

# Woo Seok Choi

## List of Publications by Year in descending order

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93  
papers

3,450  
citations

147801

31  
h-index

149698

56  
g-index

96  
all docs

96  
docs citations

96  
times ranked

5147  
citing authors

#	ARTICLE	IF	CITATIONS
1	Reversible redox reactions in an epitaxially stabilized SrCoO <sub>x</sub> oxygen sponge. Nature Materials, 2013, 12, 1057-1063.	27.5	349
2	Wide bandgap tunability in complex transition metal oxides by site-specific substitution. Nature Communications, 2012, 3, 689.	12.8	237
3	Strain Control of Oxygen Vacancies in Epitaxial Strontium Cobaltite Films. Advanced Functional Materials, 2016, 26, 1564-1570.	14.9	199
4	Oxygen-deficient triple perovskites as highly active and durable bifunctional electrocatalysts for oxygen electrode reactions. Science Advances, 2018, 4, eaap9360.	10.3	195
5	Strain-Induced Spin States in Atomically Ordered Cobaltites. Nano Letters, 2012, 12, 4966-4970.	9.1	160
6	Role of Strain and Conductivity in Oxygen Electrocatalysis on LaCoO <sub>3</sub> Thin Films. Journal of Physical Chemistry Letters, 2015, 6, 487-492.	4.6	152
7	Tunneling Electroresistance Induced by Interfacial Phase Transitions in Ultrathin Oxide Heterostructures. Nano Letters, 2013, 13, 5837-5843.	9.1	115
8	Orienting Oxygen Vacancies for Fast Catalytic Reaction. Advanced Materials, 2013, 25, 6459-6463.	21.0	96
9	Topotactic Metal-Insulator Transition in Epitaxial SrFeO <sub>x</sub> Thin Films. Advanced Materials, 2017, 29, 1606566.	21.0	96
10	Origin of Hysteresis in CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskite Thin Films. Advanced Functional Materials, 2017, 27, 1701924.	14.9	86
11	Enhanced electrocatalytic activity via phase transitions in strongly correlated SrRuO <sub>3</sub> thin films. Energy and Environmental Science, 2017, 10, 924-930.	30.8	82
12	Electronic structures of hexagonal RMnO <sub>3</sub> (R=Gd, Tb, Dy, and Ho) thin films: Optical spectroscopy and first-principles calculations. Physical Review B, 2008, 77, .	3.2	75
13	Growth control of oxygen stoichiometry in homoepitaxial SrTiO <sub>3</sub> films by pulsed laser epitaxy in high vacuum. Scientific Reports, 2016, 6, 19941.	3.3	75
14	Nanoscale Spin-State Ordering in LaCoO <sub>3</sub> Epitaxial Thin Films. Chemistry of Materials, 2014, 26, 2496-2501.	6.7	74
15	Reversal of the Lattice Structure in SrCoO <sub>x</sub> Epitaxial Thin Films Studied by Real-Time Optical Spectroscopy and First-Principles Calculations. Physical Review Letters, 2013, 111, 097401.	7.8	73
16	Surface properties of atomically flat poly-crystalline SrTiO <sub>3</sub> . Scientific Reports, 2015, 5, 8822.	3.3	57
17	Atomic Layer Engineering of Perovskite Oxides for Chemically Sharp Heterointerfaces. Advanced Materials, 2012, 24, 6423-6428.	21.0	49
18	Phase transitions via selective elemental vacancy engineering in complex oxide thin films. Scientific Reports, 2016, 6, 23649.	3.3	46

