Yasuyuki Hikita

List of Publications by Year
in descending order

112	9,605	66343	36028
papers	citations	42 h-index	97 g-index

116	116	116	11514
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A highly active and stable IrO _x /SrIrO ₃ catalyst for the oxygen evolution reaction. Science, 2016, 353, 1011-1014.	12.6	1,606
2	Polarization-sensitive broadband photodetector using a black phosphorus vertical pâ€“n junction. Nature Nanotechnology, 2015, 10, 707-713.	31.5	1,007
3	Direct imaging of the coexistence of ferromagnetism and superconductivity atÂtheÂLaAlO3/SrTiO3 interface. Nature Physics, 2011, 7, 767-771.	16.7	765
4	Superconductivity in an infinite-layer nickelate. Nature, 2019, 572, 624-627.	27.8	673
5	Synthesis of freestanding single-crystal perovskite films and heterostructures by etching of sacrificial water-solubleÂlayers. Nature Materials, 2016, 15, 1255-1260.	27.5	387
6	Titanium dx y ferromagnetism at the LaAlO3/SrTiO3Âinterface. Nature Materials, 2013, 12, 703-706.	27.5	303
7	Dominant Mobility Modulation by the Electric Field Effect at the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>LaAlO</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:mo>/</mml:mo><mml:msub><mml:mi>SrTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math> Physical Review Letters, 2009, 103, 226802.	7.8	246
8	Two-dimensional normal-state quantum oscillations in a superconducting heterostructure. Nature, 2009, 462, 487-490.	27.8	222
9	Electronic structure of the parent compound of superconducting infinite-layer nickelates. Nature Materials, 2020, 19, 381-385.	27.5	205
10	Critical thickness for ferromagnetism in LaAlO3/SrTiO3 heterostructures. Nature Communications, 2012, 3, 922.	12.8	186
11	Built-in and induced polarization across LaAlO3/SrTiO3 heterojunctions. Nature Physics, 2011, 7, 80-86.	16.7	178
12	Subband Structure of a Two-Dimensional Electron Gas Formed at the Polar Surface of the Strong Spin-Orbit Perovskite<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>KTaO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review Letters, 2012, 108, 117602.	7.8	173
13	Locally enhanced conductivity due to the tetragonal domain structure in LaAlO3/SrTiO3 heterointerfaces. Nature Materials, 2013, 12, 1091-1095.	27.5	172
14	Extreme tensile strain states in La _{0.7} Ca _{0.3} MnO ₃ membranes. Science, 2020, 368, 71-76.	12.6	151
15	Control of electronic conduction at an oxide heterointerface using surface polar adsorbates. Nature Communications, 2011, 2, 494.	12.8	149
16	Charge Writing at the LaAlO₃/SrTiO₃ Surface. Nano Letters, 2010, 10, 2588-2591.	9.1	107
17	A heteroepitaxial perovskite metal-base transistor. Nature Materials, 2011, 10, 198-201.	27.5	104
18	Two-dimensional limit of crystalline order in perovskite membrane films. Science Advances, 2017, 3, eaao5173.	10.3	103

