

Elie Raphael

List of Publications by Year in descending order

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159
papers

6,377
citations

81434

41
h-index

90395

73
g-index

165
all docs

165
docs citations

165
times ranked

6012
citing authors

#	ARTICLE	IF	CITATIONS
1	Dewetting of thin polymer films. European Physical Journal E, 2006, 21, 161-174.	0.7	773
2	â€œJanus Beadsâ€ Realization and Behaviour at Water/Oil Interfaces. Europhysics Letters, 1989, 9, 251-255.	0.7	339
3	Residual stresses in thin polymer films cause rupture and dominate early stages of dewetting. Nature Materials, 2005, 4, 754-758.	13.3	321
4	Rubber-rubber adhesion with connector molecules. The Journal of Physical Chemistry, 1992, 96, 4002-4007.	2.9	204
5	Surface-Anchored Polymer Chains: Their Role in Adhesion and Friction. Advances in Polymer Science, 1999, , 185-225.	0.4	198
6	A Direct Quantitative Measure of Surface Mobility in a Glassy Polymer. Science, 2014, 343, 994-999.	6.0	192
7	Conformation of Adsorbed Comb Copolymer Dispersants. Langmuir, 2009, 25, 845-855.	1.6	190
8	Annealed and Quenched Polyelectrolytes. Europhysics Letters, 1990, 13, 623-628.	0.7	139
9	Polymer Chains in Confined Spaces and Flow-Injection Problems:Â Some Remarks. Macromolecules, 2006, 39, 2621-2628.	2.2	138
10	Relaxation of Residual Stress and Reentanglement of Polymers in Spin-Coated Films. Physical Review Letters, 2007, 99, 036101.	2.9	105
11	End-Tethered Chains in Polymeric Matrixes. Macromolecules, 1995, 28, 2979-2981.	2.2	99
12	Scaling Description of Polymer Interfaces:â€ Flat Layers. Macromolecules, 1996, 29, 7261-7268.	2.2	99
13	Comb-like polymers inside nanoscale pores. Advances in Colloid and Interface Science, 2001, 94, 229-236.	7.0	99
14	Surface flows of granular materials:â€fA modified picture for thick avalanches. Physical Review E, 1998, 58, 4692-4700.	0.8	97
15	Dynamics of wetting with nonideal surfaces. The single defect problem. Journal of Chemical Physics, 1989, 90, 7577-7584.	1.2	93
16	Capillary gravity waves caused by a moving disturbance: Wave resistance. Physical Review E, 1996, 53, 3448-3455.	0.8	91
17	Kelvin wake pattern at large Froude numbers. Journal of Fluid Mechanics, 2014, 738, .	1.4	89
18	Rebounds in a Capillary Tube. Langmuir, 1999, 15, 3679-3682.	1.6	85

