Satoshi Watanabe

List of Publications by Year in descending order

189 papers	4,026 citations	136950 32 h-index	144013 57 g-index
192 all docs	192 docs citations	192 times ranked	3829 citing authors

#	Article	IF	Citations
1	Drastic Reduction of the Solid Electrolyteâ€“Electrode Interface Resistance via Annealing in Battery Form. ACS Applied Materials & Interfaces, 2022, 14, 2703-2710.	8.0	9
2	The dependence of lattice thermal conductivity on phonon modes in pyrochloreâ€related Ln 2 Sn 2 O 7 (LnÂ=ÂLa, Gd). Journal of the American Ceramic Society, 2021, 104, 27-33.	3.8	4
3	Nickelâ€Catalyzed Acyl Group Transfer of oâ€Alkynylphenol Esters Accompanied by Câ^'O Bond Fission for Synthesis of Benzo[b]furan. ChemCatChem, 2021, 13, 2086-2092.	3.7	12
4	Applications of Interatomic Potentials Using Neural Network in Materials Science. The Brain & Neural Networks, 2021, 28, 3-30.	0.1	0
5	Tuning the Schottky Barrier Height at the Interfaces of Metals and Mixed Conductors. ACS Applied Materials & Interfaces, 2021, 13, 15746-15754.	8.0	10
6	Phase stability of Au-Li binary systems studied using neural network potential. Physical Review B, 2021, 103, .	3.2	12
7	Alloying Process at the Interface of Au-Li Studied Using Neural Network Potential. Vacuum and Surface Science, 2021, 64, 369-374.	0.1	0
8	Defect enriched hierarchical iron promoted Bi2MoO6 hollow spheres as efficient electrocatalyst for water oxidation. Chemical Engineering Journal, 2021, 426, 131884.	12.7	16
9	High-dimensional neural network atomic potentials for examining energy materials: some recent simulations. JPhys Energy, 2021, 3, 012003.	5.3	18
10	Ionic Rectification across Ionic and Mixed Conductor Interfaces. Nano Letters, 2021, 21, 10086-10091.	9.1	1
11	The effect of phonon anharmonicity on the lattice thermal conductivity of rare-earth pyrochlores: A first-principles study. Ceramics International, 2020, 46, 9947-9951.	4.8	4
12	Quantum inverse scattering method and generalizations of symplectic Schur functions and Whittaker functions. Journal of Geometry and Physics, 2020, 149, 103571.	1.4	1
13	Effects of density and composition on the properties of amorphous alumina: A high-dimensional neural network potential study. Journal of Chemical Physics, 2020, 153, 164119.	3.0	6
14	Straintronic effect for superconductivity enhancement in Li-intercalated bilayer MoS₂. Nanoscale Advances, 2020, 2, 3150-3155.	4.6	4
15	Prediction of viscosity behavior in oxide glass materials using cation fingerprints with artificial neural networks. Science and Technology of Advanced Materials, 2020, 21, 492-504.	6.1	8
16	Mechanically Tunable Spontaneous Vertical Charge Redistribution in Few-Layer WTe₂. Journal of Physical Chemistry C, 2020, 124, 2008-2012.	3.1	8
17	First-principles study of Li-ion distribution at <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î³</mml:mi><mml:mtext>â^'</mml:mtext><mml:msub> /metal interfaces. Physical Review Materials, 2020, 4, .	3.8	8
18	Theoretical prediction of superconductivity in monolayer h-BN doped with alkaline-earth metals (Ca,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	3.8	8

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19	Low-Energy-Consumption Three-Valued Memory Device Inspired by Solid-State Batteries. ACS Applied Materials & Interfaces, 2019, 11, 45150-45154.	8.0	5
20	Simulating lattice thermal conductivity in semiconducting materials using high-dimensional neural network potential. Applied Physics Express, 2019, 12, 095001.	2.4	29
21	Persistent superconductivity in atomic layer-magnetic molecule van der Waals heterostructures: a comparative study. Molecular Systems Design and Engineering, 2019, 4, 511-518.	3.4	10
22	Moisture effect on the diffusion of Cu ions in Cu/Ta₂O₅/Pt and Cu/SiO₂/Pt resistance switches: a first-principles study. Science and Technology of Advanced Materials, 2019, 20, 580-588.	6.1	10