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19	Thickness dependence of the mobility at the LaAlO3/SrTiO3 interface. Applied Physics Letters, 2009, 94, 222111.	3.3	96
20	Gate-tuned superfluid density at the superconducting LaAlO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>/SrTiO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>interface. Physical Review B, 2012, 86, .	3.2	94
21	Termination control of the interface dipole in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>La</mml:mtext></mml:mrow><mml:mrow><mml:mn>0.7</mml:mn> Physical Review B, 2009, 79, .	3.2	80
22	Dramatic mobility enhancements in doped SrTiO3 thin films by defect management. Applied Physics Letters, 2010, 97, .	3.3	88
23	Visualizing the interfacial evolution from charge compensation to metallic screening across the manganite metalâ€“insulator transition. Nature Communications, 2014, 5, 3464.	12.8	73
24	Characterization of the Schottky barrier in SrRuO3âˆ•Nb:SrTiO3 junctions. Applied Physics Letters, 2007, 90, 143507.	3.3	71
25	Enhancing Electron Mobility at the LaAlO₃/SrTiO₃ Interface by Surface Control. Advanced Materials, 2013, 25, 4735-4738.	21.0	71
26	Imaging and tuning polarity at SrTiO3 domainÂwalls. Nature Materials, 2017, 16, 1203-1208.	27.5	68
27	Polaronic behavior in a weak-coupling superconductor. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1475-1480.	7.1	67
28	Strain-tunable magnetism at oxide domain walls. Nature Physics, 2019, 15, 269-274.	16.7	65
29	Transistor operation and mobility enhancement in top-gated LaAlO3/SrTiO3 heterostructures. Applied Physics Letters, 2013, 103, .	3.3	64
30	Freestanding Oxide Ferroelectric Tunnel Junction Memories Transferred onto Silicon. Nano Letters, 2019, 19, 3999-4003.	9.1	64
31	Stoichiometry control of the electronic properties of the LaAlO3/SrTiO3 heterointerface. Applied Physics Letters, 2013, 102, .	3.3	63
32	Structural Comparison of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>n</mml:mi></mml:math>-Type and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>p</mml:mi></mml:math>-Type<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"	7.8	61
33	display="inline"><mml:msub><mml:mi>LaAlO</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:mo>/</mml:mo><mml:msub><mml Tuning the Electron Gas at an Oxide Heterointerface via Free Surface Charges. Advanced Materials, 2011, 23, 1744-1747.	21.0	60
34	Controlling band alignments by artificial interface dipoles at perovskite heterointerfaces. Nature Communications, 2015, 6, 6759.	12.8	58
35	Atomic-resolution spectroscopic imaging of oxide interfaces. Philosophical Magazine, 2010, 90, 4731-4749.	1.6	57
36	Carrier density and disorder tuned superconductor-metal transition in a two-dimensional electron system. Nature Communications, 2018, 9, 4008.	12.8	55

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37	Enhancing the electron mobility via delta-doping in SrTiO3. Applied Physics Letters, 2010, 97, .	3.3	52
38	Ubiquitous strong electronâ€“phonon coupling at the interface of FeSe/SrTiO3. Nature Communications, 2017, 8, 14468.	12.8	51
39	Intrinsic spin-orbit coupling in superconducting<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î´</mml:mi></mml:math>-doped SrTiO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow	3.2	49
40	Fermi Surface and Superconductivity in Low-Density High-Mobility<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi mathvariant="bold-italic">Î´</mml:mi></mml:math>-Doped<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi mathvariant="bold">SrTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review Letters, 2011, 107, 106801.	7.8	46
41	Scanning SQUID susceptometry of a paramagnetic superconductor. Physical Review B, 2012, 85, .	3.2	46
42	Dual-Gate Modulation of Carrier Density and Disorder in an Oxide Two-Dimensional Electron System. Nano Letters, 2016, 16, 6130-6136.	9.1	45
43	Coexistence of two-dimensional and three-dimensional Shubnikovâ€“de Haas oscillations in Ar<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mo>+</mml:mo></mml:msup></mml:math>-irradiated KTaO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B, 2013, 88, .	3.2	44
44	Scanning Probe Manipulation of Magnetism at the LaAlO₃/SrTiO₃ Heterointerface. Nano Letters, 2012, 12, 4055-4059.	9.1	43
45	Anisotropic Transport at the LaAlO₃/SrTiO₃ Interface Explained by Microscopic Imaging of Channel-Flow over SrTiO₃ Domains. ACS Applied Materials & Interfaces, 2016, 8, 12514-12519.	8.0	42
46	Defect Control of Conventional and Anomalous Electron Transport at Complex Oxide Interfaces. Physical Review X, 2016, 6, .	8.9	42
47	Thermodynamic guiding principles in selective synthesis of strontium iridate Ruddlesden-Popper epitaxial films. APL Materials, 2016, 4, .	5.1	41
48	Band Edge Engineering of Oxide Photoanodes for Photoelectrochemical Water Splitting: Integration of Subsurface Dipoles with Atomicâ€Scale Control. Advanced Energy Materials, 2016, 6, 1502154.	19.5	39
49	Strain Gradient Elasticity in SrTiO₃ Membranes: Bending versus Stretching. Nano Letters, 2021, 21, 2470-2475.	9.1	39
50	Quantum longitudinal and Hall transport at the LaAlO3/SrTiO3 interface at low electron densities. Solid State Communications, 2014, 197, 25-29.	1.9	38
51	Freestanding crystalline <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>YB</mml:mi><mml:msub><mml:mi mathvariant="normal">a</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi mathvariant="normal">C</mml:mi><mml:msub><mml:mi mathvariant="normal">u</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mrow><mml:mn>7</mml:mn><mml:mo>â”</mml:mo><mml:mi>x</mml:mi></mml:mrow>	2.4	38
52	Finite size effect and phase diagram of ultra-thin La0.7Sr0.3MnO3. Solid State Communications, 2010, 150, 598-601.	1.9	37
53	LaVO 4 : Eu Phosphor films with enhanced Eu solubility. Applied Physics Letters, 2011, 98, .	3.3	36
54	Single-valley quantum Hall ferromagnet in a dilute Mg<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mi>x</mml:mi></mml:msub></mml:math>Zn<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mrow><mml:mn>1</mml:mn><mml:mo>â”</mml:mo><mml:mi>x</mml:mi></mml:mrow></mml:msub></mml:math>O/ZnO strongly correlated two-dimensional electron system. Physical Review B, 2012, 85, .	3.2	36

