Dai Okumura

List of Publications by Year
in descending order

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59 papers	1,029 citations	430874 18 h-index	414414 32 g-index
61 all docs	61 docs citations	61 times ranked	590 citing authors

#	Article	IF	Citations
1	Microscopic symmetric bifurcation condition of cellular solids based on a homogenization theory of finite deformation. Journal of the Mechanics and Physics of Solids, 2002, 50, 1125-1153.	4.8	178
2	Higher-order stress and grain size effects due to self-energy of geometrically necessary dislocations. Journal of the Mechanics and Physics of Solids, 2007, 55, 1879-1898.	4.8	153
3	Elastoplastic microscopic bifurcation and post-bifurcation behavior of periodic cellular solids. Journal of the Mechanics and Physics of Solids, 2004, 52, 641-666.	4.8	75
4	Post-buckling analysis of elastic honeycombs subject to in-plane biaxial compression. International Journal of Solids and Structures, 2002, 39, 3487-3503.	2.7	71
5	Long-wave buckling of elastic square honeycombs subject to in-plane biaxial compression. International Journal of Mechanical Sciences, 2004, 46, 1697-1713.	6.7	66
6	A homogenization theory of strain gradient single crystal plasticity and its finite element discretization. International Journal of Plasticity, 2007, 23, 1148-1166.	8.8	34
7	Buckling behavior of Kelvin open-cell foams under [001], [011] and [111] compressive loads. International Journal of Solids and Structures, 2008, 45, 3807-3820.	2.7	31
8	Yield and buckling behavior of Kelvin open-cell foams subjected to uniaxial compression. International Journal of Mechanical Sciences, 2010, 52, 377-385.	6.7	31
9	Experiments and modeling of the viscoelastic behavior of polymeric gels. Journal of the Mechanics and Physics of Solids, 2020, 137, 103829.	4.8	31
10	Homogenized elasticâ€“viscoplastic behavior of anisotropic open-porous bodies with pore pressure. International Journal of Solids and Structures, 2012, 49, 2799-2806.	2.7	27
11	Using two scaling exponents to describe the mechanical properties of swollen elastomers. Journal of the Mechanics and Physics of Solids, 2016, 90, 61-76.	4.8	27
12	Long-wave in-plane buckling of elastoplastic square honeycombs. International Journal of Plasticity, 2006, 22, 1569-1585.	8.8	24
13	GRAIN-SIZE DEPENDENT YIELD BEHAVIOR UNDER LOADING, UNLOADING AND REVERSE LOADING. International Journal of Modern Physics B, 2008, 22, 5937-5942.	2.0	24
14	Three-dimensional microscopic interlaminar analysis of cross-ply laminates based on a homogenization theory. International Journal of Solids and Structures, 2007, 44, 8274-8284.	2.7	21
15	Modeling of cyclic hardening and evaluation of plastic strain range in the presence of pre-loading and ratcheting. International Journal of Plasticity, 2021, 145, 103074.	8.8	21
16	Effect of geometrical imperfections on swelling-induced buckling patterns in gel films with a square lattice of holes. International Journal of Solids and Structures, 2014, 51, 154-163.	2.7	20
17	Effect of prestrains on swelling-induced buckling patterns in gel films with a square lattice of holes. International Journal of Solids and Structures, 2015, 58, 288-300.	2.7	20
18	Ultimate swelling described by limiting chain extensibility of swollen elastomers. International Journal of Mechanical Sciences, 2018, 144, 531-539.	6.7	19

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19	Evaluation of the effects of cross-linking and swelling on the mechanical behaviors of hydrogels using the digital image correlation method. Soft Matter, 2019, 15, 3389-3396.	2.7	19
20	Implicit iterative finite element scheme for a strain gradient crystal plasticity model based on self-energy of geometrically necessary dislocations. Computational Materials Science, 2012, 53, 53-59.	3.0	12
21	A general expression for linearized properties of swollen elastomers undergoing large deformations. Journal of the Mechanics and Physics of Solids, 2020, 135, 103805.	4.8	12
22	Homogenized elasticâ€“viscoplastic behavior of plate-fin structures with two pore pressures. International Journal of Mechanical Sciences, 2014, 86, 18-25.	6.7	11
23	Resetting scheme for plastic strain range evaluation in cyclic plasticity: Experimental verification. International Journal of Plasticity, 2019, 123, 56-69.	8.8	11
24	Elasticâ€“viscoplastic implicit integration algorithm applicable to both plane stress and three-dimensional stress states. Finite Elements in Analysis and Design, 2016, 109, 54-64.	3.2	10
25	Resetting scheme for plastic strain surface in constitutive modeling of cyclic plasticity. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2018, 98, 518-531.	1.6	10
26	Bifurcation and deformation during the evolution of periodic patterns on a gel film bonded to a soft substrate. Journal of the Mechanics and Physics of Solids, 2021, 148, 104272.	4.8	10
27	Thermo-mechanical cyclic hardening behavior of 304 stainless steel at large temperature ranges: Experiments and simulations. International Journal of Mechanical Sciences, 2018, 146-147, 517-526.	6.7	9
28	Buckling and postbuckling of etching-induced wiggling in a bilayer structure with intrinsic compressive stress. International Journal of Mechanical Sciences, 2018, 141, 78-88.	6.7	7
29	Effects of two scaling exponents on biaxial deformation and mass transport of swollen elastomers. International Journal of Mechanical Sciences, 2018, 146-147, 507-516.	6.7	6
30	Implicit rule on the elastic function of a swollen polyacrylamide hydrogel. Soft Matter, 2021, 17, 4979-4988.	2.7	4
31	Swelling-Induced Buckling Patterns in Gel Films with a Square Lattice of Holes Subjected to In-Plane Uniaxial and Biaxial Pretensions. Advanced Structured Materials, 2015, , 319-334.	0.5	4
32	Macroscopic out-of-plane auxetic features of a laminated open-cell structure with in-plane negative Poissonâ€™s ratios induced by bridging beam components. Smart Materials and Structures, 2018, 27, 085011.	3.5	4
33	Measurements and FEM Analyses of Strain Distribution in Small Sn Specimens with Few Crystal Grains. Materials Transactions, 2019, 60, 868-875.	1.2	4
34	Diversity of the bifurcations and deformations on films bonded to soft substrates: Robustness of the herringbone pattern and its cognate patterns. Journal of the Mechanics and Physics of Solids, 2022, 159, 104757.	4.8	4
35	Long-Wave In-Plane Buckling of Elastic Square Honeycombs. Mechanics of Advanced Materials and Structures, 2005, 12, 175-183.	2.6	3
36	Plastic size effect analysis of lamellar composites using a discrete dislocation plasticity approach. International Journal of Plasticity, 2011, 27, 2040-2055.	8.8	3

