability â€¦ Or Does it?. ChemistryViews, 0, , .	0.0	1