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19	Adhesion between a Viscoelastic Material and a Solid Surface. <i>Macromolecules</i> , 2004, 37, 1067-1075.	2.2	85
20	Specific properties of amphiphilic particles at fluid interfaces. <i>Journal De Physique</i> , 1990, 51, 1527-1536.	1.8	84
21	Adhesion of Nanoparticles. <i>Langmuir</i> , 2010, 26, 12973-12979.	1.6	81
22	Adhesion promoters. <i>The Journal of Physical Chemistry</i> , 1994, 98, 9405-9410.	2.9	77
23	Influence of slip on the Plateau-Rayleigh instability on a fibre. <i>Nature Communications</i> , 2015, 6, 7409.	5.8	76
24	Cooperative strings and glassy interfaces. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 8227-8231.	3.3	70
25	From adhesion to wetting of a soft particle. <i>Soft Matter</i> , 2013, 9, 10699.	1.2	65
26	Fluctuation Spectrum of Fluid Membranes Coupled to an Elastic Meshwork: Jump of the Effective Surface Tension at the Mesh Size. <i>Physical Review Letters</i> , 2004, 92, 018102.	2.9	60
27	Indentation of a rigid sphere into an elastic substrate with surface tension and adhesion. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2015, 471, 20140727.	1.0	60
28	Strengthening of a Polymer Interface: Interdiffusion and Cross-Linking. <i>Macromolecules</i> , 2000, 33, 9444-9451.	2.2	57
29	Conformation of star polymers in high-molecular-weight solvents. <i>Macromolecules</i> , 1993, 26, 1996-2006.	2.2	56
30	Scaling Description of a Colloidal Particle Clothed with Polymers. <i>Macromolecules</i> , 1998, 31, 4357-4363.	2.2	55
31	Flow injection of branched polymers inside nanopores. <i>Europhysics Letters</i> , 2005, 72, 83-88.	0.7	55
32	Dewetting of Thin Polymer Films near the Glass Transition. <i>Physical Review Letters</i> , 2002, 88, 196101.	2.9	53
33	Surface energy of strained amorphous solids. <i>Nature Communications</i> , 2018, 9, 982.	5.8	53
34	“Marginal pinching” in soap films. <i>Europhysics Letters</i> , 2001, 55, 834-840.	0.7	50
35	Injection Threshold for a Statistically Branched Polymer inside a Nanopore. <i>Macromolecules</i> , 1996, 29, 8379-8382.	2.2	47
36	Self-Similarity and Energy Dissipation in Stepped Polymer Films. <i>Physical Review Letters</i> , 2012, 109, 128303.	2.9	47

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37	Tuning microcapsules surface morphology using blends of homo- and copolymers of PLGA and PLGA-PEG. <i>Soft Matter</i> , 2009, 5, 3054.	1.2	45
38	Relaxation of a moving contact line and the Landau-Levich effect. <i>Europhysics Letters</i> , 2001, 55, 228-234.	0.7	43
39	A Scaling Theory of the Competition between Interdiffusion and Cross-Linking at Polymer Interfaces. <i>Macromolecules</i> , 2002, 35, 4036-4043.	2.2	43
40	Viscoelastic dewetting of constrained polymer thin films. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2006, 44, 3022-3030.	2.4	42
41	Surface flows of granular materials: a short introduction to some recent models. <i>Comptes Rendus Physique</i> , 2002, 3, 187-196.	0.3	41
42	Dewetting of thin-film polymers. <i>Physical Review E</i> , 2002, 66, 061607.	0.8	39
43	Dewetting of thin viscoelastic polymer films on slippery substrates. <i>Europhysics Letters</i> , 2005, 72, 781-787.	0.7	39
44	Propagation of a pressure step in a granular material: The role of wall friction. <i>Physical Review E</i> , 1997, 55, 5759-5773.	0.8	38
45	Wake pattern and wave resistance for anisotropic moving disturbances. <i>Physics of Fluids</i> , 2014, 26, .	1.6	37
46	On the Effective Charge of Hydrophobic Polyelectrolytes. <i>Journal of Physical Chemistry B</i> , 2009, 113, 3743-3749.	1.2	36
47	Progressive construction of an "Olympic" gel. <i>Journal of Statistical Physics</i> , 1997, 89, 111-118.	0.5	35
48	Beyond Tanner's Law: Crossover between Spreading Regimes of a Viscous Droplet on an Identical Film. <i>Physical Review Letters</i> , 2012, 109, 154501.	2.9	34
49	Thick surface flows of granular materials: Effect of the velocity profile on the avalanche amplitude. <i>Physical Review E</i> , 1999, 60, 2009-2019.	0.8	33
50	Can Nonlinear Elasticity Explain Contact-Line Roughness at Depinning?. <i>Physical Review Letters</i> , 2006, 96, 015702.	2.9	33
51	Spreading of latex particles on a substrate. <i>Europhysics Letters</i> , 2002, 60, 717-723.	0.7	32
52	Roughening transition in a moving contact line. <i>Physical Review E</i> , 2003, 67, 031603.	0.8	32
53	Dewetting as an investigative tool for studying properties of thin polymer films. <i>European Physical Journal: Special Topics</i> , 2009, 166, 165-172.	1.2	31
54	Capillary levelling of a cylindrical hole in a viscous film. <i>Soft Matter</i> , 2014, 10, 2550.	1.2	31