23	A Comparative Study on the Diffusion Behaviors of Metal and Oxygen Ions in Metal-Oxide-Based Resistance Switches via ab Initio Molecular Dynamics Simulations. ACS Applied Electronic Materials, 2019, 1, 585-594.	4.3	14
24	Atomic energy mapping of neural network potential. Physical Review Materials, 2019, 3, .	2.4	24
25	Inelastic electron tunneling spectroscopy by STM of phonons at solid surfaces and interfaces. Progress in Surface Science, 2018, 93, 131-145.	8.3	8
26	Surface structure of novel semimetal WTe₂. Applied Physics Express, 2017, 10, 045702.	2.4	9
27	Controlled Modification of Superconductivity in Epitaxial Atomic Layerâ€“Organic Molecule Heterostructures. Nano Letters, 2017, 17, 2287-2293.	9.1	34
28	Visualizing Type-II Weyl Points in Tungsten Ditelluride by Quasiparticle Interference. ACS Nano, 2017, 11, 11459-11465.	14.6	37
29	Atomic-scale characterization of the interfacial phonon in graphene/SiC. Physical Review B, 2017, 96, .	3.2	19
30	Germanene and stanene on two-dimensional substrates: Dirac cone and Z2 invariant. Physical Review B, 2017, 96, .	3.2	39
31	Cu Diffusion in Amorphous Ta₂O₅ Studied with a Simplified Neural Network Potential. Journal of the Physical Society of Japan, 2017, 86, 104004.	1.6	29
32	Study of Li atom diffusion in amorphous Li3PO4 with neural network potential. Journal of Chemical Physics, 2017, 147, 214106.	3.0	108
33	Theoretical prediction of phonon-mediated superconductivity with T c â‰ˆ 25 K in Li-intercalated hexagonal boron nitride bilayer. Applied Physics Express, 2017, 10, 093101.	2.4	22
34	Scanning tunnelling spectroscopy of superconductivity on surfaces of LiTi2O4(111) thin films. Nature Communications, 2017, 8, 15975.	12.8	24
35	Theoretical Study on the Metal-Insulator Control by Atomic Adsorption onto the MXene Dioxide Ti₂CO₂. Hyomen Kagaku, 2016, 37, 441-445.	0.0	0
36	Electric field response in bilayer graphene: Ab initio investigation. Applied Physics Express, 2016, 9, 115104.	2.4	2

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37	Performance Upper Limit of subâ€10 nm Monolayer MoS₂ Transistors. Advanced Electronic Materials, 2016, 2, 1600191.	5.1	97
38	Surface phonon excitation on clean metal surfaces in scanning tunneling microscopy. Physical Review B, 2016, 93, .	3.2	13
39	Model Hamiltonian approach to the magnetic anisotropy of iron phthalocyanine at solid surfaces. Physical Review B, 2016, 94, .	3.2	5
40	Emergence of Negative Capacitance in Multidomain Ferroelectricâ€“Paraelectric Nanocapacitors at Finite Bias. Advanced Materials, 2016, 28, 335-340.	21.0	30
41	DFT calculations on atom-specific electronic properties of G/SiC(0001). Surface Science, 2016, 647, 39-44.	1.9	14
42	First-principles study of metalâ€“insulator control by ion adsorption on Ti2C MXene dioxide monolayers. Applied Physics Express, 2016, 9, 015001.	2.4	26
43	Electronic and magnetic effects of a stacking fault in cobalt nanoscale islands on the Ag(111) surface. Physical Review B, 2015, 92, .	3.2	13
44	Spatially extended underscreened Kondo state from collective molecular spin. Physical Review B, 2015, 92, .	3.2	22
45	First-principles calculation of charged capacitors under open-circuit conditions using the orbital-separation approach. Physical Review B, 2015, 92, .	3.2	2
46	Interface Structure in Cu/Ta₂O₅/Pt Resistance Switch: A First-Principles Study. ACS Applied Materials & Interfaces, 2015, 7, 519-525.	8.0	15
47	The electronic structure of quasi-free-standing germanene on monolayer MX (M = Ga, In; X = S, Se, Te). Physical Chemistry Chemical Physics, 2015, 17, 19039-19044.	2.8	26
48	Materials Search of Perovskite Cathode in SOFC by Statistical Analysis. ECS Transactions, 2015, 68, 549-556.	0.5	3
49	Alternating current response of carbon nanotubes with randomly distributed impurities. Applied Physics Letters, 2014, 105, 173106.	3.3	1