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37	Homogenization of fin layers in tube-fin structures subjected to compression and bending: Analyses and experiments. International Journal of Mechanical Sciences, 2016, 115-116, 348-359.	6.7	2
38	Validation of Crush Energy Calculation Methods for Use in Accident Reconstructions by Finite Element Analysis. SAE International Journal of Transportation Safety, 2018, 6, 133-146.	0.4	2
39	Warpage Variation Analysis of Si/Solder/Cu Layered Plates Subjected to Cyclic Thermal Loading. Advanced Structured Materials, 2016, , 185-204.	0.5	2
40	Effect of cyclic hardening on stress relaxation in SUS316HTP under creep-fatigue loading at 700Â°C: experiments and simulations. Journal of Theoretical and Applied Mechanics, 0, , 497.	0.5	2
41	Formulation of a Homogenization Theory for Discrete Dislocation Dynamics Analysis. Zairyo/Journal of the Society of Materials Science, Japan, 2010, 59, 149-156.	0.2	2
42	Influence of closed faces on compressive strength of open cell metallic foams. Materials Research Innovations, 2011, 15, s61-s64.	2.3	1
43	Homogenized elastic stiffness of fin layer in tube-fin structures (Verification for bending loading). Transactions of the JSME (in Japanese), 2015, 81, 14-00291-14-00291.	0.2	1
44	Effects of Two Scaling Exponents on Swelling-Induced Softening of Elastomers under Equibiaxial and Planar Extensions. Key Engineering Materials, 0, 725, 427-432.	0.4	1
45	Effect of Strain Hardening on Monotonic and Cyclic Loading Behavior of Plate-Fin Structures with Two Pore Pressures. Key Engineering Materials, 2014, 626, 133-138.	0.4	0
46	Effects of initial imperfection and mesh resolution on wrinkle and crease analyses. Transactions of the JSME (in Japanese), 2021, 87, 21-00045-21-00045.	0.2	0
47	GSW0454 Microscopic buckling and macroscopic instability of periodic cellular solids. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2003, 2003.2, _GSW0454-1-_GSW0454-6.	0.0	0
48	GS(5)-24(GSW0454) Microscopic Buckling and Macroscopic Instability of Periodic Cellular Solids. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2003, 2003, 344.	0.0	0
49	OS0101 Homogenized Elastic-Viscoplastic Equation of Anisorropic Open-Porous Metals Subjected to Pore Pressure. The Proceedings of the Materials and Mechanics Conference, 2012, 2012, _OS0101-1_-_OS0101-3_.	0.0	0
50	920 Elastic Viscoplastic Homogenization Simulation of Anisotropic Open Porous Bodies. The Proceedings of the Computational Mechanics Conference, 2012, 2012.25, 664-665.	0.0	0
51	NM-JP-7 Homogenization analysis of plastic size effects using discrete dislocation plasticity approach. The Proceedings of Mechanical Engineering Congress Japan, 2012, 2012, _NM-JP-7-1-_NM-JP-7-5.	0.0	0
52	OS0910 Influence of imperfections on swelling induced buckling of gel films with holes in a square array. The Proceedings of the Materials and Mechanics Conference, 2013, 2013, _OS0910-1_-_OS0910-3_.	0.0	0
53	OS0914 Homogenized Elastic-Viscoplastic Behavior of Open Porous Bodies With Two Pore Pressures. The Proceedings of the Materials and Mechanics Conference, 2013, 2013, _OS0914-1_-_OS0914-3_.	0.0	0
54	OS0513 Effect of prestrains on swelling-induced buckling patterns in gel films with holes in a square array. The Proceedings of the Materials and Mechanics Conference, 2014, 2014, _OS0513-1_-_OS0513-3_.	0.0	0

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55	145 Homogenized Elastic Analysis of Tube-fin Structures in Bending Condition. The Proceedings of Conference of Tokai Branch, 2015, 2015.64, _145-1_-_145-2_.	0.0	0
56	OS1320-151 Effects of two scaling exponents on mechanical properties of gels. The Proceedings of the Materials and Mechanics Conference, 2015, 2015, _OS1320-15-_OS1320-15.	0.0	0
57	Analysis of swelling-induced instability under biaxial extensions using two scaling exponents. The Proceedings of the Materials and Mechanics Conference, 2016, 2016, OS03-06.	0.0	0
58	Mechanism of Plastic Deformation in a Magnesium Nanotwinned Structure by Molecular Dynamics Simulations. Zairyo/Journal of the Society of Materials Science, Japan, 2018, 67, 215-221.	0.2	0
59	Finite element implementation of Gent-Gent hyperelastic model for swollen elastomers. Transactions of the JSME (in Japanese), 2020, 86, 20-00233-20-00233.	0.2	0