Charles Ahn

List of Publications by Year
in descending order

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114 papers	7,952 citations	66315 42 h-index	48277 88 g-index
114 all docs	114 docs citations	114 times ranked	8571 citing authors

#	Article	IF	Citations
1	Resonant x-ray scattering method for measuring cation stoichiometry in BaSnO3 thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2022, 40, .	0.9	4
2	Low temperature growth of epitaxial ferroelectric BaTiO₃. APL Materials, 2021, 9, 041104.	2.2	5
3	Designing and controlling the properties of transition metal oxide quantum materials. Nature Materials, 2021, 20, 1462-1468.	13.3	42
4	Electronic properties of epitaxial La1âˆ’xSrxRhO3 thin films. Physical Review B, 2021, 103, .	1.1	3
5	High-order replica bands in monolayer FeSe/SrTiO3 revealed by polarization-dependent photoemission spectroscopy. Nature Communications, 2021, 12, 4573.	5.8	11
6	Tuning spin excitations in magnetic films by confinement. Nature Materials, 2021, 20, 188-193.	13.3	17
7	Single-crystalline epitaxial TiO film: A metal and superconductor, similar to Ti metal. Science Advances, 2021, 7, .	4.7	14
8	Epitaxial ferroelectric interfacial devices. Applied Physics Reviews, 2021, 8, .	5.5	15
9	Weak antilocalization in topological crystalline insulator SnTe films deposited using amorphous seeding on SrTiO3. APL Materials, 2021, 9, .	2.2	4
10	Identifying crystal structures and chemical reactions at the interface of stanene on Bi2Te3. Journal of Applied Physics, 2020, 128, .	1.1	1
11	Stabilization of Competing Ferroelectric Phases of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>HfO</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math> Epitaxial Strain. Physical Review Letters, 2020, 125, 257603.	2.9	46
12	A comprehensive ARPES study on the type-II Dirac semimetal candidate Ir1âˆ’xPtxTe2. APL Materials, 2020, 8, .	2.2	7
13	Highâ€Resolution Crystal Truncation Rod Scattering: Application to Ultrathin Layers and Buried Interfaces. Advanced Materials Interfaces, 2020, 7, 1901772.	1.9	27
14	Picoscale structural insight into superconductivity of monolayer FeSe/SrTiO ₃. Science Advances, 2020, 6, eaay4517.	4.7	24
15	Electronic structure study of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>LaCoIn</mml:mi><mml:mn>5</mml:mn></mml:msub></mml:math> and its comparison with <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>CeCoIn</mml:mi><mml:mn>5</mml:mn></mml:msub></mml:math> Physical Review B, 2019, 100, .	1.1	7
16	Surface-induced thickness limit of conducting La-doped SrTiO3 thin films. Applied Physics Letters, 2019, 115, .	1.5	6
17	Strong Orbital Polarization in a Cobaltate-Titanate Oxide Heterostructure. Physical Review Letters, 2019, 123, 117201.	2.9	14
18	Structural characterization of the LaInO3/BaSnO3 interface via synchrotron scattering. APL Materials, 2019, 7, .	2.2	8

