

Seung-Hyub Baek

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122
ext. papers

6,096
ext. citations

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L-index

#	Paper	IF	Citations
117	Electrical control of antiferromagnetic domains in multiferroic BiFeO ₃ films at room temperature. <i>Nature Materials</i> , 2006 , 5, 823-9	27	1054
116	Spontaneous vortex nanodomain arrays at ferroelectric heterointerfaces. <i>Nano Letters</i> , 2011 , 11, 828-34	11.5	365
115	Ferroelastic switching for nanoscale non-volatile magnetoelectric devices. <i>Nature Materials</i> , 2010 , 9, 309-14	27	344
114	Giant piezoelectricity on Si for hyperactive MEMS. <i>Science</i> , 2011 , 334, 958-61	33.3	319
113	Domain dynamics during ferroelectric switching. <i>Science</i> , 2011 , 334, 968-71	33.3	277
112	Domain Engineering for Enhanced Ferroelectric Properties of Epitaxial (001) BiFeO Thin Films. <i>Advanced Materials</i> , 2009 , 21, 817-823	24	251
111	Thick lead-free ferroelectric films with high Curie temperatures through nanocomposite-induced strain. <i>Nature Nanotechnology</i> , 2011 , 6, 491-5	28.7	191
110	Revealing the role of defects in ferroelectric switching with atomic resolution. <i>Nature Communications</i> , 2011 , 2, 591	17.4	184
109	Template engineering of Co-doped BaFe ₂ As ₂ single-crystal thin films. <i>Nature Materials</i> , 2010 , 9, 397-402	27	173
108	High output piezo/triboelectric hybrid generator. <i>Scientific Reports</i> , 2015 , 5, 9309	4.9	170
107	Atomic-scale mechanisms of ferroelastic domain-wall-mediated ferroelectric switching. <i>Nature Communications</i> , 2013 , 4,	17.4	128
106	Powerful curved piezoelectric generator for wearable applications. <i>Nano Energy</i> , 2015 , 13, 174-181	17.1	120
105	The nature of polarization fatigue in BiFeO ₃ . <i>Advanced Materials</i> , 2011 , 23, 1621-5	24	117
104	Wafer-scale growth of MoS ₂ thin films by atomic layer deposition. <i>Nanoscale</i> , 2016 , 8, 10792-8	7.7	111
103	Ferroelastic domain switching dynamics under electrical and mechanical excitations. <i>Nature Communications</i> , 2014 , 5, 3801	17.4	110
102	Epitaxial integration of perovskite-based multifunctional oxides on silicon. <i>Acta Materialia</i> , 2013 , 61, 2734-2750	8.4	85
101	A highly-efficient, concentrating-photovoltaic/thermoelectric hybrid generator. <i>Nano Energy</i> , 2017 , 37, 242-247	17.1	70

