Shinbuhm Lee

List of Publications by Year
in descending order

76 papers	3,205 citations	147726 31 h-index	149623 56 g-index
76 all docs	76 docs citations	76 times ranked	4063 citing authors

#	Article	IF	Citations
1	Resistive switching phenomena: A review of statistical physics approaches. Applied Physics Reviews, 2015, 2, .	5.5	338
2	Random Circuit Breaker Network Model for Unipolar Resistance Switching. Advanced Materials, 2008, 20, 1154-1159.	11.1	330
3	Occurrence of Both Unipolar Memory and Threshold Resistance Switching in a NiO Film. Physical Review Letters, 2009, 102, 026801.	2.9	226
4	Effects of heat dissipation on unipolar resistance switching in Ptâˆ•NiOâˆ•Pt capacitors. Applied Physics Letters, 2008, 92, .	1.5	146
5	Strongly enhanced oxygen ion transport through samarium-doped CeO2 nanopillars in nanocomposite films. Nature Communications, 2015, 6, 8588.	5.8	145
6	Emerging magnetism and anomalous Hall effect in iridateâ€“manganite heterostructures. Nature Communications, 2016, 7, 12721.	5.8	123
7	Epitaxial stabilization and phase instability of VO2 polymorphs. Scientific Reports, 2016, 6, 19621.	1.6	114
8	Oxide Doubleâ€Layer Nanocrossbar for Ultrahighâ€Density Bipolar Resistive Memory. Advanced Materials, 2011, 23, 4063-4067.	11.1	108
9	Ionic Conductivity Increased by Two Orders of Magnitude in Micrometer-Thick Vertical Yttria-Stabilized ZrO₂ Nanocomposite Films. Nano Letters, 2015, 15, 7362-7369.	4.5	90
10	Scaling behaviors of reset voltages and currents in unipolar resistance switching. Applied Physics Letters, 2008, 93, .	1.5	83
11	Self-assembled oxide films with tailored nanoscale ionic and electronic channels for controlled resistive switching. Nature Communications, 2016, 7, 12373.	5.8	81
12	Novel Electroformingâ€Free Nanoscaffold Memristor with Very High Uniformity, Tunability, and Density. Advanced Materials, 2014, 26, 6284-6289.	11.1	75
13	Scaling Theory for Unipolar Resistance Switching. Physical Review Letters, 2010, 105, 205701.	2.9	74
14	Growth control of the oxidation state in vanadium oxide thin films. Applied Physics Letters, 2014, 105, .	1.5	61
15	Strain Tuning and Strong Enhancement of Ionic Conductivity in SrZrO₃â€“RE₂O₃ (RE = Sm, Eu, Gd, Dy, and Er) Nanocomposite Films. Advanced Functional Materials, 2015, 25, 4328-4333.	7.8	54
16	Electronic structure and insulating gap in epitaxial VO2 polymorphs. APL Materials, 2015, 3, .	2.2	47
17	Electrochemically Triggered Metalâ€“Insulator Transition between VO₂ and V₂O₅. Advanced Functional Materials, 2018, 28, 1803024.	7.8	46
18	Large 1/f noise of unipolar resistance switching and its percolating nature. Applied Physics Letters, 2009, 95, .	1.5	45

