

# Shinbuhm Lee

## List of Publications by Citations

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74  
papers

2,563  
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28  
h-index

49  
g-index

76  
ext. papers

2,902  
ext. citations

7.6  
avg, IF

4.95  
L-index

#	Paper	IF	Citations
74	Random Circuit Breaker Network Model for Unipolar Resistance Switching. <i>Advanced Materials</i> , <b>2008</b> , 20, 1154-1159	24	302
73	Resistive switching phenomena: A review of statistical physics approaches. <i>Applied Physics Reviews</i> , <b>2015</b> , 2, 031303	17.3	243
72	Occurrence of both unipolar memory and threshold resistance switching in a NiO film. <i>Physical Review Letters</i> , <b>2009</b> , 102, 026801	7.4	203
71	Effects of heat dissipation on unipolar resistance switching in Pt/NiO/Pt capacitors. <i>Applied Physics Letters</i> , <b>2008</b> , 92, 183507	3.4	128
70	Strongly enhanced oxygen ion transport through samarium-doped CeO <sub>2</sub> nanopillars in nanocomposite films. <i>Nature Communications</i> , <b>2015</b> , 6, 8588	17.4	116
69	Oxide double-layer nanocrossbar for ultrahigh-density bipolar resistive memory. <i>Advanced Materials</i> , <b>2011</b> , 23, 4063-7	24	100
68	Emerging magnetism and anomalous Hall effect in iridate-manganite heterostructures. <i>Nature Communications</i> , <b>2016</b> , 7, 12721	17.4	85
67	Epitaxial stabilization and phase instability of VO <sub>2</sub> polymorphs. <i>Scientific Reports</i> , <b>2016</b> , 6, 19621	4.9	77
66	Scaling behaviors of reset voltages and currents in unipolar resistance switching. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 212105	3.4	74
65	Ionic Conductivity Increased by Two Orders of Magnitude in Micrometer-Thick Vertical Yttria-Stabilized ZrO <sub>2</sub> Nanocomposite Films. <i>Nano Letters</i> , <b>2015</b> , 15, 7362-9	11.5	73
64	Self-assembled oxide films with tailored nanoscale ionic and electronic channels for controlled resistive switching. <i>Nature Communications</i> , <b>2016</b> , 7, 12373	17.4	67
63	Scaling theory for unipolar resistance switching. <i>Physical Review Letters</i> , <b>2010</b> , 105, 205701	7.4	67
62	Novel electroforming-free nanoscaffold memristor with very high uniformity, tunability, and density. <i>Advanced Materials</i> , <b>2014</b> , 26, 6284-9	24	62
61	Growth control of the oxidation state in vanadium oxide thin films. <i>Applied Physics Letters</i> , <b>2014</b> , 105, 223515	3.4	54
60	Strain Tuning and Strong Enhancement of Ionic Conductivity in SrZrO <sub>3</sub> RE <sub>2</sub> O <sub>3</sub> (RE = Sm, Eu, Gd, Dy, and Er) Nanocomposite Films. <i>Advanced Functional Materials</i> , <b>2015</b> , 25, 4328-4333	15.6	41
59	Chemical quantification of atomic-scale EDS maps under thin specimen conditions. <i>Microscopy and Microanalysis</i> , <b>2014</b> , 20, 1782-90	0.5	40
58	Large 1/f noise of unipolar resistance switching and its percolating nature. <i>Applied Physics Letters</i> , <b>2009</b> , 95, 122112	3.4	39

