# Ko Okumura

List of Publications by Year
in descending order



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|---|---|---|---|
| 101 papers | 2,997 citations | 218381 26 h-index | 161609 54 g-index |
| 105 all docs | 105 docs citations | 105 times ranked | 2378 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Inertial Coalescence of a Liquid Drop Surrounded by Viscous Liquid. Journal of the Physical Society of Japan, 2022, 91, . | 0.7 | 2 |
| 2 | Air entrained into viscous liquid by a disk: Confinement induced suppression of breakup. Physical Review Research, 2022, 4, . | 1.3 | 0 |
| 3 | How universal is the vibration-velocity controlled granular convection?. EPJ Web of Conferences, 2021, 249, 03019. | 0.1 | 0 |
| 4 | Dynamic glass transition dramatically accelerates crack propagation in rubberlike solids. Physical Review Materials, 2021, 5, . | 0.9 | 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. | 1.2 | 5 |
| 6 | Capillary Replacement in a Tube Prefilled with a Viscous Fluid. Langmuir, 2020, 36, 10952-10959. | 1.6 | 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. | 0.7 | 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, . | 1.3 | 6 |
| 9 | Crack propagation under static and dynamic boundary conditions. Polymer, 2019, 185, 121648. | 1.8 | 2 |
| 10 | Velocity jump in the crack propagation induced on a semi-crystalline polymer sheet by constant-speed stretching. Polymer, 2019, 173, 166-171. | 1.8 | 5 |
| 11 | Visco- and plastoelastic fracture of nanoporous polymer sheets. Polymer Journal, 2019, 51, 845-850. | 1.3 | 2 |
| 12 | Discontinuity in the In-plane to Out-of-plane Transition of Kirigami. Journal of the Physical Society of Japan, 2019, 88, 025001. | 0.7 | 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, . | 1.3 | 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, . | 0.9 | 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. | 7.0 | 22 |
| 18 | Crack propagation in porous polymer sheets with different pore sizes. MRS Communications, 2018, 8, 1477-1482. | 0.8 | 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. | 0.7 | 5 |
| 20 | Bursting dynamics of viscous film without circular symmetry: The effect of confinement. Physical Review Fluids, 2018, 3, . | 1.0 | 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, . | 1.0 | 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. | 1.8 | 7 |
| 24 | Micro arch-bridge structured surface fabricated by kirigami-on-elastomer approach for liquid-dependent iso/anisotropic wetting. Applied Physics Letters, 2017, 110, . | 1.5 | 2 |
| 25 | Exactly solvable model for a velocity jump observed in crack propagation in viscoelastic solids. Scientific Reports, 2017, 7, 8065. | 1.6 | 22 |
| 26 | Initial rigid response and softening transition of highly stretchable kirigami sheet materials. Scientific Reports, 2016, 6, 24758. | 1.6 | 111 |
| 27 | Scaling crossover in thin-film drag dynamics of fluid drops in the Hele-Shaw cell. Scientific Reports, 2016, 6, 31395. | 1.6 | 13 |
| 28 | Stationary bubble formation and cavity collapse in wedge-shaped hoppers. Scientific Reports, 2016, 6, 25065. | 1.6 | 0 |
| 29 | Meandering instability of air flow in a granular bed: self-similarity and fluid-solid duality. Scientific Reports, 2016, 6, 38457. | 1.6 | 2 |
| 30 | Simple views on different problems in physics: from drag friction to tough biological materials. Philosophical Magazine, 2016, 96, 828-841. | 0.7 | 3 |
| 31 | Towards combinatorial mixing devices without any pumps by open-capillary channels: fundamentals and applications. Scientific Reports, 2015, 5, 10263. | 1.6 | 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. | 0.7 | 1 |
| 33 | Strength and toughness of biocomposites consisting of soft and hard elements: A few fundamental models. MRS Bulletin, 2015, 40, 333-339. | 1.7 | 14 |
| 34 | Strength and toughness of bio-fusion materials. Polymer Journal, 2015, 47, 99-105. | 1.3 | 0 |
| 35 | Capillary Rise on Legs of a Small Animal and on Artificially Textured Surfaces Mimicking Them. PLoS ONE, 2014, 9, e96813. | 1.1 | 18 |
| 36 | High-Velocity Drag Friction in Granular Media near the Jamming Point. Physical Review Letters, 2014, 112, 148001. | 2.9 | 53 |