50	Anomalous satellite inductive peaks in alternating current response of defective carbon nanotubes. Journal of Applied Physics, 2014, 115, .	2.5	2
51	Conduction paths in Cu/amorphous-Ta2O5/Pt atomic switch: First-principles studies. Journal of Applied Physics, 2014, 115, .	2.5	30
52	Spin polarized currents through a quantum dot: Non-equilibrium Greenâ€™s function simulations under Hartree approximation. Japanese Journal of Applied Physics, 2014, 53, 115203.	1.5	1
53	Oxygen vacancy effects on an amorphous-TaO_x-based resistance switch: a first principles study. Nanoscale, 2014, 6, 10169-10178.	5.6	45
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55	Review of our density functional study on the structures of conductive filaments and ion migration behaviors in tantalum oxide based resistive switching devices. , 2014, , .		3
56	Design principle for increasing charge mobility of Ï€-conjugated polymers using regularly localized molecular orbitals. Nature Communications, 2013, 4, 1691.	12.8	115
57	Vortex dynamics and matching effect in superconductors with planar pinning arrays. Physica C: Superconductivity and Its Applications, 2013, 485, 125-131.	1.2	1
58	Highly Conductive [3Ã—n] Goldâ€Ion Clusters Enclosed within Selfâ€Assembled Cages. Angewandte Chemie - International Edition, 2013, 52, 6202-6205.	13.8	69
59	Nonvolatile three-terminal operation based on oxygen vacancy drift in a Pt/Ta₂O_{5â^'x}/Pt, Pt structure. Applied Physics Letters, 2013, 102, 233508.	3.3	12
60	Wavelet analysis of quantum transient transport in a quantum dot. Applied Physics Letters, 2013, 102, 233107.	3.3	2
61	Inelastic transient electrical currents and phonon heating in a single-level quantum dot system. Journal of Applied Physics, 2013, 113, 123701.	2.5	3
62	Non-equilibrium thermal transport simulation of conical carbon nanofibers. Transactions of the Materials Research Society of Japan, 2013, 38, 183-186.	0.2	1
63	AC Power Consumption of Single-Walled Carbon Nanotube Interconnects: Non-Equilibrium Green's Function Simulation. Japanese Journal of Applied Physics, 2012, 51, 045104.	1.5	1
64	Diameter Dependence of Sub-Terahertz AC Response of Metallic Carbon Nanotubes with a Single Atomic Vacancy. Japanese Journal of Applied Physics, 2012, 51, 04DN01.	1.5	0
65	Elastic Transient Energy Transport and Energy Balance in a Single-Level Quantum Dot System. Japanese Journal of Applied Physics, 2012, 51, 094303.	1.5	6
66	Parallel-sheets model analysis of space charge layer formation at metal/ionic conductor interfaces. Solid State Ionics, 2012, 226, 62-70.	2.7	9
67	Single-Molecule Conductance of Ï€-Conjugated Rotaxane: New Method for Measuring Stipulated Electric Conductance of Ï€-Conjugated Molecular Wire Using STM Break Junction. Small, 2012, 8, 726-730.	10.0	67
68	AC Power Consumption of Single-Walled Carbon Nanotube Interconnects: Non-Equilibrium Green's Function Simulation. Japanese Journal of Applied Physics, 2012, 51, 045104.	1.5	2
69	Diameter Dependence of Sub-Terahertz AC Response of Metallic Carbon Nanotubes with a Single Atomic Vacancy. Japanese Journal of Applied Physics, 2012, 51, 04DN01.	1.5	2
70	Elastic Transient Energy Transport and Energy Balance in a Single-Level Quantum Dot System. Japanese Journal of Applied Physics, 2012, 51, 094303.	1.5	2
71	Universality and Diversity in a Phonon-Transmission Histogram of Isotope-Disordered Carbon Nanotubes. Physical Review Letters, 2011, 106, 215503.	7.8	34
72	Molecular orbital concept on spin-flip transport in molecular junctions. Theoretical Chemistry Accounts, 2011, 130, 775-788.	1.4	12

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73	Electron Transport through Single Molecules Comprising Aromatic Stacks Enclosed in Selfâ€Assembled Cages. Angewandte Chemie - International Edition, 2011, 50, 5708-5711.	13.8	92
