Ko Okumura

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Inertial Coalescence of a Liquid Drop Surrounded by Viscous Liquid. Journal of the Physical Society of Japan, 2022, 91, .	1.6	2
2	Air entrained into viscous liquid by a disk: Confinement induced suppression of breakup. Physical Review Research, 2022, 4, .	3.6	0
3	How universal is the vibration-velocity controlled granular convection?. EPJ Web of Conferences, 2021, 249, 03019.	0.3	0
4	Dynamic glass transition dramatically accelerates crack propagation in rubberlike solids. Physical Review Materials, 2021, 5, .	2.4	3
5	Rising obstacle in a one-layer granular bed induced by continuous vibrations: two dynamical regimes governed by vibration velocity. Soft Matter, 2020, 16, 8612-8617.	2.7	5
6	Capillary Replacement in a Tube Prefilled with a Viscous Fluid. Langmuir, 2020, 36, 10952-10959.	3.5	11
7	Rising Obstacle in a Two-dimensional Granular Bed Induced by Continuous and Discontinuous Vibrations: Dynamics Governed by Vibration Velocity. Journal of the Physical Society of Japan, 2020, 89, 035001.	1.6	3
8	Rising bubble in a cell with a high aspect ratio cross-section filled with a viscous fluid and its connection to viscous fingering. Physical Review Research, 2020, 2, .	3.6	6
9	Crack propagation under static and dynamic boundary conditions. Polymer, 2019, 185, 121648.	3.8	2
10	Velocity jump in the crack propagation induced on a semi-crystalline polymer sheet by constant-speed stretching. Polymer, 2019, 173, 166-171.	3.8	5
11	Visco- and plastoelastic fracture of nanoporous polymer sheets. Polymer Journal, 2019, 51, 845-850.	2.7	2
12	Discontinuity in the In-plane to Out-of-plane Transition of Kirigami. Journal of the Physical Society of Japan, 2019, 88, 025001.	1.6	5
13	Continuum Mechanics and Its Practical Applications at the Level of Scaling Laws. , 2019, , 111-118.		0
14	Continuity and discontinuity of kirigami's high-extensibility transition: A statistical-physics viewpoint. Physical Review Research, 2019, 1, .	3.6	4
15	Physical Understanding and Potential Applications of Crack Propagation on Viscoelastic Sheets. Nippon Gomu Kyokaishi, 2019, 92, 340-346.	0.0	0
16	Toughening in a nacre-like soft-hard layered structure due to weak nonlinearity in the soft layer. Physical Review Materials, 2019, 3, .	2.4	0
17	Viscous dynamics of drops and bubbles in Hele-Shaw cells: Drainage, drag friction, coalescence, and bursting. Advances in Colloid and Interface Science, 2018, 255, 64-75.	14.7	22
18	Crack propagation in porous polymer sheets with different pore sizes. MRS Communications, 2018, 8, 1477-1482.	1.8	4

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19	Velocity Jumps in Crack Propagation in Elastomers: Relevance of a Recent Model to Experiments. Journal of the Physical Society of Japan, 2018, 87, 125003.	1.6	5
20	Bursting dynamics of viscous film without circular symmetry: The effect of confinement. Physical Review Fluids, 2018, 3, .	2.5	11
21	Self-similar dynamics of air film entrained by a solid disk in confined space: A simple prototype of topological transitions. Physical Review Fluids, 2018, 3, .	2.5	3
22	Thin film partially attached onto elastomer substrate for three-dimensional microstructure. , 2017, , .		0
23	Stationary crack propagation in a two-dimensional visco-elastic network model. Polymer, 2017, 120, 94-99.	3.8	7
24	Micro arch-bridge structured surface fabricated by kirigami-on-elastomer approach for liquid-dependent iso/anisotropic wetting. Applied Physics Letters, 2017, 110, .	3.3	2
25	Exactly solvable model for a velocity jump observed in crack propagation in viscoelastic solids. Scientific Reports, 2017, 7, 8065.	3.3	22