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55	Scaling theory of molten polymers in small pores. <i>Macromolecules</i> , 1990, 23, 2276-2280.	2.2	30
56	Simple View on Fingering Instability of Debonding Soft Elastic Adhesives. <i>Langmuir</i> , 2010, 26, 3257-3260.	1.6	30
57	Capillary-driven flow induced by a stepped perturbation atop a viscous film. <i>Physics of Fluids</i> , 2012, 24, .	1.6	30
58	Numerical solutions of thin-film equations for polymer flows. <i>European Physical Journal E</i> , 2012, 35, 114.	0.7	30
59	Plates, fences and needles: an example of the Skoulios effect. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1991, 177, 294-300.	1.2	27
60	Aggregation of flexible-rigid-flexible triblock copolymers. <i>Makromolekulare Chemie Macromolecular Symposia</i> , 1992, 62, 1-17.	0.6	26
61	Interplay between intermolecular interactions and chain pullout in the adhesion of elastomer. <i>Macromolecules</i> , 1994, 27, 608-609.	2.2	26
62	Structure of an Irreversibly Adsorbed Polymer Layer Immersed in a Solution of Mobile Chains. <i>Macromolecules</i> , 1994, 27, 5182-5186.	2.2	25
63	Dewetting on porous media with aspiration. <i>European Physical Journal E</i> , 2000, 2, 367.	0.7	25
64	Capillary-Gravity Waves Generated by a Slow Moving Object. <i>Physical Review Letters</i> , 2008, 100, 074504.	2.9	25
65	Wave drag on floating bodies. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 15064-15068.	3.3	25
66	Self-Amplification of Solid Friction in Interleaved Assemblies. <i>Physical Review Letters</i> , 2016, 116, 015502.	2.9	25
67	Dissipation in dynamics of a moving contact line. <i>Physical Review E</i> , 2001, 64, 031601.	0.8	24
68	Influence of Substrate Properties on the Dewetting Dynamics of Viscoelastic Polymer Films. <i>Journal of Adhesion</i> , 2007, 83, 367-381.	1.8	24
69	Slip-mediated dewetting of polymer microdroplets. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 1168-1173.	3.3	24
70	Conformation changes of a polyelectrolyte chain in a poor solvent. <i>Journal De Physique, I</i> , 1991, 1, 1-7.	1.2	24
71	Attenuation of Ultrasound in Silicone-Oil-In-Water Emulsions. <i>Europhysics Letters</i> , 1992, 17, 565-570.	0.7	23
72	The role of nonlinear friction in the dewetting of thin polymer films. <i>Europhysics Letters</i> , 2006, 73, 906-912.	0.7	22

