Yoshitaka Umeno

List of Publications by Year
in descending order

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68	749	623734	552781
papers	citations	14 h-index	26 g-index

69	69	69	618
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	First-principles approaches to intrinsic strength and deformation of materials: perfect crystals, nano-structures, surfaces and interfaces. Modelling and Simulation in Materials Science and Engineering, 2009, 17, 013001.	2.0	106
2	Ab initiostudy of the surface properties and ideal strength of (100) silicon thin films. Physical Review B, 2005, 72, .	3.2	59
3	Effect of normal stress on the ideal shear strength in covalent crystals. Physical Review B, 2008, 77, .	3.2	52
4	Ab initiostudy of stress-induced domain switching in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi mathvariant="normal">Pb</mml:mi><mml:mi mathvariant="normal">Ti</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review B, 2008, 77, .	3.2	50
5	Ab initio simulation on ideal shear strength of silicon. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2002, 88, 79-84.	3.5	46
6	Analytical evaluation of unstable deformation criterion of atomic structure and its application to nanostructure. Computational Materials Science, 2004, 29, 499-510.	3.0	46
7	Instability criterion of inhomogeneous atomic system. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 379, 229-233.	5.6	40
8	Density functional theory calculation of ideal strength of SiC and GaN: Effect of multi-axial stress. Computational Materials Science, 2015, 109, 105-110.	3.0	25
9	Optimization of interatomic potential for Si/SiO2 system based on force matching. Computational Materials Science, 2002, 25, 447-456.	3.0	24
10	Theoretical analysis on electronic properties of zigzag-type single-walled carbon nanotubes under radial deformation. Computational Materials Science, 2004, 30, 283-287.	3.0	22
11	Metallicâ€“semiconducting transition of single-walled carbon nanotubes under high axial strain. Computational Materials Science, 2004, 31, 33-41.	3.0	18
12	Construction of master yield stress curves for polycarbonate: A coarse-grained molecular dynamics study. Polymer, 2019, 177, 84-90.	3.8	18
13	Validity of effective medium theory for aluminium under tension. Modelling and Simulation in Materials Science and Engineering, 2003, 11, 127-136.	2.0	17
14	Mechanical instability in non-uniform atomic structure: Application to amorphous metal. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 462, 450-455.	5.6	17
15	Development of Interatomic Potential for Pb(Zr, Ti)O3 Based on Shell model. Journal of Solid Mechanics and Materials Engineering, 2007, 1, 1423-1431.	0.5	13
16	Dislocation nucleation in a thin Cu film from molecular dynamics simulations: Instability activation by thermal fluctuations. Physical Review B, 2010, 82, .	3.2	12
17	Crack Initiation Criteria in EBC under Thermal Stress. Coatings, 2019, 9, 697.	2.6	12
18	Stability and strength of covalent crystals under uniaxial and triaxial loading from first principles. Journal of Physics Condensed Matter, 2013, 25, 035401.	1.8	11