26	Initial rigid response and softening transition of highly stretchable kirigami sheet materials. Scientific Reports, 2016, 6, 24758.	3.3	111
27	Scaling crossover in thin-film drag dynamics of fluid drops in the Hele-Shaw cell. Scientific Reports, 2016, 6, 31395.	3.3	13
28	Stationary bubble formation and cavity collapse in wedge-shaped hoppers. Scientific Reports, 2016, 6, 25065.	3.3	0
29	Meandering instability of air flow in a granular bed: self-similarity and fluid-solid duality. Scientific Reports, 2016, 6, 38457.	3.3	2
30	Simple views on different problems in physics: from drag friction to tough biological materials. Philosophical Magazine, 2016, 96, 828-841.	1.6	3
31	Towards combinatorial mixing devices without any pumps by open-capillary channels: fundamentals and applications. Scientific Reports, 2015, 5, 10263.	3.3	33
32	Scaling Crossover in Crack-Tip Stresses and a Robust Scaling Law for Fracture Strength. Journal of the Physical Society of Japan, 2015, 84, 114602.	1.6	1
33	Strength and toughness of biocomposites consisting of soft and hard elements: A few fundamental models. MRS Bulletin, 2015, 40, 333-339.	3.5	14
34	Strength and toughness of bio-fusion materials. Polymer Journal, 2015, 47, 99-105.	2.7	0
35	Capillary Rise on Legs of a Small Animal and on Artificially Textured Surfaces Mimicking Them. PLoS ONE, 2014, 9, e96813.	2.5	18
36	High-Velocity Drag Friction in Granular Media near the Jamming Point. Physical Review Letters, 2014, 112, 148001.	7.8	53

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37	Fracture of Soft Foam Solids: Interplay of Visco- and Plasto-elasticity. ACS Macro Letters, 2014, 3, 419-422.	4.8	10
38	Simple Network Model for Reinforcement of Materials with Voids. Journal of the Physical Society of Japan, 2014, 83, 035001.	1.6	5
39	Realistic Numerical Analysis of a Bioinspired Layered Composite with a Crack: Robust Scaling Laws and Crack Arrest. Advanced Engineering Materials, 2013, 15, 522-528.	3.5	10
40	Simple Model for the Toughness of a Helical Structure Inspired by the Exoskeleton of Lobsters. Journal of the Physical Society of Japan, 2013, 82, 124802.	1.6	7
41	Scaling Relation in Fracture of the Materials with Elastoplastic Response Inaccessible by Scaling Laws. Journal of the Physical Society of Japan, 2012, 81, 074604.	1.6	5
42	Imbibition of a textured surface decorated by short pillars with rounded edges. Physical Review E, 2012, 86, 020601.	2.1	23
43	Coalescence Dynamics of a Quasi Two-Dimensional Viscous Drop. Journal of the Physical Society of Japan, 2012, 81, SA015.	1.6	4
44	Imbibition of Surfaces Decorated with Pillars of Submillimeter Scales. Journal of the Physical Society of Japan, 2012, 81, SA011.	1.6	0
45	Viscous drag friction acting on a fluid drop confined in between two plates. Soft Matter, 2011, 7, 5648.	2.7	21
46	Dimensional crossover in the coalescence dynamics of viscous drops confined in between two plates. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 6395-6398.	7.1	49
47	Microgravity experiments in the field of physical chemistry in Japan. Journal of Physics: Conference Series, 2011, 327, 012046.	0.4	0
48	Publisher's Note: Bursting of a thin film in a confined geometry: Rimless and constant-velocity dewetting [Phys. Rev. E82, 030601 (2010)]. Physical Review E, 2010, 82, .	2.1	0
49	High-velocity drag friction in dense granular media. Europhysics Letters, 2010, 92, 44003.	2.0	65
50	Bursting of a thin film in a confined geometry: Rimless and constant-velocity dewetting. Physical Review E, 2010, 82, 030601.	2.1	21
51	Simple Model for the Mechanics of Spider Webs. Physical Review Letters, 2010, 104, 038102.	7.8	67