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73	Surface-tethered polymers in polymeric matrices. Journal De Physique II, 1993, 3, 443-448.	0.9	21
74	Capillary-gravity waves: The effect of viscosity on the wave resistance. Europhysics Letters, 1999, 48, 49-52.	0.7	21
75	Interfacial Properties of Polymeric Liquids. Physical Review Letters, 2000, 84, 4858-4861.	2.9	21
76	Dewetting dynamics of stressed viscoelastic thin polymer films. Physical Review E, 2009, 79, 031605.	0.8	21
77	Direct Measurement of the Elastohydrodynamic Lift Force at the Nanoscale. Physical Review Letters, 2020, 124, 054502.	2.9	21
78	Elastocapillary bending of microfibers around liquid droplets. Soft Matter, 2017, 13, 720-724.	1.2	20
79	Capillary-gravity waves generated by a sudden object motion. Physics of Fluids, 2010, 22, .	1.6	19
80	Irreversible Adsorption of a Polymer Melt on a Colloidal Particle. Europhysics Letters, 1993, 24, 87-92.	0.7	18
81	Dynamic Instability of Thin Viscoelastic Films under Lateral Stress. Physical Review Letters, 2006, 97, 036105.	2.9	17
82	Capillary-based static self-assembly in higher organisms. Journal of the Royal Society Interface, 2011, 8, 1357-1366.	1.5	17
83	Approach to universal self-similar attractor for the levelling of thin liquid films. Soft Matter, 2014, 10, 8608-8614.	1.2	17
84	Liquid Droplets Act as "Compass Needles" for the Stresses in a Deformable Membrane. Physical Review Letters, 2017, 118, 198002.	2.9	17
85	Effective Mass of a Charged Particle Travelling above a Dielectric Fluid Surface. Europhysics Letters, 1995, 31, 293-298.	0.7	16
86	Wave resistance for capillary gravity waves: Finite-size effects. Europhysics Letters, 2011, 96, 34003.	0.7	16
87	Intermediate asymptotics of the capillary-driven thin-film equation. European Physical Journal E, 2013, 36, 82.	0.7	16
88	Convex particles at interfaces. Journal De Physique, I, 1992, 2, 571-579.	1.2	16
89	Equilibrium of a spherical particle at a curved liquid/liquid interface. Journal of Colloid and Interface Science, 1990, 136, 581-583.	5.0	15
90	Relaxation and intermediate asymptotics of a rectangular trench in a viscous film. Physical Review E, 2013, 88, 035001.	0.8	14

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91	Cooperative strings in glassy nanoparticles. <i>Soft Matter</i> , 2017, 13, 141-146.	1.2	14
92	Elastowetting of Soft Hydrogel Spheres. <i>Langmuir</i> , 2018, 34, 3894-3900.	1.6	14
93	Rotation of rectangular wire in rectangular molar tubes. <i>American Journal of Orthodontics</i> , 1981, 80, 136-144.	0.4	13
94	Capillary gravity waves: A "fixed-depth" analysis. <i>Europhysics Letters</i> , 2003, 61, 796-802.	0.7	13
95	Interdigitation between surface-anchored polymer chains and an elastomer: Consequences for adhesion promotion. <i>Europhysics Letters</i> , 2004, 68, 543-549.	0.7	13
96	Liquid Hertz contact: Softness of weakly deformed drops on non-wetting substrates. <i>Europhysics Letters</i> , 2012, 100, 54002.	0.7	13
97	Unsteady wave pattern generation by water striders. <i>Journal of Fluid Mechanics</i> , 2018, 848, 370-387.	1.4	13
98	Elastocapillary levelling of thin viscous films on soft substrates. <i>Physical Review Fluids</i> , 2017, 2, .	1.0	13
99	Contact Line Elasticity of a Completely Wetting Liquid Rising on a Wall. <i>Europhysics Letters</i> , 1993, 21, 483-488.	0.7	12
100	Wave drag on a submerged sphere. <i>Physics of Fluids</i> , 2015, 27, .	1.6	12
101	Universal contact-line dynamics at the nanoscale. <i>Soft Matter</i> , 2015, 11, 9247-9253.	1.2	12
102	Capillary rise of a wetting fluid in a semi-circular groove. <i>Journal De Physique</i> , 1989, 50, 485-491.	1.8	12
103	Soft-lubrication interactions between a rigid sphere and an elastic wall. <i>Journal of Fluid Mechanics</i> , 2022, 933, .	1.4	12
104	Dewetting of thin polymer films: Influence of interface evolution. <i>Europhysics Letters</i> , 2009, 86, 46001.	0.7	11
105	Interplay of internal stresses, electric stresses, and surface diffusion in polymer films. <i>Physical Review E</i> , 2011, 83, 051603.	0.8	11
106	Capillary leveling of stepped films with inhomogeneous molecular mobility. <i>Soft Matter</i> , 2013, 9, 8297.	1.2	11
107	Adsorption-induced slip inhibition for polymer melts on ideal substrates. <i>Nature Communications</i> , 2018, 9, 1172.	5.8	11
108	Climbing of a high-molecular-weight liquid on a vertical solid surface grafted with long polymer chains. <i>Macromolecules</i> , 1993, 26, 5885-5889.	2.2	10

