Myoung-Jae Lee

List of Publications by Year
in descending order

87 papers	9,572 citations	81839 39 h-index	58549 82 g-index
88 all docs	88 docs citations	88 times ranked	7981 citing authors

#	Article	IF	Citations
1	A fast, high-endurance and scalable non-volatile memory device made from asymmetric Ta2O5â˜x/TaO2â˜x bilayer structures. Nature Materials, 2011, 10, 625-630.	13.3	1,930
2	Reproducible resistance switching in polycrystalline NiO films. Applied Physics Letters, 2004, 85, 5655-5657.	1.5	890
3	Electrical observations of filamentary conductions for the resistive memory switching in NiO films. Applied Physics Letters, 2006, 88, 202102.	1.5	498
4	Two Series Oxide Resistors Applicable to High Speed and High Density Nonvolatile Memory. Advanced Materials, 2007, 19, 3919-3923.	11.1	407
5	Electrical Manipulation of Nanofilaments in Transition-Metal Oxides for Resistance-Based Memory. Nano Letters, 2009, 9, 1476-1481.	4.5	383
6	Random Circuit Breaker Network Model for Unipolar Resistance Switching. Advanced Materials, 2008, 20, 1154-1159.	11.1	330
7	In situ observation of filamentary conducting channels in an asymmetric Ta2O5â˜x/TaO2â˜x bilayer structure. Nature Communications, 2013, 4, 2382.	5.8	308
8	Deterministic Two-Dimensional Polymorphism Growth of Hexagonal n-Type SnS₂ and Orthorhombic p-Type SnS Crystals. Nano Letters, 2015, 15, 3703-3708.	4.5	289
9	Observation of electric-field induced Ni filament channels in polycrystalline NiOx film. Applied Physics Letters, 2007, 91, .	1.5	230
10	A Low-Temperature-Grown Oxide Diode as a New Switch Element for High-Density, Nonvolatile Memories. Advanced Materials, 2007, 19, 73-76.	11.1	224
11	Lowâ€Temperatureâ€Grown Transition Metal Oxide Based Storage Materials and Oxide Transistors for Highâ€Density Nonâ€volatile Memory. Advanced Functional Materials, 2009, 19, 1587-1593.	7.8	206
12	Improvement of resistive memory switching in NiO using IrO2. Applied Physics Letters, 2006, 88, 232106.	1.5	186
13	Thermoelectric materials by using two-dimensional materials with negative correlation between electrical and thermal conductivity. Nature Communications, 2016, 7, 12011.	5.8	173
14	2-stack 1D-1R Cross-point Structure with Oxide Diodes as Switch Elements for High Density Resistance RAM Applications. , 2007, , .		166
15	Effects of metal electrodes on the resistive memory switching property of NiO thin films. Applied Physics Letters, 2008, 93, .	1.5	165
16	Modeling for bipolar resistive memory switching in transition-metal oxides. Physical Review B, 2010, 82, .	1.1	163
17	Write Current Reduction in Transition Metal Oxide Based Resistance Change Memory. Advanced Materials, 2008, 20, 924-928.	11.1	159
18	Interlayer orientation-dependent light absorption and emission in monolayer semiconductor stacks. Nature Communications, 2015, 6, 7372.	5.8	154

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19	Conductivity switching characteristics and reset currents in NiO films. Applied Physics Letters, 2005, 86, 093509.	1.5	151
20	A plasma-treated chalcogenide switch device for stackable scalable 3D nanoscale memory. Nature Communications, 2013, 4, 2629.	5.8	130
21	Multi-level switching of triple-layered TaOx RRAM with excellent reliability for storage class memory. , 2012, , .		119
22	Highâ€Currentâ€Density CuO _x/InZnO_x Thinâ€Film Diodes for Crossâ€Point Memory Applications. Advanced Materials, 2008, 20, 3066-3069.	11.1	118
23	Rotationâ€Misfitâ€Free Heteroepitaxial Stacking and Stitching Growth of Hexagonal Transitionâ€Metal Dichalcogenide Monolayers by Nucleation Kinetics Controls. Advanced Materials, 2015, 27, 3803-3810.	11.1	113
24	Different resistance switching behaviors of NiO thin films deposited on Pt and SrRuO3 electrodes. Applied Physics Letters, 2009, 95, .	1.5	110
25	Oxide Doubleâ€Layer Nanocrossbar for Ultrahighâ€Density Bipolar Resistive Memory. Advanced Materials, 2011, 23, 4063-4067.	11.1	108
26	Resistance switching of the nonstoichiometric zirconium oxide for nonvolatile memory applications. IEEE Electron Device Letters, 2005, 26, 719-721.	2.2	107
27	Resistance-switching Characteristics of polycrystalline Nb/sub 2/O/sub 5/ for nonvolatile memory application. IEEE Electron Device Letters, 2005, 26, 292-294.	2.2	101
28	Electrode dependence of resistance switching in polycrystalline NiO films. Applied Physics Letters, 2005, 87, 263507.	1.5	95
29	A skin-like two-dimensionally pixelized full-color quantum dot photodetector. Science Advances, 2019, 5, eaax8801.	4.7	95
30	Random and localized resistive switching observation in Pt/NiO/Pt. Physica Status Solidi - Rapid Research Letters, 2007, 1, 280-282.	1.2	75
31	Scaling Theory for Unipolar Resistance Switching. Physical Review Letters, 2010, 105, 205701.	2.9	74
32	Highly Uniform Switching of Tantalum Embedded Amorphous Oxide Using Self-Compliance Bipolar Resistive Switching. IEEE Electron Device Letters, 2011, 32, 399-401.	2.2	68
33	Electromigration effect of Ni electrodes on the resistive switching characteristics of NiO thin films. Applied Physics Letters, 2007, 91, 082104.	1.5	66
34	Resistive switching transition induced by a voltage pulse in a Pt/NiO/Pt structure. Applied Physics Letters, 2010, 97, .	1.5	65
35	Decrease in switching voltage fluctuation of Ptâ•NiOxâ•Pt structure by process control. Applied Physics Letters, 2007, 91, 022112.	1.5	63
36	Highly-scalable threshold switching select device based on chaclogenide glasses for 3D nanoscaled memory arrays. , 2012, , .		53