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|---|---|---|---|
| 37 | Fracture of Soft Foam Solids: Interplay of Visco- and Plasto-elasticity. ACS Macro Letters, 2014, 3, 419-422. | 2.3 | 10 |
| 38 | Simple Network Model for Reinforcement of Materials with Voids. Journal of the Physical Society of Japan, 2014, 83, 035001. | 0.7 | 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. | 1.6 | 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. | 0.7 | 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. | 0.7 | 5 |
| 42 | Imbibition of a textured surface decorated by short pillars with rounded edges. Physical Review E, 2012, 86, 020601. | 0.8 | 23 |
| 43 | Coalescence Dynamics of a Quasi Two-Dimensional Viscous Drop. Journal of the Physical Society of Japan, 2012, 81, SA015. | 0.7 | 4 |
| 44 | Imbibition of Surfaces Decorated with Pillars of Submillimeter Scales. Journal of the Physical Society of Japan, 2012, 81, SA011. | 0.7 | 0 |
| 45 | Viscous drag friction acting on a fluid drop confined in between two plates. Soft Matter, 2011, 7, 5648. | 1.2 | 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. | 3.3 | 49 |
| 47 | Microgravity experiments in the field of physical chemistry in Japan. Journal of Physics: Conference Series, 2011, 327, 012046. | 0.3 | 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, . | 0.8 | 0 |
| 49 | High-velocity drag friction in dense granular media. Europhysics Letters, 2010, 92, 44003. | 0.7 | 65 |
| 50 | Bursting of a thin film in a confined geometry: Rimless and constant-velocity dewetting. Physical Review E, 2010, 82, 030601. | 0.8 | 21 |
| 51 | Simple Model for the Mechanics of Spider Webs. Physical Review Letters, 2010, 104, 038102. | 2.9 | 67 |
| 52 | Stress and displacement around a crack in layered network systems mimicking nacre. Physical Review E, 2009, 79, 066108. | 0.8 | 10 |
| 53 | Crack-Tip Stress Concentration and Structure Size in Nonlinear Structured Materials. Journal of the Physical Society of Japan, 2009, 78, 034402. | 0.7 | 10 |
| 54 | Analytical Studies on a Crack in Layered Structures Mimicking Nacre. Journal of Engineering Mechanics - ASCE, 2009, 135, 461-467. | 1.6 | 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. | 0.7 | 7 |
| 56 | Nematic transitions inside a film on substrates with stripe patterns of graded homeotropic anchoring. Chemical Physics Letters, 2008, 453, 274-278. | 1.2 | 1 |
| 57 | Wetting transitions on textured hydrophilic surfaces. European Physical Journal E, 2008, 25, 415-424. | 0.7 | 113 |
| 58 | Analytical solution to a fracture problem in a tough layered structure. Physical Review E, 2008, 78, 026118. | 0.8 | 10 |
| 59 | Lifetime of a two-dimensional air bubble. Physical Review E, 2007, 76, 060601. | 0.8 | 13 |
| 60 | Crack-Tip Stress Concentration and Mesh Size in Networks. Journal of the Physical Society of Japan, 2007, 76, 114801. | 0.7 | 8 |
| 61 | Inversion Method Based on the Legendre Transformation Applied to Discontinuous Phase Transitions. Journal of the Physical Society of Japan, 2007, 76, 114008. | 0.7 | 0 |
| 62 | Wicking within forests of micropillars. Europhysics Letters, 2007, 79, 56005. | 0.7 | 177 |
| 63 | Single molecular statistics of an optically tweezed polymer: A theoretical consideration. Chemical Physics Letters, 2007, 439, 369-373. | 1.2 | 1 |
| 64 | Nucleation scenarios for wetting transition on textured surfaces: The effect of contact angle hysteresis. Europhysics Letters, 2006, 76, 464-470. | 0.7 | 53 |
| 65 | Correlation in a Gaussian chain with the ends fixed. European Physical Journal E, 2006, 21, 223-230. | 0.7 | 1 |
| 66 | Fracture of soft cellular solidsâ€"Case of non-crosslinked polyethylene foam. Europhysics Letters, 2006, 76, 588-594. | 0.7 | 10 |
| 67 | Fracture strength of biomimetic composites: scaling views on nacre. Journal of Physics Condensed Matter, 2005, 17, S2879-S2884. | 0.7 | 13 |
| 68 | Toughness of double elastic networks. Europhysics Letters, 2004, 67, 470-476. | 0.7 | 62 |
| 69 | Phase transitions of nematic rubbers. AIP Conference Proceedings, 2004, , . | 0.3 | 0 |
| 70 | Wetting transitions on rough surfaces. Europhysics Letters, 2004, 68, 419-425. | 0.7 | 221 |
| 71 | Energy-Level Diagrams and Their Contribution to Fifth-Order Raman and Second-Order Infrared Responses:Â Distinction between Relaxation Models by Two-Dimensional Spectroscopyâ€. Journal of Physical Chemistry A, 2003, 107, 8092-8105. | 1.1 | 21 |
| 72 | Water spring: A model for bouncing drops. Europhysics Letters, 2003, 62, 237-243. | 0.7 | 227 |