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109	From thin to thick granular surface flows: The stop flow problem. <i>Physical Review E</i> , 1998, 58, 7645-7649.	0.8	10
110	Interfacial Layering in a Three-Component Polymer System. <i>Macromolecules</i> , 2004, 37, 4664-4675.	2.2	9
111	Strong screening in the plum pudding model. <i>Europhysics Letters</i> , 2011, 94, 68010.	0.7	9
112	Viscoelastic effects and anomalous transient levelling exponents in thin films. <i>Europhysics Letters</i> , 2014, 106, 36003.	0.7	9
113	Elastohydrodynamic wake and wave resistance. <i>Journal of Fluid Mechanics</i> , 2017, 829, 538-550.	1.4	9
114	Time dependence of advection-diffusion coupling for nanoparticle ensembles. <i>Physical Review Fluids</i> , 2021, 6, .	1.0	9
115	Contactless rheology of finite-size air-water interfaces. <i>Physical Review Research</i> , 2021, 3, .	1.3	9
116	Symmetry plays a key role in the erasing of patterned surface features. <i>Applied Physics Letters</i> , 2015, 107, 053103.	1.5	8
117	Wake and wave resistance on viscous thin films. <i>Journal of Fluid Mechanics</i> , 2016, 792, 829-849.	1.4	8
118	Capillary Leveling of Freestanding Liquid Nanofilms. <i>Physical Review Letters</i> , 2016, 117, 167801.	2.9	8
119	Adhesion-induced fingering instability in thin elastic films under strain. <i>European Physical Journal E</i> , 2018, 41, 36.	0.7	8
120	Rearrangement of two dimensional aggregates of droplets under compression: Signatures of the energy landscape from crystal to glass. <i>Physical Review Research</i> , 2020, 2, .	1.3	8
121	Self-consistent theory of capillary-gravity-wave generation by small moving objects. <i>Physical Review E</i> , 2010, 81, 016306.	0.8	7
122	Capillary-gravity waves on depth-dependent currents: Consequences for the wave resistance. <i>Europhysics Letters</i> , 2012, 97, 14007.	0.7	7
123	Symmetrization of Thin Freestanding Liquid Films via a Capillary-Driven Flow. <i>Physical Review Letters</i> , 2020, 124, 184502.	2.9	6
124	One long chain among shorter chains : the Flory approach revisited. <i>Journal De Physique II</i> , 1992, 2, 1811-1823.	0.9	6
125	Demixing of a molten polymer blend in a confined geometry. <i>Journal De Physique</i> , 1989, 50, 803-808.	1.8	6
126	Polymer adsorption at liquid/air interfaces under lateral pressure. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1994, 204, 1-16.	1.2	5