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37	High-performance and scalable metal-chalcogenide semiconductors and devices via chalco-gel routes. Science Advances, 2018, 4, eaap9104.	4.7	53
38	Modeling for multilevel switching in oxide-based bipolar resistive memory. Nanotechnology, 2012, 23, 225702.	1.3	52
39	Highâ€Performance Nanowire Oxide Photoâ€Thin Film Transistor. Advanced Materials, 2013, 25, 5549-5554.	11.1	49
40	Comparative structural and electrical analysis of NiO and Ti doped NiO as materials for resistance random access memory. Journal of Applied Physics, 2008, 103, 013706.	1.1	46
41	Large 1/f noise of unipolar resistance switching and its percolating nature. Applied Physics Letters, 2009, 95, .	1.5	45
42	Interface-modified random circuit breaker network model applicable to both bipolar and unipolar resistance switching. Applied Physics Letters, 2011, 98, .	1.5	41
43	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
44	Interpretation of nanoscale conducting paths and their control in nickel oxide (NiO) thin films. Applied Physics Letters, 2008, 92, .	1.5	37
45	Stackable All-Oxide-Based Nonvolatile Memory With $ hbox{Al}_{2}hbox{O}_{3}$ Antifuse and $hbox{p-CuO}_{x}/ hbox{n-InZnO}_{x}$ Diode. IEEE Electron Device Letters, 2009, 30, 550-552.	2.2	36
46	Study of Transport and Dielectric of Resistive Memory States in NiO Thin Film. Japanese Journal of Applied Physics, 2005, 44, L1301-L1303.	0.8	35
47	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
48	Role of Hydrogen in Active Layer of Oxide-Semiconductor-Based Thin Film Transistors. Crystals, 2019, 9, 75.	1.0	32
49	Fractal Dimension of Conducting Paths in Nickel Oxide (NiO) Thin Films During Resistance Switching. IEEE Nanotechnology Magazine, 2010, 9, 131-133.	1.1	29
50	A Simple Device Unit Consisting of All NiO Storage and Switch Elements for Multilevel Terabit Nonvolatile Random Access Memory. ACS Applied Materials & Interfaces, 2011, 3, 4475-4479.	4.0	26
51	Reliable Multivalued Conductance States in TaO_x Memristors through Oxygen Plasma-Assisted Electrode Deposition with in Situ-Biased Conductance State Transmission Electron Microscopy Analysis. ACS Applied Materials & Interfaces, 2018, 10, 29757-29765.	4.0	26
52	Giant and Stable Conductivity Switching Behaviors in ZrO2Films Deposited by Pulsed Laser Depositions. Japanese Journal of Applied Physics, 2005, 44, L345-L347.	0.8	25
53	Vapor Transport Synthesis of Two-Dimensional SnS₂ Nanocrystals Using a SnS₂ Precursor Obtained from the Sulfurization of SnO₂. Crystal Growth and Design, 2016, 16, 3884-3889.	1.4	23
54	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