52	Stress and displacement around a crack in layered network systems mimicking nacre. Physical Review E, 2009, 79, 066108.	2.1	10
53	Crack-Tip Stress Concentration and Structure Size in Nonlinear Structured Materials. Journal of the Physical Society of Japan, 2009, 78, 034402.	1.6	10
54	Analytical Studies on a Crack in Layered Structures Mimicking Nacre. Journal of Engineering Mechanics - ASCE, 2009, 135, 461-467.	2.9	3

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55	On a moving liquid film and its instability on textured surfaces. European Physical Journal E, 2009, 30, 283-90.	1.6	7
56	Nematic transitions inside a film on substrates with stripe patterns of graded homeotropic anchoring. Chemical Physics Letters, 2008, 453, 274-278.	2.6	1
57	Wetting transitions on textured hydrophilic surfaces. European Physical Journal E, 2008, 25, 415-424.	1.6	113
58	Analytical solution to a fracture problem in a tough layered structure. Physical Review E, 2008, 78, 026118.	2.1	10
59	Lifetime of a two-dimensional air bubble. Physical Review E, 2007, 76, 060601.	2.1	13
60	Crack-Tip Stress Concentration and Mesh Size in Networks. Journal of the Physical Society of Japan, 2007, 76, 114801.	1.6	8
61	Inversion Method Based on the Legendre Transformation Applied to Discontinuous Phase Transitions. Journal of the Physical Society of Japan, 2007, 76, 114008.	1.6	0
62	Wicking within forests of micropillars. Europhysics Letters, 2007, 79, 56005.	2.0	177
63	Single molecular statistics of an optically tweezed polymer: A theoretical consideration. Chemical Physics Letters, 2007, 439, 369-373.	2.6	1
64	Nucleation scenarios for wetting transition on textured surfaces: The effect of contact angle hysteresis. Europhysics Letters, 2006, 76, 464-470.	2.0	53
65	Correlation in a Gaussian chain with the ends fixed. European Physical Journal E, 2006, 21, 223-230.	1.6	1
66	Fracture of soft cellular solids—Case of non-crosslinked polyethylene foam. Europhysics Letters, 2006, 76, 588-594.	2.0	10
67	Fracture strength of biomimetic composites: scaling views on nacre. Journal of Physics Condensed Matter, 2005, 17, S2879-S2884.	1.8	13
68	Toughness of double elastic networks. Europhysics Letters, 2004, 67, 470-476.	2.0	62
69	Phase transitions of nematic rubbers. AIP Conference Proceedings, 2004, , .	0.4	0
70	Wetting transitions on rough surfaces. Europhysics Letters, 2004, 68, 419-425.	2.0	221
71	Energy-Level Diagrams and Their Contribution to Fifth-Order Raman and Second-Order Infrared Responses: Distinction between Relaxation Models by Two-Dimensional Spectroscopyâ€. Journal of Physical Chemistry A, 2003, 107, 8092-8105.	2.5	21
72	Water spring: A model for bouncing drops. Europhysics Letters, 2003, 62, 237-243.	2.0	227

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73	Bouncing gel balls: Impact of soft gels onto rigid surface. Europhysics Letters, 2003, 63, 146-152.	2.0	17
74	Enhanced energy of parallel fractures in nacre-like composite materials. Europhysics Letters, 2003, 63, 701-707.	2.0	15
75	Phase transitions of nematic rubbers. Europhysics Letters, 2003, 63, 76-82.	2.0	13
76	Why is nacre strong? II. Remaining mechanical weakness for cracks propagating along the sheets. European Physical Journal E, 2002, 7, 303-310.	1.6	23
77	Why is nacre strong? Elastic theory and fracture mechanics for biocomposites with stratified structures. European Physical Journal E, 2001, 4, 121-127.	1.6	170
78	Two-dimensional spectroscopy and harmonically coupled anharmonic oscillators. Chemical Physics, 2001, 266, 237-250.	1.9	25
79	Cage Dynamics in the Third-Order Off-Resonant Response of Liquid Molecules: A Theoretical Realization. Bulletin of the Chemical Society of Japan, 2000, 73, 873-884.	3.2	3