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127	Relaxation of a moving contact line and the Landau-Levich effect. <i>Europhysics Letters</i> , 2002, 57, 304-304.	0.7	5
128	Stress concentration in periodically rough Hertzian contact: Hertz to soft-flat-punch transition. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2016, 472, 20160235.	1.0	5
129	Cooperative strings and glassy dynamics in various confined geometries. <i>Physical Review E</i> , 2020, 101, 032122.	0.8	5
130	Contactless Rheology of Soft Gels Over a Broad Frequency Range. <i>Physical Review Applied</i> , 2022, 17, .	1.5	5
131	Effects of In-plane Elastic Stress and Normal External Stress on Viscoelastic Thin Film Stability. <i>Mathematical Modelling of Natural Phenomena</i> , 2012, 7, 6-19.	0.9	4
132	van der Waals interaction between a moving nano-cylinder and a liquid thin film. <i>Soft Matter</i> , 2017, 13, 3822-3830.	1.2	4
133	Mechanical properties of 2D aggregates of oil droplets as model mono-crystals. <i>Soft Matter</i> , 2021, 17, 1194-1201.	1.2	4
134	Droplet migration on conical fibers. <i>European Physical Journal E</i> , 2021, 44, 12.	0.7	4
135	Static Properties of a Star Polymer in a High Molecular Weight Solvent. <i>Journal De Physique II</i> , 1996, 6, 587-591.	0.9	4
136	Hydroelastic wake on a thin elastic sheet floating on water. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	4
137	Weak adhesive junctions in the presence of intermolecular interactions. <i>International Journal of Fracture</i> , 1994, 67, R23-R30.	1.1	3
138	Adhesion between a polydisperse polymer brush and an elastomer. <i>AIP Conference Proceedings</i> , 1996, , .	0.3	3
139	Role of Surface-Anchored Polymer Chains on the Adhesion of an Elastomer. <i>Journal of Adhesion</i> , 2006, 82, 517-526.	1.8	3
140	Microscopic Picture of Erosion and Sedimentation Processes in Dense Granular Flows. <i>Physical Review Letters</i> , 2020, 125, 208002.	2.9	3
141	Capillary levelling of immiscible bilayer films. <i>Journal of Fluid Mechanics</i> , 2021, 911, .	1.4	3
142	Three-Dimensional Convex Particles at Interfaces. <i>Journal of Colloid and Interface Science</i> , 1993, 155, 509-511.	5.0	2
143	Aubouy, Manghi, and Raphaël Reply:. <i>Physical Review Letters</i> , 2001, 87, .	2.9	2
144	Transport properties of overheated electrons trapped on a helium surface. <i>European Physical Journal B</i> , 2014, 87, 1.	0.6	2

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145	Molecular dynamics simulation of the capillary leveling of viscoelastic polymer films. Journal of Chemical Physics, 2017, 146, 203327.	1.2	2
146	Erratum - Capillary rise of a wetting fluid in a semi-circular groove. Journal De Physique, 1989, 50, 1135-1135.	1.8	2
147	The cohesive zone problem: A comparison between de gennes' approach and the weight function derivation. International Journal of Fracture, 1993, 61, R51-R54.	1.1	1
148	Irreversible Adsorption of a Polymer Melt on a Colloidal Particle. Europhysics Letters, 1993, 24, 427-427.	0.7	1
149	Erratum to "Polymer adsorption at liquid/air interfaces under lateral pressure" [Physica A 204 (1994) 1-16]. Physica A: Statistical Mechanics and Its Applications, 1996, 227, 158-160.	1.2	1
150	Sliding friction between an elastomer network and a grafted polymer layer: The role of cooperative effects. Europhysics Letters, 2005, 69, 971-977.	0.7	1
151	Electro-hydrodynamic instability of stressed viscoelastic polymer films. European Physical Journal E, 2013, 36, 124.	0.7	1
152	Nonlinear amplification of adhesion forces in interleaved books. European Physical Journal E, 2021, 44, 71.	0.7	1
153	Stretching a Solid Modifies its Wettability Or Does it?. ChemistryViews, 0, , .	0.0	1
154	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.	0.8	1
155	Corrections: Structure of an Irreversibly Adsorbed Polymer Layer Immersed in a Solution of Mobile Chains. Macromolecules, 1994, 27, 7230-7230.	2.2	0
156	Avalanches of dry sand. Lecture Notes in Physics, 1999, , 358-370.	0.3	0
157	A Simple Description of Thick Avalanches at the Surface of a Granular Material. Materials Research Society Symposia Proceedings, 2000, 627, 1.	0.1	0
158	Segregation of Polymer Blends in Small Pores. NATO ASI Series Series B: Physics, 1989, , 301-304.	0.2	0
159	La transition vitreuse aux interfaces. , 2015, , 24-27.	0.1	0