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19	Resistance switching in epitaxial SrCoO <sub>x</sub> thin films. Applied Physics Letters, 2014, 105, .	3.3	45
20	Resonant tunnelling in a quantum oxide superlattice. Nature Communications, 2015, 6, 7424.	12.8	44
21	Directing Oxygen Vacancy Channels in SrFeO <sub>2.5</sub> Epitaxial Thin Films. ACS Applied Materials & Interfaces, 2018, 10, 4831-4837.	8.0	43
22	Optical spectroscopic investigation on the coupling of electronic and magnetic structure in multiferroic hexagonal $R\text{MnO}_3$ Charge states and magnetic ordering in LaMnO <sub>3</sub>	3.2	41
23	Optical spectroscopic investigation on the coupling of electronic and magnetic structure in multiferroic hexagonal $R\text{MnO}_3$ Charge states and magnetic ordering in LaMnO <sub>3</sub>	3.2	41
24	Ultra-thin ferroelectrics. Materials Science and Engineering Reports, 2021, 145, 100622.	31.8	41
25	Band gap tuning in ferroelectric Bi <sub>4</sub> Ti <sub>3</sub> O <sub>12</sub> by alloying with La <sub>1-x</sub> TM <sub>x</sub> O <sub>3</sub> (TM = Ti, V, Cr, Mn, Co). J. Appl. Phys. 111, 078403 (2012)	3.3	38
26	Synergetic Behavior in 2D Layered Material/Complex Oxide Heterostructures. Advanced Materials, 2019, 31, e1803732.	21.0	37
27	Dimensional crossover of polaron dynamics in $\text{NbS}_2/\text{SrTiO}_3$ Possible mechanism of thermopower enhancement. Physical Review B. 2010. 82, .	3.2	36
28	Fractionally $\hat{\Gamma}$ -Doped Oxide Superlattices for Higher Carrier Mobilities. Nano Letters, 2012, 12, 4590-4594.	9.1	36
29	Tuning electromagnetic properties of SrRuO <sub>3</sub> epitaxial thin films via atomic control of cation vacancies. Scientific Reports, 2017, 7, 11583.	3.3	36
30	Polaron Transport and Thermoelectric Behavior in $\text{La}_{1-x}\text{Ca}_x\text{SrTiO}_3$ Thin Films with Elemental Vacancies. Advanced Functional Materials, 2015, 25, 799-804.	14.9	35
31	Propagation Control of Octahedral Tilt in SrRuO <sub>3</sub> via Artificial Heterostructuring. Advanced Science, 2020, 7, 2001643.	11.2	33
32	Phase Instability amid Dimensional Crossover in Artificial Oxide Crystal. Physical Review Letters, 2020, 124, 026401.	7.8	32
33	Strongly coupled phase transition in ferroelectric/correlated electron oxide heterostructures. Applied Physics Letters, 2012, 101, 042902.	3.3	29
34	Dimensionality Control of d-orbital Occupation in Oxide Superlattices. Scientific Reports, 2014, 4, 6124.	3.3	28
35	Color of Copper/Copper Oxide. Advanced Materials, 2021, 33, e2007345.	21.0	28
36	Electronic structure of amorphous InGaO <sub>3</sub> (ZnO) <sub>0.5</sub> thin films. Thin Solid Films, 2009, 518, 1079-1081.	1.8	27

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37	Thermopower Enhancement by Fractional Layer Control in 2D Oxide Superlattices. <i>Advanced Materials</i> , 2014, 26, 6701-6705.	21.0	27
38	Quantum Conductance Probing of Oxygen Vacancies in SrTiO <sub>3</sub> Epitaxial Thin Film using Graphene. <i>Advanced Materials</i> , 2017, 29, 1700071.	21.0	25
39	Pulsed-laser epitaxy of metallic delafossite PdCrO <sub>2</sub> films. <i>APL Materials</i> , 2020, 8, .	5.1	25
40	Valence-state reflectometry of complex oxide heterointerfaces. <i>Npj Quantum Materials</i> , 2016, 1, .	5.2	23
41	Thickness-dependent orbital hybridization in ultrathin SrRuO <sub>3</sub> epitaxial films. <i>Applied Physics Letters</i> , 2019, 115, .	3.3	23
42	Highly Oriented SrTiO <sub>3</sub> Thin Film on Graphene Substrate. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 3246-3250.	8.0	22
43	A Room-Temperature Ferroelectric Ferromagnet in a 1D Tetrahedral Chain Network. <i>Advanced Materials</i> , 2019, 31, e1808104.	21.0	22
44	High critical current density and high-tolerance superconductivity in high-entropy alloy thin films. <i>Nature Communications</i> , 2022, 13, .	12.8	21
45	Electronic structure and anomalous band-edge absorption feature in multiferroic MnWO <sub>4</sub> . An optical spectroscopic study. <i>Physical Review B</i> , 2010, 81, .	3.2	20
46	Ferroelectricity in SrTiO <sub>3</sub> epitaxial thin films via Sr-vacancy-induced tetragonality. <i>Applied Surface Science</i> , 2020, 499, 143930.	6.1	20
47	Unconventional interlayer exchange coupling via chiral phonons in synthetic magnetic oxide heterostructures. <i>Science Advances</i> , 2022, 8, eabm4005.	10.3	20
48	Enhanced magnetic and thermoelectric properties in epitaxial polycrystalline SrRuO <sub>3</sub> thin films. <i>Nanoscale</i> , 2018, 10, 4377-4384.	5.6	19
49	Correlated oxide Dirac semimetal in the extreme quantum limit. <i>Science Advances</i> , 2021, 7, eabf9631.	10.3	19
50	Strain tuning of electronic structure in Bi <sub>4</sub> Ti <sub>3</sub> O <sub>14</sub> . <i>Physical Review B</i> , 2010, 81, .	3.2	17
51	Structural instability of the CoO <sub>4</sub> tetrahedral chain in SrCoO <sub>3</sub> thin films. <i>Journal of Applied Physics</i> , 2015, 118, .	2.5	17
52	Voltage Scaling of Graphene Device on SrTiO <sub>3</sub> Epitaxial Thin Film. <i>Nano Letters</i> , 2016, 16, 1754-1759.	9.1	15
53	Strain-Induced Atomic-Scale Building Blocks for Ferromagnetism in Epitaxial LaCoO <sub>3</sub> . <i>Nano Letters</i> , 2021, 21, 4006-4012.	9.1	15
54	Strongly Coupled Magnetic and Electronic Transitions in Multivalent Strontium Cobaltites. <i>Scientific Reports</i> , 2017, 7, 16066.	3.3	13