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19	Highâ€Strength Subâ€Micrometer Spherical Particles Fabricated by Pulsed Laser Melting in Liquid. Particle and Particle Systems Characterization, 2018, 35, 1800061.	2.3	11
20	Effect of Lattice Defects on Tribological Behavior for High Friction Coefficient under TCP Added PAO Lubrication in Nanostructured Steels. ISIJ International, 2020, 60, 1358-1365.	1.4	9
21	Ideal Strength of Nano-Components. Materials Science Forum, 2005, 482, 25-32.	0.3	8
22	Molecular dynamics study of deformation and fracture in SiC with angular dependent potential model. Computational Materials Science, 2017, 139, 89-96.	3.0	8
23	Coarse-Grained Molecular Dynamics Simulations of Boundary Lubrication on Nanostructured Metal Surfaces. Tribology Letters, 2020, 68, 1.	2.6	8
24	Effect of grain boundary on the friction coefficient of pure Fe under the oil lubrication. Tribology International, 2021, 155, 106781.	5.9	8
25	Buckling-induced band-gap modulation in zigzag carbon nanotubes. Physical Review B, 2019, 100, .	3.2	7
26	On the atomistic energetics of carbon nanotube collapse from AIREBO potential. Physica E: Low-Dimensional Systems and Nanostructures, 2019, 106, 319-325.	2.7	7
27	Radial deformation and band-gap modulation of pressurized carbon nanotubes. Coupled Systems Mechanics, 2013, 2, 147-157.	0.4	7
28	Atomistic Model Calculation of Stress-Induced Domain Wall Instability in PbTiO3 Using Shell Model. Journal of Solid Mechanics and Materials Engineering, 2012, 6, 90-98.	0.5	6
29	Coarse-grained molecular dynamics simulation of deformation and fracture in polycarbonate: Effect of molar mass and entanglement. Theoretical and Applied Fracture Mechanics, 2020, 109, 102699.	4.7	6
30	Method for Instability Analysis of Atomic Structure and its Application to Ideal Strength of Thin Film.. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2002, 68, 104-110.	0.2	5
31	Internal atomic stress near Â5 tilt grain boundary in aluminium under tension. Modelling and Simulation in Materials Science and Engineering, 2003, 11, 839-849.	2.0	5
32	Effect of cation dopants in zirconia on interfacial properties in nickel/zirconia systems: an atomistic modeling study. Journal of Physics Condensed Matter, 2017, 29, 045001.	1.8	5
33	Axial buckling behavior of single-walled carbon nanotubes: Atomistic structural instability analysis. Physica E: Low-Dimensional Systems and Nanostructures, 2018, 103, 130-142.	2.7	5
34	Machine-Learning-Based Atomistic Model Analysis on High-Temperature Compressive Creep Properties of Amorphous Silicon Carbide. Materials, 2021, 14, 1597.	2.9	5
35	Analysis on Unstable Deformation Mode of Atomic Structure. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2003, 69, 945-951.	0.2	4
36	Atomic Simulation on Deformation of Single-Wall Carbon Nanotube Based on Tight-Binding Molecular Dynamics.. Zairyo/Journal of the Society of Materials Science, Japan, 2003, 52, 219-224.	0.2	4

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37	Atomistic modeling study of surface effect on oxide ion diffusion in yttria-stabilized zirconia. Solid State Ionics, 2015, 279, 46-52.	2.7	4
38	Atomistic origin of radial corrugation in a few-walled carbon nanotubes: A molecular dynamics study. Physica E: Low-Dimensional Systems and Nanostructures, 2015, 65, 135-140.	2.7	4
39	Adsorption enhancement of a fatty acid on iron surface with Î£3(1 1 1) grain boundary. Applied Surface Science, 2021, 543, 148604.	6.1	4
40	First Principle Simulation on Atomic Chain of Aluminum.. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2001, 67, 203-208.	0.2	3
41	Influence of normal and shear strain on magnetic anisotropy energy of hcp cobalt: An ab initio study. Journal of Materials Research, 2013, 28, 1559-1566.	2.6	3
42	Development of a new dipole model: interatomic potential for yttria-stabilized zirconia for bulk and surface. Journal of Physics Condensed Matter, 2015, 27, 015005.	1.8	3
43	Effect of Lattice Defects on Tribological Behavior for High Friction Coefficient under TCP added PAO Lubrication in Nanostructured Steels. Tetsu-To-Hagane/Journal of the Iron and Steel Institute of Japan, 2019, 105, 282-289.	0.4	3
44	Ab initiomolecular dynamics study on the formation process of Al layers on Si(001) surface. Modelling and Simulation in Materials Science and Engineering, 2004, 12, 1147-1157.	2.0	2
45	Criterion of Mechanical Instability in Inhomogeneous Atomic System. Materials Science Forum, 2005, 482, 127-130.	0.3	2
46	Molecular Dynamics Study of Radial Corrugation in Carbon Nanotubes. Mechanics of Advanced Materials and Structures, 2015, 22, 423-427.	2.6	2
47	Atomistic-Level Simulation of Deformation in Polycarbonate. Key Engineering Materials, 0, 725, 445-450.	0.4	2
48	Coarse-Grained Molecular Dynamics Simulation of Fracture Problems in Polycarbonate. Solid State Phenomena, 0, 258, 73-76.	0.3	2
49	Effect of Defects and Electric Field on Stress-Induced Motion of 90Â° Domain Wall in PbTiO3: A Molecular Dynamics Study. Advanced Structured Materials, 2017, , 135-143.	0.5	2
50	Analysis of Structure and Properties of .SIGMA.9 Tilt Grain Boundary in Aluminum by ab initio Molecular Dynamics.. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 1998, 64, 2463-2470.	0.2	1
51	Evaluation of Nonuniform Strain in Carbon Nanotube with Bend Junction. Journal of Solid Mechanics and Materials Engineering, 2007, 1, 1313-1321.	0.5	1
52	Ab Initio DFT Study of Ideal Strength of Crystal and Surfaces in Covalent Systems. Materials Research Society Symposia Proceedings, 2008, 1086, 1.	0.1	1
53	Coarse-grained molecular dynamics simulation of deformation and fracture in polycarbonate: Effect of loading mode, strain rate, temperature and molar mass. Procedia Structural Integrity, 2019, 23, 348-353.	0.8	1
54	Homogenized model of environmental barrier coatings for evaluation of energy release rate. International Journal of Applied Ceramic Technology, 2021, 18, 1630-1640.	2.1	1