57	Interface-modified random circuit breaker network model applicable to both bipolar and unipolar resistance switching. <i>Applied Physics Letters</i> , <b>2011</b> , 98, 033502	3-4	37
56	Anomalous effect due to oxygen vacancy accumulation below the electrode in bipolar resistance switching Pt/Nb:SrTiO <sub>3</sub> cells. <i>APL Materials</i> , <b>2014</b> , 2, 066103	5-7	35
55	Electronic structure and insulating gap in epitaxial VO <sub>2</sub> polymorphs. <i>APL Materials</i> , <b>2015</b> , 3, 126109	5-7	33
54	Predictability of reset switching voltages in unipolar resistance switching. <i>Applied Physics Letters</i> , <b>2009</b> , 94, 173504	3-4	33
53	Determination of ferroelectric contributions to electromechanical response by frequency dependent piezoresponse force microscopy. <i>Scientific Reports</i> , <b>2016</b> , 6, 30579	4-9	32
52	Conversion from unipolar to bipolar resistance switching by inserting Ta <sub>2</sub> O <sub>5</sub> layer in Pt/TaO <sub>x</sub> /Pt cells. <i>Applied Physics Letters</i> , <b>2011</b> , 98, 183507	3-4	31
51	Research Update: Fast and tunable nanoionics in vertically aligned nanostructured films. <i>APL Materials</i> , <b>2017</b> , 5, 042304	5-7	30
50	Electric-field control of ferromagnetism in a nanocomposite via a ZnO phase. <i>Nano Letters</i> , <b>2013</b> , 13, 5886-90	11.5	30
49	Enhancing interfacial magnetization with a ferroelectric. <i>Physical Review B</i> , <b>2016</b> , 94,	3-3	29
48	Origin of variation in switching voltages in threshold-switching phenomena of VO <sub>2</sub> thin films. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 063501	3-4	29
47	Multilevel unipolar resistance switching in TiO <sub>2</sub> thin films. <i>Applied Physics Letters</i> , <b>2009</b> , 95, 093508	3-4	29
46	Persistent Electrochemical Performance in Epitaxial VO(B). <i>Nano Letters</i> , <b>2017</b> , 17, 2229-2233	11.5	28
45	Unraveling the Origin and Mechanism of Nanofilament Formation in Polycrystalline SrTiO Resistive Switching Memories. <i>Advanced Materials</i> , <b>2019</b> , 31, e1901322	24	25
44	Strong resistance nonlinearity and third harmonic generation in the unipolar resistance switching of NiO thin films. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 252102	3-4	25
43	Electrochemically Triggered Metal/Insulator Transition between VO <sub>2</sub> and V <sub>2</sub> O <sub>5</sub> . <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1803024	15.6	25
42	Ferroelectric-like hysteresis loop originated from non-ferroelectric effects. <i>Applied Physics Letters</i> , <b>2016</b> , 109, 102901	3-4	24
41	Reduction in high reset currents in unipolar resistance switching Pt/SrTiO <sub>x</sub> /Pt capacitors using acceptor doping. <i>Applied Physics Letters</i> , <b>2010</b> , 97, 093505	3-4	20
40	Turning antiferromagnetic Sm(0.34)Sr(0.66)MnO <sub>3</sub> into a 140 K ferromagnet using a nanocomposite strain tuning approach. <i>Nanoscale</i> , <b>2016</b> , 8, 8083-90	7-7	18

39	Two opposite hysteresis curves in semiconductors with mobile dopants. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 253503	3.4	18
38	Time-dependent current-voltage curves during the forming process in unipolar resistance switching. <i>Applied Physics Letters</i> , <b>2011</b> , 98, 053503	3.4	18
37	Forming mechanism of the bipolar resistance switching in double-layer memristive nanodevices. <i>Nanotechnology</i> , <b>2012</b> , 23, 315202	3.4	17
36	Nanoscale self-templating for oxide epitaxy with large symmetry mismatch. <i>Scientific Reports</i> , <b>2016</b> , 6, 38168	4.9	16
35	Impact of vacancy clusters on characteristic resistance change of nonstoichiometric strontium titanate nano-film. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 013501	3.4	14
34	Enhancing the conductivity of PEDOT:PSS films for biomedical applications via hydrothermal treatment. <i>Biosensors and Bioelectronics</i> , <b>2021</b> , 171, 112717	11.8	13
33	Electrical and Optical Properties of VO <sub>2</sub> Polymorphic Films Grown Epitaxially on Y-Stabilized ZrO <sub>2</sub> . <i>Advanced Electronic Materials</i> , <b>2018</b> , 4, 1700620	6.4	12
32	Dynamic switching mechanism of conduction/set process in Cu/a-Si/Si memristive device. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 043503	3.4	12
31	Abnormal resistance switching behaviours of NiO thin films: possible occurrence of both formation and rupturing of conducting channels. <i>Journal Physics D: Applied Physics</i> , <b>2009</b> , 42, 015506	3	12
30	Effect of NiO Growth Conditions on the Bipolar Resistance Memory Switching of Pt/NiO/SRO Structure. <i>Journal of the Korean Physical Society</i> , <b>2010</b> , 57, 1856-1861	0.6	12
29	Enhanced metallic properties of SrRuO <sub>3</sub> thin films via kinetically controlled pulsed laser epitaxy. <i>Applied Physics Letters</i> , <b>2016</b> , 109, 161902	3.4	12
28	Oxygen-Vacancy-Endurable Conductors with Enhanced Transparency Using Correlated 4d <sup>2</sup> SrMoO <sub>3</sub> Thin Films. <i>Advanced Functional Materials</i> , <b>2020</b> , 30, 2001489	15.6	12
27	Reversible changes between bipolar and unipolar resistance-switching phenomena in a Pt/SrTiO <sub>x</sub> /Pt cell. <i>Current Applied Physics</i> , <b>2012</b> , 12, 1515-1517	2.6	11
26	Stabilizing the forming process in unipolar resistance switching using an improved compliance current limiter. <i>Journal Physics D: Applied Physics</i> , <b>2010</b> , 43, 485103	3	11
25	Sharp contrast in the electrical and optical properties of vanadium Wadsley (V <sub>m</sub> O <sub>2m+1</sub> , m>1) epitaxial films selectively stabilized on (111)-oriented Y-stabilized ZrO <sub>2</sub> . <i>Physical Review Materials</i> , <b>2019</b> , 3,	3.2	11
24	Evidence for impact ionization in vanadium dioxide. <i>Physical Review B</i> , <b>2016</b> , 94,	3.3	7
23	Gradual electroforming and memristive switching in Pt/CuO(x)/Si/Pt systems. <i>Nanotechnology</i> , <b>2013</b> , 24, 325202	3.4	7
22	Persistent metallic Sn-doped InO epitaxial ultrathin films with enhanced infrared transmittance. <i>Scientific Reports</i> , <b>2020</b> , 10, 4957	4.9	6