74	Theoretical analysis of space charge layer formation at metal/ionic conductor interfaces. Solid State Ionics, 2011, 183, 20-25.	2.7	28
75	ac response of quantum point contacts with a split-gate configuration. Physical Review B, 2011, 84, .	3.2	5
76	Orbital-separation approach for consideration of finite electric bias within density-functional total-energy formalism. Physical Review B, 2011, 84, .	3.2	11
77	Quantum transient currents in molecular systems weakly coupled with electrodes. Journal of Applied Physics, 2011, 109, 123705.	2.5	6
78	Theoretical Analysis of AC Transport in Carbon Nanotubes with a Single Atomic Vacancy: Sharp Contrast between DC and AC Responses in Vacancy Position Dependence. Applied Physics Express, 2011, 4, 075103.	2.4	10
79	Two chirality classes of ac quantum transport in metallic carbon nanotubes. Physical Review B, 2010, 81, .	3.2	16
80	Switching behavior of superconducting current injected from quasi-one-dimensional leads into mesoscopic samples. Physica C: Superconductivity and Its Applications, 2010, 470, 949-952.	1.2	1
81	Effects of Molecular Dynamics on Electrical Conductance of Single Molecular Junction in Aqueous Solution: First Principles Calculations. E-Journal of Surface Science and Nanotechnology, 2010, 8, 38-43.	0.4	1
82	First Principles Study of Oxygen Vacancies Near Nickel/Zirconia Interface. E-Journal of Surface Science and Nanotechnology, 2010, 8, 93-100.	0.4	6
83	A Numerical Approach to Transient Currents in a Quantum Dot Connected to a Single Electrode. ECS Transactions, 2010, 33, 85-91.	0.5	2
84	Universal transition between inductive and capacitive admittance of metallic single-walled carbon nanotubes. Physical Review B, 2010, 82, .	3.2	19
85	Conductive Path Formation in the Ta₂O₅ Atomic Switch: First-Principles Analyses. ACS Nano, 2010, 4, 6477-6482.	14.6	50
86	Structural characterization of amorphous Ta2O5 and SiO2â€“Ta2O5 used as solid electrolyte for nonvolatile switches. Applied Physics Letters, 2010, 97, .	3.3	16
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88	Effects of resonant scattering by probe contacts on nanoscale four-probe resistance measurements. New Journal of Physics, 2010, 12, 083017.	2.9	0
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91	Numerical Analysis of Superconducting Current Injected from Quasi One Dimensional Leads into Mesoscopic Samples. Applied Physics Express, 2009, 2, 063005.	2.4	1
92	Theoretical study of four-probe resistance in nanoscale measurements: Monatomic carbon chains and (5,5)-carbon nanotubes. Physical Review B, 2009, 79, .	3.2	5
93	Electrostatic and dynamical effects of an aqueous solution on the zero-bias conductance of a single molecule: A first-principles study. Physical Review B, 2009, 80, .	3.2	12
94	Simulation of Noncontact Atomic Force Microscopy of Hydrogen- and Methyl-Terminated Si(001) Surfaces. Japanese Journal of Applied Physics, 2009, 48, 025506.	1.5	5
95	First Principles Study on Electronic Structures of Ni/H/ZrO₂ Triple Phase Boundary. ECS Transactions, 2009, 16, 265-272.	0.5	0
96	First-principles simulations on bulk Ta2O5 and Cu/Ta2O5/Pt heterojunction: Electronic structures and transport properties. Journal of Applied Physics, 2009, 106, .	2.5	51
97	Chemically Softened Boundary of Metal/Vacuum/Solid-Electrolyte from First Principles. Journal of Physical Chemistry C, 2009, 113, 17780-17786.	3.1	2
98	Migration of Ag in low-temperature Ag2S from first principles. Journal of Chemical Physics, 2008, 128, 014704.	3.0	26
99	Excess-silver-induced bridge formation in a silver sulfide atomic switch. Applied Physics Letters, 2008, 93, .	3.3	46
100	Vortex dynamics and critical current in superconductors with unidirectional twin boundaries. Physical Review B, 2008, 77, .	3.2	8