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19	Revealing surface-state transport in ultrathin topological crystalline insulator SnTe films. APL Materials, 2019, 7, .	2.2	9
20	Self-assembled multiferroic epitaxial BiFeO₃â€“CoFe₂O₄ nanocomposite thin films grown by RF magnetron sputtering. Journal of Materials Chemistry C, 2018, 6, 5552-5561.	2.7	37
21	Controlling Mobility in Perovskite Oxides by Ferroelectric Modulation of Atomic-Scale Interface Structure. Nano Letters, 2018, 18, 573-578.	4.5	17
22	Oxide heterostructures for high density 2D electron gases on GaAs. Journal of Applied Physics, 2018, 123, .	1.1	11
23	Single Atomic Layer Ferroelectric on Silicon. Nano Letters, 2018, 18, 241-246.	4.5	26
24	Suppression of the spectral weight of topological surface states on the nanoscale via local symmetry breaking. Physical Review Materials, 2018, 2, .	0.9	3
25	Two-dimensional electron gas oxide remote doping of Si(001). Physical Review Materials, 2018, 2, .	0.9	7
26	Electrically coupling complex oxides to semiconductors: A route to novel material functionalities. Journal of Materials Research, 2017, 32, 249-259.	1.2	14
27	Length Scale and Dimensionality of Defects in Epitaxial SnTe Topological Crystalline Insulator Films. Advanced Materials Interfaces, 2017, 4, 1601011.	1.9	6
28	Publisherâ€™s note. Ultramicroscopy, 2017, 177, 14-19.	0.8	5
29	Electron-beam-induced-current and active secondary-electron voltage-contrast with aberration-corrected electron probes. Ultramicroscopy, 2017, 176, 80-85.	0.8	14
30	Crystalline Insulators: Length Scale and Dimensionality of Defects in Epitaxial SnTe Topological Crystalline Insulator Films (Adv. Mater. Interfaces 2/2017). Advanced Materials Interfaces, 2017, 4, .	1.9	1
31	Solar hydrogen production using epitaxial SrTiO₃ on a GaAs photovoltaic. Energy and Environmental Science, 2017, 10, 377-382.	15.6	46
32	Picoscale materials engineering. Nature Reviews Materials, 2017, 2, .	23.3	42
33	Experimental verification of orbital engineering at the atomic scale: Charge transfer and symmetry breaking in nickelate heterostructures. Physical Review B, 2017, 95, .	1.1	12
34	Field tuning of domain-wall type and chirality in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>SrRuO</mml:mi><mml:mn>3</mml:mn></mml:msub></m Physical Review B, 2017, 95, .	1.1	12
35	Control of hidden ground-state order in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>NdNi</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> superlattices. Physical Review Materials, 2017, 1, .	0.9	12
36	Electrically Coupling Multifunctional Oxides to Semiconductors: A Route to Novel Material Functionalities. MRS Advances, 2016, 1, 255-263.	0.5	0

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37	Integrating 2D electron gas oxide heterostructures on silicon using rare-earth titanates. MRS Advances, 2016, 1, 287-292.	0.5	3
38	Coupling of bias-induced crystallographic shear planes with charged domain walls in ferroelectric oxide thin films. Physical Review B, 2016, 94, .	1.1	9
39	Orbital Engineering in Nickelate Heterostructures Driven by Anisotropic Oxygen Hybridization rather than Orbital Energy Levels. Physical Review Letters, 2016, 117, 147401.	2.9	27
40	Role of double<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Ti</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>layers at the interface of FeSe/<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>SrTi</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math>superconductors.	1.1	40
41	Surface phase, morphology, and charge distribution transitions on vacuum and ambient annealed<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>SrTi</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math>(100).	1.1	34
42	Engineered Unique Elastic Modes at a<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>BaTiO</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn> stretchy="false">(</mml:mo><mml:mn>2</mml:mn><mml:mo>Ã—</mml:mo><mml:mn>1</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Ov stretchy="false">(</mml:mo><mml:mn>001</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 522 Td (stretchy="false">)</mn	2.9	18
43	A narrow amide I vibrational band observed by sum frequency generation spectroscopy reveals highly ordered structures of a biofilm protein at the air/water interface. Chemical Communications, 2016, 52, 2956-2959.	2.2	24
44	Research Update: Orbital polarization in LaNiO₃-based heterostructures. APL Materials, 2015, 3, 062303.	2.2	34
45	A Three Component Selfâ€Assembled Epitaxial Nanocomposite Thin Film. Advanced Functional Materials, 2015, 25, 3091-3100.	7.8	20
46	Transport at the Epitaxial Interface between Germanium and Functional Oxides. Advanced Materials Interfaces, 2015, 2, 1500193.	1.9	16
47	Orbital Engineering in Symmetry-Breaking Polar Heterostructures. Physical Review Letters, 2015, 114, 026801.	2.9	135
48	Intrinsic interfacial phenomena in manganite heterostructures. Journal of Physics Condensed Matter, 2015, 27, 123001.	0.7	25
49	A Material Framework for Beyond-CMOS Devices. IEEE Journal on Exploratory Solid-State Computational Devices and Circuits, 2015, 1, 19-27.	1.1	3
50	LaTiO3/KTaO3 interfaces: A new two-dimensional electron gas system. APL Materials, 2015, 3, .	2.2	94
51	Alkaline earth stannates: The next silicon?. APL Materials, 2015, 3, 062510.	2.2	71
52	A high density two-dimensional electron gas in an oxide heterostructure on Si (001). APL Materials, 2014, 2, 116109.	2.2	29
53	Effect of Surface Termination on the Electronic Properties of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>LaNiO</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></mml:mrow> Physical Review Applied, 2014, 2, .	1.5	45
54	A new frontier for superconductivity. Nature Physics, 2014, 10, 892-895.	6.5	68