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55	Strain Engineering on Nanosemiconductors. Nanostructure Science and Technology, 2017, , 67-96.	0.1	1
56	Coarse-Grained Molecular Dynamics Simulation of Fracture in Polycarbonate: Fracture Stress Prediction from Molecular Entanglement and Spatial Distribution. Zairyo/Journal of the Society of Materials Science, Japan, 2022, 71, 151-158.	0.2	1
57	Atomistic Analysis of Unstable Deformation in Amorphous Metal. Materials Science Forum, 2007, 539-543, 1994-1999.	0.3	0
58	First Principles Study on Ideal Strength of Cu Multi-Shell Nano-Wire. Key Engineering Materials, 2007, 345-346, 919-924.	0.4	0
59	Ab Initio Study of Ideal Strength of Covalent Crystals: Effect of Multiaxial Stress and Structure. Journal of Solid Mechanics and Materials Engineering, 2008, 2, 1360-1368.	0.5	0
60	Ab-initio simulation of the tensile strength of silicon nanofilms. International Journal of Materials Research, 2009, 100, 822-825.	0.3	0
61	Analysis of Atomistic Scale Instability of Dislocation Nucleation from Interfaces and Surface Steps. Journal of Solid Mechanics and Materials Engineering, 2012, 6, 14-21.	0.5	0
62	Atomistic Model Analysis of Local and Global Instabilities in Crystals at Finite Temperature. Key Engineering Materials, 0, 592-593, 39-42.	0.4	0
63	Atomistic Model Analysis of Deformation of Carbon Nanotubes under Axial Compression. Key Engineering Materials, 0, 725, 451-455.	0.4	0
64	First-Principles Analysis of Deformation and Fracture Properties of Semiconductors. Procedia Structural Integrity, 2019, 23, 372-377.	0.8	0
65	Study on Strength of Microscopic Material by Simulations with Atom and Electron Models. Solid Mechanics and Its Applications, 2004, , 391-399.	0.2	0
66	Ferroelectric Nanostructures. Nanostructure Science and Technology, 2017, , 97-139.	0.1	0
67	Ideal Strength in Low-Dimensional Nanostructures. Nanostructure Science and Technology, 2017, , 35-66.	0.1	0
68	MOLECULAR DYNAMICS ANALYSIS OF PECULIAR CROSS-SECTIONAL BUCKLING BEHAVIORS IN MULTI-WALLED CARBON NANOTUBES. Journal of Japan Society of Civil Engineers Ser A2 (Applied Mechanics (AM)), 2018, 74, 51-62.	0.1	0