101	Adsorption of Benzene on Si(001) from Noncontact Atomic Force Microscopy Simulation. Japanese Journal of Applied Physics, 2008, 47, 6092.	1.5	1
102	Quantum Electron Transport through Ultrathin Si Films: Effects of Interface Passivation on Fermi-Level Pinning. Physical Review Letters, 2008, 101, 166801.	7.8	5
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104	Nonequilibrium Quantum Transport Properties of a Silver Atomic Switch. Nano Letters, 2007, 7, 2688-2692.	9.1	55
105	Atomic Force Microscopy Simulations of Methyl-terminated Si(100)2Ã—1 Surfaces. AIP Conference Proceedings, 2007, , .	0.4	0
106	Theoretical Analyses of Local Tunneling Barrier Height Based on Ab Initio Calculation. Hyomen Kagaku, 2007, 28, 593-600.	0.0	0
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109	Submatrix inversion approach to the ab initio Green's function method for electrical transport. E-Journal of Surface Science and Nanotechnology, 2006, 4, 484-489.	0.4	2
110	Effects of energetic stability in transport measurements of single benzene-dithiolate by the STM break junction technique. Chemical Physics Letters, 2006, 428, 367-370.	2.6	3
111	Dependence of Electric Properties of Al Atomic Chains on Structure of Chainâ€“Electrode Junction. Japanese Journal of Applied Physics, 2006, 45, 8991-8993.	1.5	2
112	Tight-Binding Analysis of Surface Electronic Conduction Measured with Micro-Multipoint Scanning Tunneling Microscopy Probes. Japanese Journal of Applied Physics, 2006, 45, 2136-2139.	1.5	1
113	Simulations of constant-height atomic force microscope images of a H-terminated Si(100)2*1 surface with a CH3 impurity. E-Journal of Surface Science and Nanotechnology, 2006, 4, 197-200.	0.4	3
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116	Theoretical Analysis of Apparent Barrier Height on an Al Surface: Difference by Measurement Methods. Japanese Journal of Applied Physics, 2005, 44, 5459-5461.	1.5	2
117	Computational Study on Stable Structures, Formation Energies, and Conductance of Single Benzene-dithiolate between Two Au Electrodes. Japanese Journal of Applied Physics, 2005, 44, 7729-7731.	1.5	9
118	Publisherâ€™s Note: Electronic Transport in FullereneC20Bridge Assisted by Molecular Vibrations [Phys. Rev. Lett.95, 065501 (2005)]. Physical Review Letters, 2005, 95, .	7.8	3
119	Electronic Transport in FullereneC20Bridge Assisted by Molecular Vibrations. Physical Review Letters, 2005, 95, 065501.	7.8	51
120	Universal Quantization Phenomena of Thermal Conductance in Carbon Nanotubes. Hyomen Kagaku, 2005, 26, 398-403.	0.0	1
121	Migration-Enhanced Epitaxy of Cubic BN: AnAb InitioStudy. Japanese Journal of Applied Physics, 2004, 43, 4092-4100.	1.5	4
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123	Theoretical analysis of field emission from metallic nanostructures on Si(100) surfaces. Journal of Physics Condensed Matter, 2004, 16, 4685-4696.	1.8	11
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125	Universal Features of Quantized Thermal Conductance of Carbon Nanotubes. Physical Review Letters, 2004, 92, 075502.	7.8	186
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127	Difference between staying and diffusing Si adsorbates on the Si(111)7Ã—7 surface. Surface Science, 2003, 532-535, 737-745.	1.9	10
128	First-Principles Calculation of Vibrational Properties of a Nanostructure in Electric Fields. Japanese Journal of Applied Physics, 2003, 42, 4639-4641.	1.5	5
129	Ab InitioCalculation of Capacitance of Semi-Infinite Jellium Electrodes with a Nanoscale Gap. Japanese Journal of Applied Physics, 2003, 42, L766-L768.	1.5	13
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131	Tight-Binding Calculation of Current Distribution in a Porphin Connected to Two Semi-Infinite Wires. Japanese Journal of Applied Physics, 2003, 42, L892-L894.	1.5	6