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| 73 | Bouncing gel balls: Impact of soft gels onto rigid surface. Europhysics Letters, 2003, 63, 146-152. | 0.7 | 17 |
| 74 | Enhanced energy of parallel fractures in nacre-like composite materials. Europhysics Letters, 2003, 63, 701-707. | 0.7 | 15 |
| 75 | Phase transitions of nematic rubbers. Europhysics Letters, 2003, 63, 76-82. | 0.7 | 13 |
| 76 | Why is nacre strong? II. Remaining mechanical weakness for cracks propagating along the sheets. European Physical Journal E, 2002, 7, 303-310. | 0.7 | 23 |
| 77 | Why is nacre strong? Elastic theory and fracture mechanics for biocomposites with stratified structures. European Physical Journal E, 2001, 4, 121-127. | 0.7 | 170 |
| 78 | Two-dimensional spectroscopy and harmonically coupled anharmonic oscillators. Chemical Physics, 2001, 266, 237-250. | 0.9 | 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. | 2.0 | 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. | 0.7 | 302 |
| 82 | Structural information from two-dimensional fifth-order Raman spectroscopy. Journal of Chemical Physics, 1999, 111, 492-503. | 1.2 | 73 |
| 83 | Two-dimensional line-shape analysis of photon-echo signal. Chemical Physics Letters, 1999, 314, 488-495. | 1.2 | 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. | 1.2 | 36 |
| 85 | A reformulation of simple liquids theoryâ€"Renormalization by one-, two-, and three-particle densities. Journal of Mathematical Physics, 1998, 39, 2077-2102. | 0.5 | 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. | 1.2 | 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. | 1.2 | 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. | 0.8 | 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. | 1.2 | 54 |
| 90 | Femtosecond two-dimensional spectroscopy from anharmonic vibrational modes of molecules in the condensed phase. Journal of Chemical Physics, 1997, 107, 2267-2283. | 1.2 | 140 |

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|---|---|---|---|
| 91 | Interplay of inhomogeneity and anharmonicity in 2D Raman spectroscopy of liquids. Chemical Physics Letters, 1997, 277, 159-166. | 1.2 | 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. | 1.2 | 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. | 0.8 | 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. | 1.2 | 31 |
| 95 | EFFECTIVE ACTIONS OF LOCAL COMPOSITE OPERATORS: THE CASE OF Ï†4 THEORY, THE ITINERANT ELECTRON MODEL, AND QED. International Journal of Modern Physics A, 1996, 11, 65-109. | 0.5 | 14 |
| 96 | A systematic analysis of the ferromagnetism in the itinerant electron model. Journal of Magnetism and Magnetic Materials, 1995, 140-144, 191-192. | 1.0 | 1 |
| 97 | Systematic analysis of the magnetic susceptibility in the itinerant electron model. Physical Review B, 1995, 52, 13358-13367. | 1.1 | 7 |
| 98 | Novel Use of Legendre Transformation in Field Theory and Many Particle Systems. Progress of Theoretical Physics Supplement, 1995, 121, 1-428. | 0.2 | 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. | 1.0 | 1 |
| 100 | Nonadiabatic response theory: The case of volume change. Physical Review E, 1993, 47, 1486-1498. | 0.8 | 3 |
| 101 | The Supergroup U(M/N) with Regard to Electronic Hamiltonians. Journal of the Physical Society of Japan, 1993, 62, 1922-1926. | 0.7 | 0 |