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55	Spin-dependent transport across Co/LaAlO3/SrTiO3 heterojunctions. Applied Physics Letters, 2014, 105, 032406.	3.3	34
56	Electric field penetration in Au/Nb:SrTiO3 Schottky junctions probed by bias-dependent internal photoemission. Applied Physics Letters, 2011, 98, .	3.3	33
57	Variation in superconducting transition temperature due to tetragonal domains in two-dimensionally doped <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>SrTiO</mml:mi><mml:mn>3</mml:mn></mml:msub><m Physical Review B, 2016, 94, .	3.2	30
58	Origin of the Magnetoresistance in Oxide Tunnel Junctions Determined through Electric Polarization Control of the Interface. Physical Review X, 2015, 5, .	8.9	29
59	Large-Area Crystalline BaSnO₃ Membranes with High Electron Mobilities. ACS Applied Electronic Materials, 2019, 1, 1269-1274.	4.3	29
60	Optically tuned dimensionality crossover in photocarrier-doped<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi>SrTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math>: Onset of weak localization. Physical Review B, 2007, 76, .	3.2	27
61	Ultrathin Epitaxial Barrier Layer to Avoid Thermally Induced Phase Transformation in Oxide Heterostructures. ACS Applied Materials & Interfaces, 2017, 9, 54-59.	8.0	27
62	Enhanced lattice polarization in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>SrTiO</mml:mtext></mml:mrow><mml:mn>3</mml:mn></mml:msub></mml:m measured using optical second-harmonic generation. Physical Review B, 2009, 80, .	3.2	26
63	Measurement of the Femtosecond Optical Absorption of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>LaAlO</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:mo>/</mml:mo><mml:msub><mml:mi Evidence for an Extremely Slow Electron Relaxation at the Interface. Physical Review Letters, 2013, 111, 047403.	7.8	25
64	Stabilization of Sr₃Al₂O₆ Growth Templates for Ex Situ Synthesis of Freestanding Crystalline Oxide Membranes. Nano Letters, 2021, 21, 4454-4460.	9.1	25
65	Reentrant insulating state in ultrathin manganite films. Applied Physics Letters, 2011, 99, 092513.	3.3	24
66	Atomically Engineered Metalâ€“Insulator Transition at the TiO₂/LaAlO₃ Heterointerface. Nano Letters, 2014, 14, 6743-6746.	9.1	24
67	Enhanced Electrical Transparency by Ultrathin LaAlO3 Insertion at Oxide Metal/Semiconductor Heterointerfaces. Nano Letters, 2015, 15, 1622-1626.	9.1	24
68	Oxygen Evolution Reaction Activity in IrOx/SrIrO3 Catalysts: Correlations between Structural Parameters and the Catalytic Activity. Journal of Physical Chemistry Letters, 2019, 10, 1516-1522.	4.6	24
69	Magnetotransport effects in polar versus non-polar SrTiO3based heterostructures. Physical Review B, 2012, 86, .	3.2	23
70	Ferromagnetic resonance of perpendicularly magnetized Tm3Fe5O12/Pt heterostructures. Applied Physics Letters, 2019, 115, .	3.3	23
71	Resonant soft x-ray scattering studies of interface reconstructions in SrTiO3/LaAlO3 superlattices. Journal of Applied Physics, 2009, 106, 083705.	2.5	22
72	Mn 3 O 4 precipitates in laser-ablated manganite films. Applied Physics Letters, 2009, 95, .	3.3	19