21	Anisotropic suppression of octahedral breathing distortion with the fully strained BaBiO <sub>3</sub> /BaCeO <sub>3</sub> heterointerface. <i>APL Materials</i> , <b>2018</b> , 6, 016107	5.7	6
20	Measurement of Exciton and Trion Energies in Multistacked hBN/WS Coupled Quantum Wells for Resonant Tunneling Diodes. <i>ACS Nano</i> , <b>2020</b> , 14, 16114-16121	16.7	6
19	High infrared transparency up to 8- $\mu$ m-wavelength in correlated vanadium Wadsley conductors. <i>APL Materials</i> , <b>2020</b> , 8, 041111	5.7	6
18	Hydrogen Control of Double Exchange Interaction in La Sr MnO for Ionic-Electric-Magnetic Coupled Applications. <i>Advanced Materials</i> , <b>2021</b> , 33, e2007606	24	6
17	Kinetically Controlled Fabrication of Single-Crystalline TiO Nanobrush Architectures with High Energy {001} Facets. <i>Advanced Science</i> , <b>2017</b> , 4, 1700045	13.6	5
16	Dielectric-breakdown-like forming process in the unipolar resistance switching of Ta <sub>2</sub> O <sub>5</sub> thin films. <i>Current Applied Physics</i> , <b>2012</b> , 12, 846-848	2.6	5
15	Avoiding fatal damage to the top electrodes when forming unipolar resistance switching in nano-thick material systems. <i>Journal Physics D: Applied Physics</i> , <b>2012</b> , 45, 255101	3	5
14	Forming time of conducting channels in double-layer Pt/Ta <sub>2</sub> O <sub>5</sub> /TaOx/Pt and single-layer Pt/TaOx/Pt resistance memories. <i>Thin Solid Films</i> , <b>2013</b> , 540, 190-193	2.2	4
13	Coherent-strained superconducting BaPb <sub>1-x</sub> BixO <sub>3</sub> thin films by interface engineering. <i>Physical Review Materials</i> , <b>2019</b> , 3,	3.2	3
12	Design Principles for the Enhanced Transparency Range of Correlated Transparent Conductors. <i>Laser and Photonics Reviews</i> , <b>2021</b> , 15, 2000444	8.3	3
11	Tunable resistivity of correlated VO(A) and VO(B) via tungsten doping. <i>Scientific Reports</i> , <b>2020</b> , 10, 9721	4.9	2
10	Templated epitaxy of TiO <sub>2</sub> (B) on a perovskite. <i>Applied Physics Letters</i> , <b>2020</b> , 117, 133903	3.4	2
9	Resistive Switching: Unraveling the Origin and Mechanism of Nanofilament Formation in Polycrystalline SrTiO <sub>3</sub> Resistive Switching Memories (Adv. Mater. 28/2019). <i>Advanced Materials</i> , <b>2019</b> , 31, 1970205	24	1
8	Degradation Mechanism of Vanadium Oxide Films When Grown on Y-Stabilized ZrO <sub>2</sub> Above 500 °C. <i>Advanced Engineering Materials</i> , <b>2019</b> , 21, 1900918	3.5	1
7	Versatile Tunability of the Metal Insulator Transition in (TiO <sub>2</sub> ) <sub>m</sub> /(VO <sub>2</sub> ) <sub>m</sub> Superlattices. <i>Advanced Functional Materials</i> , <b>2020</b> , 30, 2004914	15.6	1
6	Memristive switching in Cu/Si/Pt cells and its improvement in vacuum environment. <i>Solid State Ionics</i> , <b>2016</b> , 295, 1-6	3.3	1
5	Oxide Epitaxy with Large Symmetry Mismatch: Bronze-phase VO <sub>2</sub> on SrTiO <sub>3</sub> . <i>Microscopy and Microanalysis</i> , <b>2017</b> , 23, 1580-1581	0.5	0
4	Forming process of unipolar resistance switching in Ta <sub>2</sub> O <sub>5</sub> thin films. <i>Current Applied Physics</i> , <b>2013</b> , 13, 1172-1174	2.6	0

3	Effects of electrode polarity on filament ruptures during unipolar resistance switchings. <i>Current Applied Physics</i> , <b>2010</b> , 10, 817-820	2.6	○
2	Binary Oxide Superlattices: Versatile Tunability of the Metal Insulator Transition in (TiO <sub>2</sub> ) <sub>m</sub> /(VO <sub>2</sub> ) <sub>m</sub> Superlattices (Adv. Funct. Mater. 51/2020). <i>Advanced Functional Materials</i> , <b>2020</b> , 30, 2070339	15.6	○
1	Ablation laser fluence as an effective parameter to control superconductivity in Ba 1-x K x BiO 3 films. <i>Current Applied Physics</i> , <b>2017</b> , 17, 600-604	2.6	