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55	Oxygen vacancy induced structural evolution of $\text{SrFeO}_{3-x}$ epitaxial thin film from brownmillerite to perovskite. <i>Physical Review B</i> , 2018, 97, .	8.2	13
56	Ferroelectric Polarization Rotation in Order-Disorder-Type $\text{LiNbO}_3$ Thin Films. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 41471-41478.	8.0	13
57	Spin-phonon coupling in epitaxial $\text{SrRuO}_3$ heterostructures. <i>Nanoscale</i> , 2020, 12, 13926-13932.	5.6	13
58	Optical investigation of oxygen defect states in $\text{SrTiO}_3$ epitaxial thin films. <i>Current Applied Physics</i> , 2017, 17, 1148-1151.	2.4	12
59	Symmetry-Driven Spin-Wave Gap Modulation in Nanolayered $\text{SrRuO}_3/\text{SrTiO}_3$ Heterostructures: Implications for Spintronic Applications. <i>ACS Applied Nano Materials</i> , 2021, 4, 2160-2166.	5.0	12
60	Optical spectroscopy of the carrier dynamics in $\text{LaVO}_3/\text{SrVO}_3$ superlattices. <i>Physical Review B</i> , 2011, 84, .	3.2	11
61	Transparent conducting oxides: A $\delta$ -doped superlattice approach. <i>Scientific Reports</i> , 2014, 4, 6021.	3.3	11
62	$\text{SrVO}_3/\text{SrTiO}_3$ superlattices. <i>Physical Review B</i> , 2019, 100, .	3.2	9
63	Indium-Free Amorphous $\text{CaAl}_2\text{O}_4$ Thin Film as a Transparent Conducting Oxide. <i>Chemistry of Materials</i> , 2019, 31, 8019-8025.	6.7	9
64	Tailoring topological Hall effect in $\text{SrRuO}_3/\text{SrTiO}_3$ superlattices. <i>Acta Materialia</i> , 2021, 216, 117153.	7.9	9
65	Atomistic Engineering of Phonons in Functional Oxide Heterostructures. <i>Advanced Science</i> , 2022, , 2103403.	11.2	9
66	Highly insulating ferromagnetic cobaltite heterostructures. <i>Current Applied Physics</i> , 2017, 17, 722-726.	2.4	7
67	Correlation between $\text{Ru}-\text{O}$ hybridization and the oxygen evolution reaction in ruthenate epitaxial thin films. <i>Sustainable Energy and Fuels</i> , 2019, 3, 2867-2872.	4.9	7
68	Crystalline symmetry-dependent magnon formation in the itinerant ferromagnet $\text{SrRuO}_3$ . <i>Physical Review B</i> , 2021, 103, .	3.2	7
69	Epitaxial Stabilization of Metastable $3\text{C BaRuO}_3$ Thin Film with Ferromagnetic Non-Fermi Liquid Phase. <i>Advanced Electronic Materials</i> , 2021, 7, 2001111.	5.1	7
70	Defect engineering of magnetic ground state in $\text{EuTiO}_3$ epitaxial thin films. <i>Journal of the American Ceramic Society</i> , 2021, 104, 4606-4613.	3.8	7
71	Tunable band gap in epitaxial ferroelectric $\text{Ho}(\text{Mn,Ga})\text{O}_3$ films. <i>Applied Physics Letters</i> , 2016, 108, .	3.3	6
72	Surface-orientation-dependent growth of $\text{SrRuO}_3$ epitaxial thin films. <i>Applied Surface Science</i> , 2020, 499, 143924.	6.1	6