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55	Hysteretic electrical transport in BaTiO3/Ba1â^'xSrxTiO3/Ge heterostructures. Applied Physics Letters, 2014, 104, .	1.5	23
56	Out of plane anisotropic magnetoresistance and planar Hall effect in epitaxial film of La0.8Sr0.2MnO3. Journal of Applied Physics, 2014, 115, 053709.	1.1	8
57	Integration of Selfâ€Assembled Epitaxial BiFeO₃â€“CoFe₂O₄ Multiferroic Nanocomposites on Silicon Substrates. Advanced Functional Materials, 2014, 24, 5889-5896.	7.8	47
58	Tuning the Structure of Nickelates to Achieve Twoâ€Dimensional Electron Conduction. Advanced Materials, 2014, 26, 1935-1940.	11.1	99
59	Reversible Modulation of Orbital Occupations via an Interface-Induced Polar State in Metallic Manganites. Nano Letters, 2014, 14, 4965-4970.	4.5	61
60	Magnetic and electronic structure of ultrathin<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>La</mml:mi><mml:mrow><mml:mn>1</mml:mn><mml:m mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>films at half doping. Physical Review B, 2014, 90, .	1.1	24
61	Synthesis of SnTe Nanoplates with {100} and {111} Surfaces. Nano Letters, 2014, 14, 4183-4188.	4.5	75
62	Interface-induced nonswitchable domains in ferroelectric thin films. Nature Communications, 2014, 5, 4693.	5.8	120
63	Thickness dependence of the resistivity tensor in epitaxial magnetite thin films. Journal of Applied Physics, 2013, 114, 043701.	1.1	5
64	Phase diagram of compressively strained nickelate thin films. APL Materials, 2013, 1, .	2.2	41
65	Piezoelectric force microscopy of crystalline oxide-semiconductor heterostructures. Applied Physics Letters, 2012, 101, 102902.	1.5	2
66	Epitaxial Piezoelectric Pb(<mml:math) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 312 Td (xmlns:mml="http://www.w3.org/1998/Math/MathM xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mtext>O</mml:mtext><mml:mtext>3</mml:mtext></mml:ms Thin Films on Silicon for Energy Harvesting De. Smart Materials Research, 2012, 2012, 1-7.	0.5	6
67	xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mrow><mml:mn>0.8</mml:mn></mml:mrow></mml:msub></mml:math>Sr<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mrow><mml:mn>0.2</mml:mn></mml:mrow></mml:msub></mml:math>MnO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mml:	1.1	8
68	Scanning SQUID susceptometry of a paramagnetic superconductor. Physical Review B, 2012, 85, .	1.1	46
69	Field-dependent anisotropic magnetoresistance and planar Hall effect in epitaxial magnetite thin films. Physical Review B, 2011, 84, .	1.1	30
70	Enhanced critical temperature in epitaxial ferroelectric Pb(Zr0.2Ti0.8)O3 thin films on silicon. Applied Physics Letters, 2011, 98, 012903.	1.5	24
71	Control of magnetism in Pb(Zr0.2Ti0.8)O3/La0.8Sr0.2MnO3 multiferroic heterostructures (invited). Journal of Applied Physics, 2011, 109, .	1.1	45
72	Electrostatic modulation of anisotropic magnetotransport in Ar<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msup><mml:mrow /><mml:mrow><mml:mo>+</mml:mo></mml:mrow></mml:msup></mml:mrow></mml:math>-irradiated SrTiO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow /><mml:mrow><mml:mn>3</mml:mn></mml:mro	1.1	15