100	Phase-transition temperatures of strained single-crystal SrRuO ₃ thin films. <i>Advanced Materials</i> , 2010 , 22, 759-62	24	70
99	Active control of ferroelectric switching using defect-dipole engineering. <i>Advanced Materials</i> , 2012 , 24, 6490-5	24	62
98	Fabrication of high-performance p-type thin film transistors using atomic-layer-deposited SnO films. <i>Journal of Materials Chemistry C</i> , 2017 , 5, 3139-3145	7.1	53
97	Metallicity in LaTiO ₃ thin films induced by lattice deformation. <i>Physical Review B</i> , 2010 , 81,	3.3	50
96	Synthesis of SnS Thin Films by Atomic Layer Deposition at Low Temperatures. <i>Chemistry of Materials</i> , 2017 , 29, 8100-8110	9.6	49
95	Direct observations of retention failure in ferroelectric memories. <i>Advanced Materials</i> , 2012 , 24, 1106-1024	24	47
94	Giant piezoelectricity in PMN-PT thin films: Beyond PZT. <i>MRS Bulletin</i> , 2012 , 37, 1022-1029	3.2	47
93	Non-volatile control of 2DEG conductivity at oxide interfaces. <i>Advanced Materials</i> , 2013 , 25, 4612-7	24	44
92	Free-electron creation at the 60° twin boundary in Bi ₂ Te ₃ . <i>Nature Communications</i> , 2016 , 7, 12449	17.4	43
91	Precision Interface Engineering of an Atomic Layer in Bulk BiTe Alloys for High Thermoelectric Performance. <i>ACS Nano</i> , 2019 , 13, 7146-7154	16.7	41
90	All villi-like metal oxide nanostructures-based chemiresistive electronic nose for an exhaled breath analyzer. <i>Sensors and Actuators B: Chemical</i> , 2018 , 257, 295-302	8.5	40
89	Self-assembled oxide nanopillars in epitaxial BaFe ₂ As ₂ thin films for vortex pinning. <i>Applied Physics Letters</i> , 2011 , 98, 042509	3.4	40
88	Continuous Control of Charge Transport in Bi-Deficient BiFeO ₃ Films Through Local Ferroelectric Switching. <i>Advanced Functional Materials</i> , 2012 , 22, 4962-4968	15.6	36
87	Laser-irradiated inclined metal nanocolumns for selective, scalable, and room-temperature synthesis of plasmonic isotropic nanospheres. <i>Journal of Materials Chemistry C</i> , 2018 , 6, 6038-6045	7.1	31
86	Growth and thermoelectric properties of Bi ₂ Te ₃ films deposited by modified MOCVD. <i>Journal of Crystal Growth</i> , 2012 , 346, 17-21	1.6	29
85	Structural approaches for enhancing output power of piezoelectric polyvinylidene fluoride generator. <i>Nano Energy</i> , 2016 , 22, 514-523	17.1	28
84	SnO ₂ thin films grown by atomic layer deposition using a novel Sn precursor. <i>Applied Surface Science</i> , 2014 , 320, 188-194	6.7	28
83	Nonlocal Spin Diffusion Driven by Giant Spin Hall Effect at Oxide Heterointerfaces. <i>Nano Letters</i> , 2017 , 17, 36-43	11.5	26

82	Gate-tunable giant nonreciprocal charge transport in noncentrosymmetric oxide interfaces. <i>Nature Communications</i> , 2019 , 10, 4510	17.4	23
81	Effect of spark plasma sintering conditions on the thermoelectric properties of (Bi _{0.25} Sb _{0.75}) ₂ Te ₃ alloys. <i>Journal of Alloys and Compounds</i> , 2016 , 678, 396-402	5.7	23
80	Design and Experimental Investigation of Thermoelectric Generators for Wearable Applications. <i>Advanced Materials Technologies</i> , 2017 , 2, 1600292	6.8	22
79	Low-temperature wafer-scale synthesis of two-dimensional SnS. <i>Nanoscale</i> , 2018 , 10, 17712-17721	7.7	21
78	Structural consequences of ferroelectric nanolithography. <i>Nano Letters</i> , 2011 , 11, 3080-4	11.5	21
77	Tailoring the domain structure of epitaxial BiFeO ₃ thin films. <i>Current Opinion in Solid State and Materials Science</i> , 2014 , 18, 39-45	12	20
76	Control of the initial growth in atomic layer deposition of Pt films by surface pretreatment. <i>Nanotechnology</i> , 2015 , 26, 304003	3.4	19
75	Enhancement of Mechanical Hardness in SnOxNy with a Dense High-Pressure Cubic Phase of SnO ₂ . <i>Chemistry of Materials</i> , 2016 , 28, 7051-7057	9.6	18
74	Enhanced piezoelectric properties of vertically aligned single-crystalline NKN nano-rod arrays. <i>Scientific Reports</i> , 2015 , 5, 10151	4.9	17
73	Hardening of BiTe based alloys by dispersing B ₄ C nanoparticles. <i>Acta Materialia</i> , 2015 , 97, 68-74	8.4	17
72	Impurity-free, mechanical doping for the reproducible fabrication of the reliable n-type Bi ₂ Te ₃ -based thermoelectric alloys. <i>Acta Materialia</i> , 2018 , 150, 153-160	8.4	16
71	Impact of parasitic thermal effects on thermoelectric property measurements by Harman method. <i>Review of Scientific Instruments</i> , 2014 , 85, 045108	1.7	16
70	Dramatic enhancement of the saturation magnetization of a sol-gel synthesized Y ₃ Fe ₅ O ₁₂ by a mechanical pressing process. <i>Journal of Alloys and Compounds</i> , 2017 , 711, 693-697	5.7	15
69	Sn doping in thermoelectric Bi ₂ Te ₃ films by metal-organic chemical vapor deposition. <i>Applied Surface Science</i> , 2015 , 353, 232-237	6.7	15
68	Interface Engineering for Extremely Large Grains in Explosively Crystallized TiO ₂ Films Grown by Low-Temperature Atomic Layer Deposition. <i>Chemistry of Materials</i> , 2017 , 29, 2046-2054	9.6	14
67	Domain engineering in BiFeO ₃ thin films. <i>Current Applied Physics</i> , 2017 , 17, 688-703	2.6	14
66	Thermoelectric Properties of Indium-Selenium Nanocomposites Prepared by Mechanical Alloying and Spark Plasma Sintering. <i>Journal of Electronic Materials</i> , 2012 , 41, 1354-1359	1.9	14
65	Harman Measurements for Thermoelectric Materials and Modules under Non-Adiabatic Conditions. <i>Scientific Reports</i> , 2016 , 6, 39131	4.9	14