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73	Atomic-scale operando observation of oxygen diffusion during topotactic phase transition of a perovskite oxide. <i>Matter</i> , 2022, 5, 3009-3022.	10.0	6
74	Ex-situ atomic force microscopy on the growth mode of SrRuO <sub>3</sub> epitaxial thin film. <i>Current Applied Physics</i> , 2017, 17, 1721-1726.	2.4	5
75	Confined polaronic transport in (LaFeO <sub>3</sub> ) <sub>n</sub> /(SrFeO <sub>3</sub> ) <sub>1</sub> superlattices. <i>APL Materials</i> , 2019, 7, .	5.1	5
76	Epitaxial strain dependent electrocatalytic activity in CaRuO <sub>3</sub> thin films. <i>Applied Physics Letters</i> , 2020, 117, .	3.3	5
77	Low thermal conductivity of SrTiO <sub>3</sub> ~LaTiO <sub>3</sub> and SrTiO <sub>3</sub> ~SrNbO <sub>3</sub> thermoelectric oxide solid solutions. <i>Journal of the American Ceramic Society</i> , 2021, 104, 4075-4085.	3.8	5
78	Tuning magnetic and optical properties through strain in epitaxial LaCrO <sub>3</sub> thin films. <i>Applied Physics Letters</i> , 2021, 119, .	3.3	4
79	Contribution of the Sub~Surface to Electrocatalytic Activity in Atomically Precise La <sub>0.7</sub> Sr <sub>0.3</sub> MnO <sub>3</sub> Heterostructures. <i>Small</i> , 2021, 17, e2103632.	10.0	4
80	Tunable Ferromagnetism in LaCoO <sub>3</sub> Epitaxial Thin Films. <i>Advanced Materials Interfaces</i> , 2022, 9, .	3.7	4
81	Perovskite: Strain Control of Oxygen Vacancies in Epitaxial Strontium Cobaltite Films (Adv. Funct.) Tj ETQq1 1 0.784314 rgBT <sub>3</sub> /Overlo 14.9	14.9	3
82	Effect of Nb concentration on the spin-orbit coupling strength in Nb-doped SrTiO <sub>3</sub> epitaxial thin films. <i>Scientific Reports</i> , 2018, 8, 5739.	3.3	3
83	Multiferroic Materials: A Room-Temperature Ferroelectric Ferromagnet in a 1D Tetrahedral Chain Network (Adv. Mater. 24/2019). <i>Advanced Materials</i> , 2019, 31, 1970173.	21.0	3
84	Dielectrics: Quantum Conductance Probing of Oxygen Vacancies in SrTiO <sub>3</sub> Epitaxial Thin Film using Graphene (Adv. Mater. 18/2017). <i>Advanced Materials</i> , 2017, 29, .	21.0	1
85	In situ Negative Cs HRTEM Imaging of Topotactic Phase Transformation from Perovskite SrFeO <sub>3</sub> to Brownmillerite SrFeO <sub>2.5</sub> . <i>Microscopy and Microanalysis</i> , 2019, 25, 1482-1483.	0.4	1
86	Atomic Structure of the Initial Nucleation Layer in Hexagonal Perovskite BaRuO <sub>3</sub> Thin Films. <i>Advanced Materials Interfaces</i> , 2021, 8, 2100023.	3.7	1
87	Mixed-state Hall scaling behavior and vortex phase diagram in $\text{FeSe}_{1-x}\text{Te}_x$ thin films. <i>Physical Review B</i> , 2022, 105, .	14.9	1
88	Optical properties and characterization of oxide thin films and heterostructures. , 2022, , 401-448.		1
89	Effect of dimethylhydrazine on p~type conductivity of as~grown Mg~doped GaN. <i>Physica Status Solidi - Rapid Research Letters</i> , 2009, 3, 52-54.	2.4	0
90	Nanoengineering: Atomic Layer Engineering of Perovskite Oxides for Chemically Sharp Heterointerfaces (Adv. Mater. 48/2012). <i>Advanced Materials</i> , 2012, 24, 6422-6422.	21.0	0

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91	Thermoelectrics: Thermopower Enhancement by Fractional Layer Control in 2D Oxide Superlattices (Adv. Mater. 39/2014). Advanced Materials, 2014, 26, 6799-6799.	21.0	0
92	Thin Films: Topotactic Metal-Insulator Transition in Epitaxial SrFeO <sub>x</sub> Thin Films (Adv. Mater. 37/2017). Advanced Materials, 2017, 29, .	21.0	0
93	Hexagonal Perovskites: Atomic Structure of the Initial Nucleation Layer in Hexagonal Perovskite BaRuO <sub>3</sub> Thin Films (Adv. Mater. Interfaces 7/2021). Advanced Materials Interfaces, 2021, 8, 2170037.	3.7	0