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73	Origin of 90Â° domain wall pinning in Pb(Zr_{0.2}Ti_{0.8})O₃heteroepitaxial thin films. Applied Physics Letters, 2011, 99, 102902.	1.5	49
74	Device performance of ferroelectric/correlated oxide heterostructures for non-volatile memory applications. Nanotechnology, 2011, 22, 254014.	1.3	50
75	Electrostatic control of magnetism in all-oxide multiferroic heterostructures. Proceedings of SPIE, 2010, , .	0.8	2
76	Crystalline Oxides on Silicon. Advanced Materials, 2010, 22, 2919-2938.	11.1	203
77	Magnetoelectric Coupling Effects in Multiferroic Complex Oxide Composite Structures. Advanced Materials, 2010, 22, 2900-2918.	11.1	792
78	Ferroelectric Field Effect Transistors for Memory Applications. Advanced Materials, 2010, 22, 2957-2961.	11.1	257
79	Domain dynamics in epitaxial Pb(Zr0.2Ti0.8)O3 films studied by piezoelectric force microscopy. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, C5A20-C5A23.	0.6	4
80	Morphology of epitaxial SrTiO3/Si (001) determined using three-dimensional diffraction profile analysis. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, C5B1-C5B4.	0.6	3
81	Growth and characterization of PZT/LSMO multiferroic heterostructures. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, C5A6-C5A10.	0.6	23
82	Valence electron energy-loss spectroscopy of ultrathin SrTiO3 films grown on silicon (100) single crystal. Applied Physics Letters, 2010, 96, .	1.5	7
83	Temperature dependence of the magnetoelectric effect in Pb(Zr0.2Ti0.8)O3/La0.8Sr0.2MnO3 multiferroic heterostructures. Applied Physics Letters, 2010, 97, .	1.5	74
84	Electric field tuned crossover from classical to weakly localized quantum transport in electron doped<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:m Physical Review B, 2010, 81, .	1.1	31
85	Unusual resistance hysteresis in n-layer graphene field effect transistors fabricated on ferroelectric Pb(Zr0.2Ti0.8)O3. Applied Physics Letters, 2010, 97, .	1.5	115
86	Origin of the Magnetoelectric Coupling Effect in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Pb</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:msub><mml:mi>Zr</mml:mi><mml:mn>0.2</mml:mn></mml:msub><mml:msub><mml:mi>Ti</mml:mi><mml:mn>0.8</mml:mn></mml:msub><mml:mo stretchy="false">)</mml:mo><mml:msub><mml:mi mathvariant="bold">O</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:mo>/</mml:mo><mml:msub><mml:mi>La</mml:mi><mml:mn>0.8</mml:mn></mml:msub><mml:msub><mml:mi>Sr</mml:mi><mml:mn>0.2</mml:mn></mml:msub><mml:msub><mml:mi>MnO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math>	2.9	314
87	Magnetoresistance tensor ofLa0.8Sr0.2MnO3. Physical Review B, 2009, 79, .	1.1	42
88	Anisotropic magnetoresistance and planar Hall effect in epitaxial films of La0.7Ca0.3MnO3. Journal of Applied Physics, 2009, 106, 023916.	1.1	15
89	Magnetic anisotropy modulation of magnetite in Fe3O4/BaTiO3(100) epitaxial structures. Applied Physics Letters, 2009, 94, 022504.	1.5	70
90	Atomic Structure of the Epitaxial<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>BaO</mml:mi><mml:mo>/</mml:mo><mml:mi>Si</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mn>001</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 52 Td (stretchy="false">)</mml	2.9	45