80	On the toughness of biocomposites. Comptes Rendus Physique, 2000, 1, 257-261.	0.1	5
81	Mechanoelectric effects in ionic gels. Europhysics Letters, 2000, 50, 513-518.	2.0	302
82	Structural information from two-dimensional fifth-order Raman spectroscopy. Journal of Chemical Physics, 1999, 111, 492-503.	3.0	73
83	Two-dimensional line-shape analysis of photon-echo signal. Chemical Physics Letters, 1999, 314, 488-495.	2.6	56
84	Two-dimensional THz spectroscopy of liquids: non-linear vibrational response to a series of THz laser pulses. Chemical Physics Letters, 1998, 295, 298-304.	2.6	36
85	A reformulation of simple liquids theory—Renormalization by one-, two-, and three-particle densities. Journal of Mathematical Physics, 1998, 39, 2077-2102.	1.1	5
86	Coherent two-dimensional Raman scattering: Frequency-domain measurement of the intra- and intermolecular vibrational interactions. Journal of Chemical Physics, 1998, 108, 1326-1334.	3.0	71
87	The (2n+1)th-order off-resonant spectroscopy from the (n+1)th-order anharmonicities of molecular vibrational modes in the condensed phase. Journal of Chemical Physics, 1997, 106, 1687-1698.	3.0	100
88	Two-time correlation functions of a harmonic system nonbilinearly coupled to a heat bath: Spontaneous Raman spectroscopy. Physical Review E, 1997, 56, 2747-2750.	2.1	45
89	First-, third-, and fifth-order resonant spectroscopy of an anharmonic displaced oscillators system in the condensed phase. Journal of Chemical Physics, 1997, 106, 2078-2095.	3.0	54
90	Femtosecond two-dimensional spectroscopy from anharmonic vibrational modes of molecules in the condensed phase. Journal of Chemical Physics, 1997, 107, 2267-2283.	3.0	140

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91	Interplay of inhomogeneity and anharmonicity in 2D Raman spectroscopy of liquids. Chemical Physics Letters, 1997, 277, 159-166.	2.6	39
92	Sensitivity of two-dimensional fifth-order Raman response to the mechanism of vibrational mode-mode coupling in liquid molecules. Chemical Physics Letters, 1997, 278, 175-183.	2.6	57
93	Unified time-path approach to the generating functional of the Brownian oscillator system: The bilinearly corrected Feynman rule for nonequilibrium processes. Physical Review E, 1996, 53, 214-227.	2.1	16
94	Unified timeâ€path approach to the effect of anharmonicity on the molecular vibrational spectroscopy in solution. Journal of Chemical Physics, 1996, 105, 7294-7309.	3.0	31
95	EFFECTIVE ACTIONS OF LOCAL COMPOSITE OPERATORS: THE CASE OF φ4 THEORY, THE ITINERANT ELECTRON MODEL, AND QED. International Journal of Modern Physics A, 1996, 11, 65-109.	1.5	14
96	A systematic analysis of the ferromagnetism in the itinerant electron model. Journal of Magnetism and Magnetic Materials, 1995, 140-144, 191-192.	2.3	1
97	Systematic analysis of the magnetic susceptibility in the itinerant electron model. Physical Review B, 1995, 52, 13358-13367.	3.2	7
98	Novel Use of Legendre Transformation in Field Theory and Many Particle Systems. Progress of Theoretical Physics Supplement, 1995, 121, 1-428.	0.1	52
99	VARIOUS CONDENSED MATTER HAMILTONIANS IN TERMS OF U(2/2) OPERATORS AND THEIR SYMMETRY STRUCTURES. Modern Physics Letters B, 1993, 07, 251-258.	1.9	1
100	Nonadiabatic response theory: The case of volume change. Physical Review E, 1993, 47, 1486-1498.	2.1	3
101	The Supergroup U(M/N) with Regard to Electronic Hamiltonians. Journal of the Physical Society of Japan, 1993, 62, 1922-1926.	1.6	0
102	Derivation of the 4-Body Bound-State Equation from the Effective Action. Progress of Theoretical Physics, 1992, 87, 703-726.	2.0	1