64	Effect of Heat Treatment on the Thermoelectric Properties of Bismuth-Antimony-Telluride Prepared by Mechanical Deformation and Mechanical Alloying. <i>Journal of Electronic Materials</i> , 2014 , 43, 2255-2261	1.9	13
63	Tunable conductivity at LaAlO ₃ /Sr _x Ca _{1-x} TiO ₃ (0 ≤ x ≤ 1) heterointerfaces. <i>Applied Physics Letters</i> , 2013 , 102, 012903	3.4	13
62	Nonlinearity in the high-electric-field piezoelectricity of epitaxial BiFeO ₃ on SrTiO ₃ . <i>Applied Physics Letters</i> , 2012 , 100, 062906	3.4	13
61	Full range dielectric characteristics of calcium copper titanate thin films prepared by continuous composition-spread sputtering. <i>ACS Combinatorial Science</i> , 2014 , 16, 478-84	3.9	12
60	Enhancement of Initial Growth of ZnO Films on Layer-Structured Bi ₂ Te ₃ by Atomic Layer Deposition. <i>Chemistry of Materials</i> , 2014 , 26, 6448-6453	9.6	12
59	Wafer-Scale, Conformal, and Low-Temperature Synthesis of Layered Tin Disulfides for Emerging Nonplanar and Flexible Electronics. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 2679-2686	9.5	12
58	Electric-field-induced shift in the threshold voltage in LaAlO ₃ /SrTiO ₃ heterostructures. <i>Scientific Reports</i> , 2015 , 5, 8023	4.9	11
57	Comprehensive study on critical role of surface oxygen vacancies for 2DEG formation and annihilation in LaAlO ₃ /SrTiO ₃ heterointerfaces. <i>Electronic Materials Letters</i> , 2016 , 12, 243-250	2.9	10
56	Dynamic temperature response of electrocaloric multilayer capacitors. <i>Applied Physics Letters</i> , 2014 , 104, 213902	3.4	10
55	Anisotropic relaxation and crystallographic tilt in BiFeO ₃ on miscut SrTiO ₃ (001). <i>Applied Physics Letters</i> , 2010 , 96, 051901	3.4	10
54	Correction of the Electrical and Thermal Extrinsic Effects in Thermoelectric Measurements by the Harman Method. <i>Scientific Reports</i> , 2016 , 6, 26507	4.9	9
53	Thickness-Dependent Electrocaloric Effect in Pb _{0.9} La _{0.1} Zr _{0.65} Ti _{0.35} O ₃ Films Grown by Sol-Gel Process. <i>Journal of Electronic Materials</i> , 2016 , 45, 1057-1064	1.9	9
52	Texture-induced reduction in electrical resistivity of p-type (Bi,Sb) ₂ Te ₃ by a hot extrusion. <i>Journal of Alloys and Compounds</i> , 2018 , 764, 261-266	5.7	9
51	Strain-assisted, low-temperature synthesis of high-performance thermoelectric materials. <i>Physical Chemistry Chemical Physics</i> , 2014 , 16, 3529-33	3.6	9
50	Giant Electroresistive Ferroelectric Diode on 2DEG. <i>Scientific Reports</i> , 2015 , 5, 10548	4.9	9
49	Thermopower Enhancement of Bi ₂ Te ₃ Films by Doping I Ions. <i>Journal of Electronic Materials</i> , 2014 , 43, 2000-2005	1.9	9
48	Mechanically Robust, Stretchable Solar Absorbers with Submicron-Thick Multilayer Sheets for Wearable and Energy Applications. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 18061-18068	9.5	8
47	Orientation-Controlled Growth of Pt Films on SrTiO ₃ (001) by Atomic Layer Deposition. <i>Chemistry of Materials</i> , 2015 , 27, 6779-6783	9.6	8