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91	Magnetoelectric Effects in Complex Oxides with Competing Ground States. Advanced Materials, 2009, 21, 3470-3474.	11.1	395
92	Epitaxial MgO as an alternative gate dielectric for SiC transistor applications. Applied Physics Letters, 2008, 92, .	1.5	47
93	Role of Strontium in Oxide Epitaxy on Silicon (001). Physical Review Letters, 2008, 101, 105503.	2.9	64
94	Planar Hall effect in epitaxial thin films of magnetite. Journal of Applied Physics, 2007, 101, 09J507.	1.1	17
95	Growth and Novel Applications of Epitaxial Oxide Thin Films. , 2007, , 219-304.		28
96	Ferromagnetism and structure of epitaxial Cr-doped anataseTiO2thin films. Physical Review B, 2006, 73, .	1.1	77
97	Electrostatic modification of novel materials. Reviews of Modern Physics, 2006, 78, 1185-1212.	16.4	465
98	Effect of electric field doping on the anisotropic magnetoresistance in doped manganites. Physical Review B, 2006, 74, .	1.1	44
99	Planar Hall-effect magnetic random access memory. Journal of Applied Physics, 2006, 99, 08R701.	1.1	46
100	Epitaxial multiferroic hexagonal manganite thin films grown on ZnO. Physica Status Solidi (B): Basic Research, 2006, 243, 2085-2088.	0.7	9
101	Examining the screening limit of field effect devices via the metal-insulator transition. Applied Physics Letters, 2005, 86, 142501.	1.5	110
102	Surface phase transitions and related surface defect structures upon reduction of epitaxial WO3(100) thin films: A scanning tunneling microscopy study. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2004, 22, 1682-1689.	0.9	7
103	Giant planar Hall effect in colossal magnetoresistive La0.84Sr0.16MnO3 thin films. Applied Physics Letters, 2004, 84, 2593-2595.	1.5	71
104	Ferroelectric stability of BaTiO3 in a crystalline oxide on semiconductor structure. Physica Status Solidi (B): Basic Research, 2004, 241, 2287-2290.	0.7	15
105	Characterization of the magnetic anisotropy in thin films of La1-xSrxMnO3 using the planar Hall effect. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 3336-3338.	0.8	3
106	Ferroelectricity at the Nanoscale: Local Polarization in Oxide Thin Films and Heterostructures. Science, 2004, 303, 488-491.	6.0	837
107	Electric field effect in correlated oxide systems. Nature, 2003, 424, 1015-1018.	13.7	629
108	Ferroelectric-field-induced tuning of magnetism in the colossal magnetoresistive oxideLa1â^'xSrxMnO3. Physical Review B, 2003, 68, .	1.1	121

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109	Electrostatic Tuning of the Hole Density inNdBa2Cu3O7â^ÎFilms and its Effect on the Hall Response. Physical Review Letters, 2002, 88, 067002.	2.9	36
110	Ferroelectricity in thin perovskite films. Applied Physics Letters, 1999, 75, 856-858.	1.5	449
111	Electrostatic Modulation of Superconductivity in Ultrathin GdBa2Cu3O7-x Films. Science, 1999, 284, 1152-1155.	6.0	254
112	Control and imaging of ferroelectric domains over large areas with nanometer resolution in atomically smooth epitaxial Pb(Zr0.2Ti0.8)O3 thin films. Applied Physics Letters, 1998, 72, 1454-1456.	1.5	133
113	Ferroelectric Field Effect in Epitaxial Thin Film Oxide SrCuO2/Pb(Zr0.52Ti0.48)O3 Heterostructures. Science, 1995, 269, 373-376.	6.0	106
114	Novel Functionality in Switchable Polar Materials. Advanced Electronic Materials, 0, , 2200146.	2.6	0