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19	Chemical Quantification of Atomic-Scale EDS Maps under Thin Specimen Conditions. Microscopy and Microanalysis, 2014, 20, 1782-1790.	0.2	43
20	Interface-modified random circuit breaker network model applicable to both bipolar and unipolar resistance switching. Applied Physics Letters, 2011, 98, .	1.5	41
21	Persistent Electrochemical Performance in Epitaxial VO₂(B). Nano Letters, 2017, 17, 2229-2233.	4.5	41
22	Anomalous effect due to oxygen vacancy accumulation below the electrode in bipolar resistance switching Pt/Nb:SrTiO3 cells. APL Materials, 2014, 2, .	2.2	39
23	Unraveling the Origin and Mechanism of Nanofilament Formation in Polycrystalline SrTiO₃ Resistive Switching Memories. Advanced Materials, 2019, 31, e1901322.	11.1	38
24	Enhancing the conductivity of PEDOT:PSS films for biomedical applications via hydrothermal treatment. Biosensors and Bioelectronics, 2021, 171, 112717.	5.3	37
25	Determination of ferroelectric contributions to electromechanical response by frequency dependent piezoresponse force microscopy. Scientific Reports, 2016, 6, 30579.	1.6	37
26	Origin of variation in switching voltages in threshold-switching phenomena of VO2 thin films. Applied Physics Letters, 2013, 102, .	1.5	36
27	Predictability of reset switching voltages in unipolar resistance switching. Applied Physics Letters, 2009, 94, .	1.5	35
28	Conversion from unipolar to bipolar resistance switching by inserting Ta2O5 layer in Pt/TaOx/Pt cells. Applied Physics Letters, 2011, 98, 183507.	1.5	35
29	Research Update: Fast and tunable nanoionics in vertically aligned nanostructured films. APL Materials, 2017, 5, .	2.2	35
30	Enhancing interfacial magnetization with a ferroelectric. Physical Review B, 2016, 94, .	1.1	34
31	Multilevel unipolar resistance switching in TiO2 thin films. Applied Physics Letters, 2009, 95, .	1.5	33
32	Electric-Field Control of Ferromagnetism in a Nanocomposite via a ZnO Phase. Nano Letters, 2013, 13, 5886-5890.	4.5	33
33	Ferroelectric-like hysteresis loop originated from non-ferroelectric effects. Applied Physics Letters, 2016, 109, .	1.5	32
34	Strong resistance nonlinearity and third harmonic generation in the unipolar resistance switching of NiO thin films. Applied Physics Letters, 2008, 93, .	1.5	26
35	Turning antiferromagnetic Sm_{0.34}Sr_{0.66}MnO₃ into a 140 K ferromagnet using a nanocomposite strain tuning approach. Nanoscale, 2016, 8, 8083-8090.	2.8	25
36	Forming mechanism of the bipolar resistance switching in double-layer memristive nanodevices. Nanotechnology, 2012, 23, 315202.	1.3	22

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37	Reduction in high reset currents in unipolar resistance switching Pt/SrTiOx/Pt capacitors using acceptor doping. Applied Physics Letters, 2010, 97, 093505.	1.5	21
38	Time-dependent current-voltage curves during the forming process in unipolar resistance switching. Applied Physics Letters, 2011, 98, .	1.5	21
39	Oxygenâ€Vacancyâ€Endurable Conductors with Enhanced Transparency Using Correlated 4d 2 SrMoO 3 Thin Films. Advanced Functional Materials, 2020, 30, 2001489.	7.8	21
40	Two opposite hysteresis curves in semiconductors with mobile dopants. Applied Physics Letters, 2013, 102, .	1.5	20
41	Enhanced metallic properties of SrRuO3 thin films via kinetically controlled pulsed laser epitaxy. Applied Physics Letters, 2016, 109, .	1.5	18
42	Nanoscale self-templating for oxide epitaxy with large symmetry mismatch. Scientific Reports, 2016, 6, 38168.	1.6	18
43	Electrical and Optical Properties of VO₂ Polymorphic Films Grown Epitaxially on Yâ€Stabilized ZrO₂. Advanced Electronic Materials, 2018, 4, 1700620.	2.6	17
44	Reversible changes between bipolar and unipolar resistance-switching phenomena in a Pt/SrTiO /Pt cell. Current Applied Physics, 2012, 12, 1515-1517.	1.1	16
45	Dynamic switching mechanism of conduction/set process in Cu/a-Si/Si memristive device. Applied Physics Letters, 2013, 103, .	1.5	15
46	Impact of vacancy clusters on characteristic resistance change of nonstoichiometric strontium titanate nano-film. Applied Physics Letters, 2014, 104, .	1.5	15
47	Measurement of Exciton and Trion Energies in Multistacked hBN/WS2 Coupled Quantum Wells for Resonant Tunneling Diodes. ACS Nano, 2020, 14, 16114-16121.	7.3	15
48	Persistent metallic Sn-doped In2O3 epitaxial ultrathin films with enhanced infrared transmittance. Scientific Reports, 2020, 10, 4957.	1.6	15
49	Hydrogen Control of Double Exchange Interaction in La_{0.67}Sr_{0.33}MnO₃ for Ionicâ€“Electricâ€“Magnetic Coupled Applications. Advanced Materials, 2021, 33, e2007606.	11.1	15
50	Sharp contrast in the electrical and optical properties of vanadium Wadsley <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mo>(</mml:mo><mml:mrow><mml:msub><mml:mi) Tj ETQq Physical Review Materials, 2019, 3, .	0.9	14
51	Abnormal resistance switching behaviours of NiO thin films: possible occurrence of both formation and rupturing of conducting channels. Journal Physics D: Applied Physics, 2009, 42, 015506.	1.3	12
52	Evidence for impact ionization in vanadium dioxide. Physical Review B, 2016, 94, .	1.1	12
53	Effect of NiO Growth Conditions on the Bipolar Resistance Memory Switching of Pt/NiO/SRO Structure. Journal of the Korean Physical Society, 2010, 57, 1856-1861.	0.3	12
54	Stabilizing the forming process in unipolar resistance switching using an improved compliance current limiter. Journal Physics D: Applied Physics, 2010, 43, 485103.	1.3	11

