

Seyoung Kim

List of Publications by Year in descending order

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38
papers

12,675
citations

430754

18
h-index

501076

28
g-index

39
all docs

39
docs citations

39
times ranked

17805
citing authors

#	ARTICLE	IF	CITATIONS
1	Large-Area Synthesis of High-Quality and Uniform Graphene Films on Copper Foils. <i>Science</i> , 2009, 324, 1312-1314.	6.0	10,000
2	Realization of a high mobility dual-gated graphene field-effect transistor with Al ₂ O ₃ dielectric. <i>Applied Physics Letters</i> , 2009, 94, .	1.5	827
3	Neuromorphic computing using non-volatile memory. <i>Advances in Physics: X</i> , 2017, 2, 89-124.	1.5	629
4	Coulomb drag of massless fermions in graphene. <i>Physical Review B</i> , 2011, 83, .	1.1	165
5	Alloying conducting channels for reliable neuromorphic computing. <i>Nature Nanotechnology</i> , 2020, 15, 574-579.	15.6	160
6	Dielectric thickness dependence of carrier mobility in graphene with HfO ₂ top dielectric. <i>Applied Physics Letters</i> , 2010, 97, .	1.5	97
7	ECRAM as Scalable Synaptic Cell for High-Speed, Low-Power Neuromorphic Computing. , 2018, , .		94
8	Direct Measurement of the Fermi Energy in Graphene Using a Double-Layer Heterostructure. <i>Physical Review Letters</i> , 2012, 108, 116404.	2.9	77
9	Graphene for CMOS and Beyond CMOS Applications. <i>Proceedings of the IEEE</i> , 2010, 98, 2032-2046.	16.4	73
10	Low-Frequency Acoustic Phonon Temperature Distribution in Electrically Biased Graphene. <i>Nano Letters</i> , 2011, 11, 85-90.	4.5	63
11	Coulomb drag and magnetotransport in graphene double layers. <i>Solid State Communications</i> , 2012, 152, 1283-1288.	0.9	56
12	Spin-Polarized to Valley-Polarized Transition in Graphene Bilayers at $\frac{1}{2}$ in High Magnetic Fields. <i>Physical Review Letters</i> , 2011, 107, 016803.	2.9	50
13	Quantum Hall effect in Bernal stacked and twisted bilayer graphene grown on Cu by chemical vapor deposition. <i>Physical Review B</i> , 2012, 85, .	1.1	48
14	Metal-oxide based, CMOS-compatible ECRAM for Deep Learning Accelerator. , 2019, , .		48
15	Magnetotransport Properties of Quasi-Free-Standing Epitaxial Graphene Bilayer on SiC: Evidence for Bernal Stacking. <i>Nano Letters</i> , 2011, 11, 3624-3628.	4.5	39
16	Analog CMOS-based resistive processing unit for deep neural network training. , 2017, , .		39
17	Unveiling the carrier transport mechanism in epitaxial graphene for forming wafer-scale, single-domain graphene. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 4082-4086.	3.3	34
18	Improvement of Synaptic Properties in Oxygen-Based Synaptic Transistors Due to the Accelerated Ion Migration in Sub-Stoichiometric Channels. <i>Advanced Electronic Materials</i> , 2021, 7, 2100219.	2.6	24

#	ARTICLE	IF	CITATIONS
19	Pr _{0.7} Ca _{0.3} MnO ₃ -Based Three-Terminal Synapse for Neuromorphic Computing. IEEE Electron Device Letters, 2020, 41, 1500-1503.	2.2	21
20	Elucidating Ionic Programming Dynamics of Metal-Oxide Electrochemical Memory for Neuromorphic Computing. Advanced Electronic Materials, 2021, 7, 2100185.	2.6	20
21	Impact of electrolyte density on synaptic characteristics of oxygen-based ionic synaptic transistor. Applied Physics Letters, 2021, 119, .	1.5	18
22	Reliability Challenges with Materials for Analog Computing. , 2019, , .		14
23	Impact of Asymmetric Weight Update on Neural Network Training With Tiki-Taka Algorithm. Frontiers in Neuroscience, 2021, 15, 767953.	1.4	12
24	Neural Network Training With Asymmetric Crosspoint Elements. Frontiers in Artificial Intelligence, 2022, 5, .	2.0	9
25	Experimental measurement of ungated channel region conductance in a multi-terminal, metal oxide-based ECRAM. Semiconductor Science and Technology, 2021, 36, 114002.	1.0	8
26	Temperature-dependent studies of the electrical properties and the conduction mechanism of HfOx-based RRAM. , 2014, , .		7
27	Improved Pattern Recognition Accuracy of Hardware Neural Network: Deactivating Short Failed Synapse Device by Adopting Ovonic Threshold Switching (OTS)-Based Fuse Device. IEEE Electron Device Letters, 2020, 41, 1436-1439.	2.2	7
28	Impact of Operating Temperature on Pattern Recognition Accuracy of Resistive Array-Based Hardware Neural Networks. IEEE Electron Device Letters, 2021, 42, 763-766.	2.2	7
29	Mechanical properties of C-SiC composite materials fabricated by the Si-Cr alloy melt-infiltration method. Journal of Composite Materials, 2015, 49, 3057-3066.	1.2	6
30	Excellent Pattern Recognition Accuracy of Neural Networks Using Hybrid Synapses and Complementary Training. IEEE Electron Device Letters, 2021, 42, 609-612.	2.2	6
31	Improved On-chip Training Efficiency at Elevated Temperature and Excellent Inference Accuracy with Retention (> 10 ⁸ s) of Pr _{0.7} Ca _{0.3} MnO ₃ ECRAM Synapse Device for Hardware Neural Network. , 2021, , .		5
32	Gate capacitance scaling and graphene field-effect transistors with ultra-thin top-gate dielectrics. , 2011, , .		4
33	Analytical thermal noise model suitable for circuit design using short-channel MOSFETs. , 0, , .		2
34	Neural Network Training Acceleration With RRAM-Based Hybrid Synapses. Frontiers in Neuroscience, 2021, 15, 690418.	1.4	2
35	Hardware and Software Co-optimization for the Initialization Failure of the ReRAM-based Cross-bar Array. ACM Journal on Emerging Technologies in Computing Systems, 2020, 16, 1-19.	1.8	1
36	High-k Dielectrics for Ge, III-V and Graphene MOSFETs. ECS Transactions, 2009, 25, 285-299.	0.3	0

#	ARTICLE	IF	CITATIONS
37	Thickness dependence of carrier mobility in mono- and bi-layer graphene with HfO ₂ gate dielectric. , 2010, , .		0
38	Integrate-and-Fire Neuron With Li-Based Electrochemical Random Access Memory Using Native Linear Current Integration Characteristics. IEEE Transactions on Electron Devices, 2022, 69, 4889-4893.	1.6	0