132	Repulsion-Induced Order Formation in Graphite-Diamondlike Transition of Boron Nitride: A Molecular Dynamics Study. Journal of the Physical Society of Japan, 2003, 72, 1611-1614.	1.6	1
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134	Theoretical Calculations of Electrical Properties of Nanoscale Systems Under the Influence of Electric Fields and Currents. Springer Series in Chemical Physics, 2003, , 165-181.	0.2	0
135	Effects of structural relaxation on resistance of Na atomic chains. E-Journal of Surface Science and Nanotechnology, 2003, 1, 120-123.	0.4	0
136	Visualization of Thermally Fluctuating Surface Structure in Noncontact Atomic-Force Microscopy and Tip Effects on Fluctuation: Theoretical Study of Si(111)-(â^š3Ã—â^š3)-Ag Surface. Physical Review Letters, 2002, 88, 046106.	7.8	45
137	Adsorbed Si on theSi(111)â^'(7Ã—7)surface studied by scanning tunneling microscopic and molecular-orbital approaches:â€‚Stationary and diffusing Si adsorbates. Physical Review B, 2002, 66, .	3.2	14
138	Direct Imaging of Thermodynamic Process in Atom Migration by Using Scanning Tunneling Microscopy. Japanese Journal of Applied Physics, 2002, 41, 3085-3091.	1.5	3
139	Ab Initio Calculation of the Electric Properties of Al Atomic Chains under Finite Bias Voltages. Japanese Journal of Applied Physics, 2002, 41, L989-L991.	1.5	26
140	First-Principles Study of Apparent Barrier Height. Japanese Journal of Applied Physics, 2002, 41, L1172-L1174.	1.5	8
141	Density functional analysis of field emission from metals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 327, 1-6.	5.6	8
142	Theoretical study on atomic and electronic structures of Ag-adsorbed Si NC-AFM tips. Applied Surface Science, 2002, 188, 331-334.	6.1	1
143	Theoretical analysis of field emission from atomically sharp aluminum tips. Surface Science, 2002, 516, 265-271.	1.9	9
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145	Theory of Non-Contact Atomic Force Microscopy. Nanoscience and Technology, 2002, , 257-278.	1.5	1
146	Structural stability and electronic states of gold nanowires. Surface Science, 2001, 482-485, 1266-1271.	1.9	11
147	Simulation of interaction force between Si tip and Si(111) 3Ã—3 -Ag surface of IET structure in noncontact AFM. Surface Science, 2001, 493, 188-193.	1.9	18
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152	Structural and Cohesive Properties of aC60Monolayer. Physical Review Letters, 2001, 87, 048301.	7.8	36
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156	Reduced Density of Missing-Dimer Vacancies on Tungsten-Contaminated Si(100)-(2Ã—n) Surface by Hydrogen Termination. Japanese Journal of Applied Physics, 2000, 39, 4518-4520.	1.5	8
157	Self-Consistent Density Functional Calculation of Field Emission Currents from Metals. Physical Review Letters, 2000, 85, 1750-1753.	7.8	74
158	Atomic and electronic structure of the Si(111)-â^š3xâ^š3-Ag surface reexamined using first-principles calculations. Science and Technology of Advanced Materials, 2000, 1, 167-172.	6.1	12
159	Control of Surface Current on a Si(111) Surface by Using Nanofabrication. Japanese Journal of Applied Physics, 1999, 38, 3866-3870.	1.5	4
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161	Direct Observation of One-Dimensional Ga-Atom Migration on a Si(100)-(2Ã—1)-H Surface: A Local Probe of Adsorption Energy Variation. Physical Review Letters, 1999, 83, 4116-4119.	7.8	15
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165	Nanoscale Semiconductor Processes Using STM and AFM Lithographies. Fabrication of Atomic Ga Wires on Si Surface and Its Property.. Hyomen Kagaku, 1998, 19, 716-721.	0.0	0
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171	Theoretical study of atomic and electronic structures of atomic wires on an H-terminated Si(100)2Ã—1 surface. Physical Review B, 1996, 54, R17308-R17311.	3.2	57
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