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73	Compositional and gate tuning of the interfacial conductivity in LaAlO3/LaTiO3/SrTiO3 heterostructures. Applied Physics Letters, 2013, 102, .	3.3	19
74	Metal-to-insulator transition in anatase TiO2 thin films induced by growth rate modulation. Applied Physics Letters, 2012, 101, .	3.3	18
75	Synthesis and electronic properties of Fe2TiO5 epitaxial thin films. APL Materials, 2018, 6, .	5.1	18
76	Negative differential resistance induced by Mn substitution at<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>SrRuO</mml:mtext></mml:mrow><mml:mn>3</mml:mn></mml:r interfaces. Physical Review B, 2008, 77, .	3.2	16
77	Hot electron transport in a strongly correlated transition-metal oxide. Scientific Reports, 2013, 3, 1274.	3.3	16
78	Spatial density profile of electrons near the LaAlO3/SrTiO3 heterointerface revealed by time-resolved photoluminescence spectroscopy. Applied Physics Letters, 2014, 104, .	3.3	16
79	Optical Study of Tetragonal Domains in LaAlO3/SrTiO3. Journal of Superconductivity and Novel Magnetism, 2015, 28, 1017-1020.	1.8	16
80	Understanding Degradation Mechanisms in SrIrO₃ Oxygen Evolution Electrocatalysts: Chemical and Structural Microscopy at the Nanoscale. Advanced Functional Materials, 2021, 31, 2101542.	14.9	16
81	Correlation between the superconducting and structural properties in MgB2 thin films prepared by molecular-beam epitaxy. Applied Physics Letters, 2003, 83, 3740-3742.	3.3	14
82	Tuning Band Alignment Using Interface Dipoles at the Pt/Anatase TiO₂ Interface. Advanced Materials, 2015, 27, 7458-7461.	21.0	14
83	Enhanced Sensitivity of Atomic-Resolution Spectroscopic Imaging by Direct Electron Detection. Microscopy and Microanalysis, 2017, 23, 366-367.	0.4	14
84	Mapping cation diffusion through lattice defects in epitaxial oxide thin films on the water-soluble buffer layer Sr3Al2O6 using atomic resolution electron microscopy. APL Materials, 2017, 5, .	5.1	13
85	Strain Tuning in Complex Oxide Epitaxial Films Using an Ultrathin Strontium Aluminate Buffer Layer. Physica Status Solidi - Rapid Research Letters, 2018, 12, 1700339.	2.4	13
86	Charge order textures induced by non-linear couplings in a half-doped manganite. Nature Communications, 2021, 12, 3747.	12.8	12
87	Interface reconstruction in V-oxide heterostructures determined by x-ray absorption spectroscopy. Applied Physics Letters, 2009, 95, 023115.	3.3	11
88	Magnetodielectric coupling in nonmagnetic Au/GaAs:Si Schottky barriers. Physical Review B, 2009, 80, .	3.2	10
89	Orientation-resolved domain mapping in tetragonal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="bold">SrTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math> using polarized Raman spectroscopy. Physical Review B, 2016, 94, .	3.2	10
90	Heteroepitaxial vertical perovskite hot-electron transistors down to the monolayer limit. Nature Communications, 2019, 10, 5312.	12.8	10