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55	Time-dependent current-voltage curves during the forming process in unipolar resistance switching. Applied Physics Letters, 2011, 98, .	1.5	21
56	Improved Resistive Switching Reliability in Graded NiO Multilayer for Resistive Nonvolatile Memory Devices. IEEE Electron Device Letters, 2010, 31, 725-727.	2.2	20
57	Multilevel resistance in ZnO nanowire memristors enabled by hydrogen annealing treatment. AIP Advances, 2016, 6, 125010.	0.6	19
58	Optical and photoelectric properties of Mn-doped ZnS thin film on a flexible indium-tin-oxide/polyethylene terephthalate substrate prepared by pulsed laser deposition. Optical Materials Express, 2016, 6, 2336.	1.6	19
59	Analysis of the hump phenomenon and needle defect states formed by driving stress in the oxide semiconductor. Scientific Reports, 2019, 9, 11977.	1.6	19
60	Three-Dimensional Integration Approach to High-Density Memory Devices. IEEE Transactions on Electron Devices, 2011, 58, 3820-3828.	1.6	18
61	Impact of transient currents caused by alternating drain stress in oxide semiconductors. Scientific Reports, 2017, 7, 9782.	1.6	17
62	Effects of a Load Resistor on Conducting Filament Characteristics and Unipolar Resistive Switching Behaviors in a Pt/NiO/Pt Structure. IEEE Electron Device Letters, 2012, 33, 881-883.	2.2	16
63	The role of contact resistance in GeTe and Ge2Sb2Te5 nanowire phase change memory reset switching current. Applied Physics Letters, 2015, 106, .	1.5	16
64	Interface sulfur passivation using H 2 S annealing for atomic-layer-deposited Al 2 O 3 films on an ultrathin-body In 0.53 Ga 0.47 As-on-insulator. Applied Surface Science, 2014, 315, 178-183.	3.1	15
65	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
66	Defect-induced degradation of rectification properties of aged Ptâ•n-InxZn1â”xOy Schottky diodes. Applied Physics Letters, 2008, 92, 233507.	1.5	14
67	Theoretical studies on distribution of resistances in multilevel bipolar oxide resistive memory by Monte Carlo method. Applied Physics Letters, 2013, 103, .	1.5	13
68	Properties of Nickel Oxide Films by DC Reactive Sputtering. Integrated Ferroelectrics, 2004, 68, 19-25.	0.3	12
69	Electron-blocking by the potential barrier originated from the asymmetrical local density of state in the oxide semiconductor. Scientific Reports, 2017, 7, 17963.	1.6	12
70	Effects of growth temperature on surface morphology of InP grown on patterned Si(0 0 1) substrates. Journal of Crystal Growth, 2015, 416, 113-117.	0.7	10
71	Drain-Induced Barrier Lowering in Oxide Semiconductor Thin-Film Transistors With Asymmetrical Local Density of States. IEEE Journal of the Electron Devices Society, 2018, 6, 830-834.	1.2	10
72	Synthesis of Bi₂Te₃ Single Crystals with Lateral Size up to Tens of Micrometers by Vapor Transport and Its Potential for Thermoelectric Applications. Crystal Growth and Design, 2019, 19, 2024-2029.	1.4	10

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73	Multilevel Programmable Oxide Diode for Cross-Point Memory by Electrical-Pulse-Induced Resistance Change. IEEE Electron Device Letters, 2009, 30, 1036-1038.	2.2	9
74	A Hybrid Gate Dielectrics of Ion Gel with Ultra-Thin Passivation Layer for High-Performance Transistors Based on Two-Dimensional Semiconductor Channels. Scientific Reports, 2017, 7, 14194.	1.6	9
75	Schottky barrier contrasts in single and bi-layer graphene contacts for MoS2 field-effect transistors. Applied Physics Letters, 2015, 107, .	1.5	8
76	The Dielectric Properties of Pb0.65Ba0.35ZrO3 Thin Films Applicable to Microwave Tunable Devices. Integrated Ferroelectrics, 2004, 66, 205-211.	0.3	7
77	High-Speed and Low-Temperature Atmospheric Photo-Annealing of Large-Area Solution-Processed IGZO Thin-Film Transistors by Using Programmable Pulsed Operation of Xenon Flash Lamp. Journal of the Korean Physical Society, 2019, 74, 1052-1058.	0.3	6
78	Investigation for Resistive Switching by Controlling Overflow Current in Resistance Change Nonvolatile Memory. IEEE Nanotechnology Magazine, 2012, 11, 1122-1125.	1.1	5
79	Interpretation of set and reset switching in nickel oxide thin films. Applied Physics Letters, 2014, 104, .	1.5	5
80	Improved Distribution of Resistance Switching Through Localized Ti-Doped NiO Layer With InZnO_x/CuO_x Oxide Diode. IEEE Journal of the Electron Devices Society, 2018, 6, 905-909.	1.2	5
81	Fabication of one-diode-one-resistor memory cell structure of Pt/CuO/Pt/TiN/Pt/CuO/InZnOx/Pt and the effect of TiN layer on the improved resistance switching characteristics. Thin Solid Films, 2012, 520, 2272-2277.	0.8	4
82	Photo-thermoelectric properties of SnS nanocrystals with orthorhombic layered structure. Applied Physics Letters, 2017, 111, 013104.	1.5	4
83	Emerging Oxide Resistance Change Memories. , 2014, , 195-218.		3
84	Non-equilibrium chiral domain wall dynamics excited by transverse magnetic field pulses. Journal of Physics Condensed Matter, 2021, 33, 015803.	0.7	3
85	Comparative Study of SnSe₂ Exfoliation and the Photothermal Current from the Products. Crystal Growth and Design, 2021, 21, 6648-6654.	1.4	3
86	Photocurrent response in few-layered ReS2 devices with short and open circuits. Journal of the Korean Physical Society, 2022, 80, 53-58.	0.3	3
87	Parasitic Current Induced by Gate Overlap in Thin-Film Transistors. Materials, 2021, 14, 2299.	1.3	0