46	Electron beam induced epitaxial crystallization in a conducting and insulating a-LaAlO ₃ /SrTiO ₃ system. <i>RSC Advances</i> , 2017 , 7, 40279-40285	3.7	8
45	Effect of Sn Doping on the Thermoelectric Properties of n-type Bi ₂ (Te,Se) ₃ Alloys. <i>Journal of Electronic Materials</i> , 2015 , 44, 1926-1930	1.9	7
44	Large linear magnetoresistance in heavily-doped Nb:SrTiO epitaxial thin films. <i>Scientific Reports</i> , 2016 , 6, 34295	4.9	7
43	Capacitance-voltage analysis of LaAlO ₃ /SrTiO ₃ heterostructures. <i>Applied Physics Letters</i> , 2013 , 102, 112906	3.4	7
42	Symmetry-dependent interfacial reconstruction to compensate polar discontinuity at perovskite oxide interfaces (LaAlO ₃ /SrTiO ₃ and LaAlO ₃ /CaTiO ₃). <i>Applied Physics Letters</i> , 2015 , 106, 071601	3.4	6
41	Growth Enhancement and Nitrogen Loss in ZnOxNy Low-Temperature Atomic Layer Deposition with NH ₃ . <i>Journal of Physical Chemistry C</i> , 2015 , 119, 23470-23477	3.8	6
40	Carrier Modulation in Bi ₂ Te ₃ -Based Alloys via Interfacial Doping with Atomic Layer Deposition. <i>Coatings</i> , 2020 , 10, 572	2.9	6
39	Atomic layer deposition of SnO ₂ thin films using tetraethyltin and H ₂ O ₂ . <i>Ceramics International</i> , 2019 , 45, 20600-20605	5.1	6
38	Composition-Dependent Thermoelectric Properties of n-Type Bi ₂ Te _{2.7} Se _{0.3} Doped with In ₄ Se ₃ . <i>Journal of Electronic Materials</i> , 2013 , 42, 2178-2183	1.9	6
37	Wide-temperature (up to 100°C) operation of thermostable vanadium oxide based microbolometers with Ti/MgF ₂ infrared absorbing layer for long wavelength infrared (LWIR) detection. <i>Applied Surface Science</i> , 2021 , 547, 149142	6.7	6
36	Li alloy-based non-volatile actuators. <i>Nano Energy</i> , 2019 , 57, 653-659	17.1	6
35	Mapping thermoelectric properties of polycrystalline n-type Bi ₂ Te _{3-x} Se _x alloys by composition and doping level. <i>Journal of Alloys and Compounds</i> , 2020 , 844, 155828	5.7	5
34	A two-step synthesis process of thermoelectric alloys for the separate control of carrier density and mobility. <i>Journal of Alloys and Compounds</i> , 2017 , 727, 191-195	5.7	5
33	Twin wall distortions through structural investigation of epitaxial BiFeO ₃ thin films. <i>Journal of Materials Research</i> , 2011 , 26, 2844-2853	2.5	5
32	Enhanced thermal stability of Bi ₂ Te ₃ -based alloys via interface engineering with atomic layer deposition. <i>Journal of the European Ceramic Society</i> , 2020 , 40, 3592-3599	6	5
31	Combined hot extrusion and spark plasma sintering method for producing highly textured thermoelectric Bi ₂ Te ₃ alloys. <i>Journal of the European Ceramic Society</i> , 2020 , 40, 3042-3048	6	4
30	Direct Growth of Ferroelectric Oxide Thin Films on Polymers through Laser-Induced Low-Temperature Liquid-Phase Crystallization. <i>Chemistry of Materials</i> , 2020 , 32, 6483-6493	9.6	4
29	Selective growth and texturing of VO ₂ (B) thin films for high-temperature microbolometers. <i>Journal of the European Ceramic Society</i> , 2020 , 40, 5582-5588	6	4