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91	Universal behavior of the bosonic metallic ground state in a two-dimensional superconductor. Npj Quantum Materials, 2021, 6, .	5.2	10
92	Superconducting Tunneling Spectroscopy of Spin-Orbit Coupling and Orbital Depairing in Nb:SrTiO3. Physical Review Letters, 2018, 121, 167003.	7.8	9
93	Inelastic x-ray scattering in heterostructures: electronic excitations in LaAlO₃/SrTiO₃. Journal of Physics Condensed Matter, 2015, 27, 335501.	1.8	8
94	Inhomogeneous barrier heights at dipole-controlled SrRuO3/Nb:SrTiO3 Schottky junctions. Applied Physics Letters, 2018, 113, 221603.	3.3	7
95	Epitaxial Stabilization and Oxygen Evolution Reaction Activity of Metastable Columbite Iridium Oxide. ACS Applied Energy Materials, 2021, 4, 3074-3082.	5.1	7
96	Tunable coupling of two-dimensional superconductors in bilayer SrTiO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>heterostructures. Physical Review B, 2013, 88, .	3.2	6
97	Depth resolved domain mapping in tetragonal SrTiO3 by micro-Laue diffraction. Applied Physics Letters, 2016, 108, 182901.	3.3	6
98	Enhancing the barrier height in oxide Schottky junctions using interface dipoles. Applied Physics Letters, 2017, 111, 091602.	3.3	6
99	Direct Electron Detection for Atomic-Resolution EELS Mapping at Cryogenic Temperature. Microscopy and Microanalysis, 2018, 24, 454-455.	0.4	6
100	Fabrication of MgB2 Thin Film on Boride Substrates by Pulsed Laser Deposition. Journal of Low Temperature Physics, 2003, 131, 1187-1191.	1.4	5
101	Nanometer-scale epitaxial strain release in perovskite heterostructures using â€œSrAlOxâ€•sliding buffer layers. Applied Physics Letters, 2011, 98, 171901.	3.3	5
102	Atomically engineered epitaxial anatase TiO2 metal-semiconductor field-effect transistors. Applied Physics Letters, 2018, 112, .	3.3	5
103	Highly Efficient Surface Charge Transfer in Fe₂TiO₅ Epitaxial Thin Film Photoanodes. ACS Applied Energy Materials, 2021, 4, 2098-2106.	5.1	5
104	Electronic structure of the SrTiO₃/LaAlO₃interface revealed by resonant soft x-ray scattering. IOP Conference Series: Materials Science and Engineering, 2011, 24, 012012.	0.6	4
105	Delta-doped SrTiO3 top-gated field effect transistor. Applied Physics Letters, 2019, 114, 231605.	3.3	4
106	Photocarrier recombination and localization dynamics of LaAlO₃/SrTiO₃heterostructures. Proceedings of SPIE, 2014, , .	0.8	3
107	Probing the band alignment in rectifying SrIrO3/Nb:SrTiO3 heterostructures. Applied Physics Letters, 2019, 114, .	3.3	3
108	Complex Oxide Schottky Junctions. , 2010, , 169-204.		3

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109	Spontaneous Ionic Polarization in Ammonia-Based Ionic Liquid. ACS Applied Energy Materials, 2018, 1, 2717-2720.	5.1	2
110	Growth Temperature Dependence of the LaAlO₃/SrTiO₃Interfacial Structure. Journal of Physics: Conference Series, 2011, 320, 012074.	0.4	1
111	Strain Control at Two-Dimensional Oxide Interfaces Probed by Aberration-Corrected STEM-EELS. Microscopy and Microanalysis, 2015, 21, 1137-1138.	0.4	0
112	Impurity Segregation via Extended Defects in Oxide Thin Films Probed by Aberration-Corrected STEM-EELS. Microscopy and Microanalysis, 2016, 22, 1518-1519.	0.4	0