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55	High infrared transparency up to 8-Î¼m-wavelength in correlated vanadium Wadsley conductors. APL Materials, 2020, 8, .	2.2	10
56	Gradual electroforming and memristive switching in Pt/CuO_x/Si/Pt systems. Nanotechnology, 2013, 24, 325202.	1.3	9
57	Anisotropic suppression of octahedral breathing distortion with the fully strained BaBiO3/BaCeO3 heterointerface. APL Materials, 2018, 6, 016107.	2.2	9
58	Design Principles for the Enhanced Transparency Range ofÂCorrelated Transparent Conductors. Laser and Photonics Reviews, 2021, 15, 2000444.	4.4	9
59	Templated epitaxy of TiO2(B) on a perovskite. Applied Physics Letters, 2020, 117, .	1.5	8
60	Tunable resistivity of correlated VO2(A) and VO2(B) via tungsten doping. Scientific Reports, 2020, 10, 9721.	1.6	8
61	Coherent strained superconducting <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>BaP</mml:mi><mml:msub><mml:mi mathvariant="normal">b</mml:mi><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^'</mml:mo><mml:mi>x</mml:mi></mml:mrow></mml:msub><mml:msub><mml:mi mathvariant="normal">B</mml:mi><mml:msub><mml:mi mathvariant="normal">i</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> thin f	0.9	8
62	Avoiding fatal damage to the top electrodes when forming unipolar resistance switching in nano-thick material systems. Journal Physics D: Applied Physics, 2012, 45, 255101.	1.3	7
63	Stable Sn-doped In2O3 films coated on Al2O3 for infrared transparent and electromagnetic shielding conductors. Applied Surface Science, 2022, 604, 154149.	3.1	7
64	Dielectric-breakdown-like forming process in the unipolar resistance switching of Ta2O5â^'x thin films. Current Applied Physics, 2012, 12, 846-848.	1.1	5
65	Kinetically Controlled Fabrication of Singleâ€Crystalline TiO 2 Nanobrush Architectures with High Energy {001} Facets. Advanced Science, 2017, 4, 1700045.	5.6	5
66	Single-crystalline-level properties of ultrathin SrRuO3 flexible membranes with wide and clean surface. Npj Flexible Electronics, 2022, 6, .	5.1	5
67	Forming time of conducting channels in double-layer Pt/Ta2O5/TaOx/Pt and single-layer Pt/TaOx/Pt resistance memories. Thin Solid Films, 2013, 540, 190-193.	0.8	4
68	Versatile Tunability of the Metal Insulator Transition in (TiO₂)_m/(VO₂)_m Superlattices. Advanced Functional Materials, 2020, 30, 2004914.	7.8	4
69	Binary Oxide Superlattices: Versatile Tunability of the Metal Insulator Transition in (TiO₂)_m/(VO₂)_m Superlattices (Adv.) Tj ETQq1 1 0.784314 rgBT /Ov	7.8	4
70	Resistive Switching: Unraveling the Origin and Mechanism of Nanofilament Formation in Polycrystalline SrTiO₃ Resistive Switching Memories (Adv. Mater. 28/2019). Advanced Materials, 2019, 31, 1970205.	11.1	2
71	Degradation Mechanism of Vanadium Oxide Films When Grown on Yâ€Stabilized ZrO₂ Above 500â€‰Â°C. Advanced Engineering Materials, 2019, 21, 1900918.	1.6	2
72	Effects of electrode polarity on filament ruptures during unipolar resistance switchings. Current Applied Physics, 2010, 10, 817-820.	1.1	1

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73	Forming process of unipolar resistance switching in Ta2O5â^'x thin films. Current Applied Physics, 2013, 13, 1172-1174.	1.1	1
74	Memristive switching in Cu/Si/Pt cells and its improvement in vacuum environment. Solid State Ionics, 2016, 295, 1-6.	1.3	1
75	Oxide Epitaxy with Large Symmetry Mismatch: Bronze-phase VO2 on SrTiO3. Microscopy and Microanalysis, 2017, 23, 1580-1581.	0.2	1
76	Ablation laser fluence as an effective parameter to control superconductivity in Ba 1â^'x K x BiO 3 films. Current Applied Physics, 2017, 17, 600-604.	1.1	0