28	3D architectures of single-crystalline complex oxides. <i>Materials Horizons</i> , 2020 , 7, 1552-1557	14.4	4
27	Thermoelectric Properties of Highly Deformed and Subsequently Annealed p-Type (Bi _{0.25} Sb _{0.75}) ₂ Te ₃ Alloys. <i>Journal of Electronic Materials</i> , 2014 , 43, 1726-1732	1.9	4
26	Influence of gas ambient on charge writing at the LaAlO ₃ /SrTiO ₃ heterointerface. <i>ACS Applied Materials & Interfaces</i> , 2014 , 6, 14037-42	9.5	4
25	Origin of insulating weak-ferromagnetic phase in ultra-thin La _{0.67} Sr _{0.33} MnO ₃ films on SrTiO ₃ substrate. <i>AIP Advances</i> , 2017 , 7, 085224	1.5	4
24	A differential method for measuring cooling performance of a thermoelectric module. <i>Applied Thermal Engineering</i> , 2015 , 87, 209-213	5.8	3
23	Thermal stability of 2DEG at amorphous LaAlO ₃ /crystalline SrTiO ₃ heterointerfaces. <i>Nano Convergence</i> , 2016 , 3, 7	9.2	3
22	Epitaxial growth of CdTe films on GaAs-buffered (001) Si substrates by metal organic chemical vapor deposition. <i>Materials Letters</i> , 2012 , 87, 139-141	3.3	3
21	Three-Dimensional Bi ₂ Te ₃ Nanocrystallites Embedded in 2D Bi ₂ Te ₃ Films Grown by MOCVD. <i>Journal of Electronic Materials</i> , 2012 , 41, 1237-1241	1.9	3
20	Substrate Surface Modification for Enlarging Two-Dimensional SnS Grains at Low Temperatures. <i>Chemistry of Materials</i> , 2020 , 32, 9026-9033	9.6	3
19	Probing surface electronic properties of a patterned conductive STO by reactive ion etching. <i>Applied Surface Science</i> , 2019 , 466, 730-736	6.7	3
18	Optical investigation of the metal-insulator transition in the manganite films with the thickness dependence. <i>Current Applied Physics</i> , 2019 , 19, 1019-1023	2.6	2
17	Thermoelectric Properties of Sn-Doped Bi _{0.4} Sb _{1.6} Te ₃ Thin Films. <i>Journal of Electronic Materials</i> , 2015 , 44, 1573-1578	1.9	2
16	Conductance Change Induced by the Rashba Effect in the LaAlO ₃ /SrTiO ₃ Interface. <i>Journal of Nanoscience and Nanotechnology</i> , 2015 , 15, 8632-6	1.3	2
15	Effect of Mechanical Deformation on Thermoelectric Properties of p-Type (Bi _{0.225} Sb _{0.775}) ₂ Te ₃ Alloys. <i>Journal of Nanomaterials</i> , 2013 , 2013, 1-6	3.2	2
14	Domain engineering of epitaxial (001) Bi ₂ Te ₃ thin films by miscut GaAs substrate. <i>Acta Materialia</i> , 2020 , 197, 309-315	8.4	2
13	Impedance-based interfacial analysis of the LaAlO ₃ /SrTiO ₃ oxide heterostructure involving a 2-dimensional electron gas layer. <i>Journal of Physics and Chemistry of Solids</i> , 2015 , 82, 60-66	3.9	1
12	A possible superconductor-like state at elevated temperatures near metal electrodes in an LaAlO ₃ /SrTiO ₃ interface. <i>Scientific Reports</i> , 2018 , 8, 11558	4.9	1
11	Nonvolatile resistance switching on two-dimensional electron gas. <i>ACS Applied Materials & Interfaces</i> , 2014 , 6, 17785-91	9.5	1

10	A Structural Investigation of CdTe(001) Thin Films on GaAs/Si(001) Substrates by High-Resolution Electron Microscopy. <i>Journal of Electronic Materials</i> , 2012 , 41, 2795-2798	1.9	1
9	Study of Rashba Spin-Orbit Field at LaAlO ₃ /SrTiO ₃ Heterointerfaces. <i>Journal of Electronic Materials</i> , 2019 , 48, 1347-1352	1.9	1
8	A novel class of oxynitrides stabilized by nitrogen dimer formation. <i>Scientific Reports</i> , 2018 , 8, 14471	4.9	1
7	Atomically sculptured heart in oxide film using convergent electron beam. <i>Applied Microscopy</i> , 2021 , 51, 1	1.1	0
6	Hot rolling process for texture development and grain refinement of n-type Bi ₂ Te ₃ alloys. <i>Materials Letters</i> , 2021 , 301, 130278	3.3	0
5	Oxidation of thermoelectric Bi ₂ Te ₃ -based alloys by atomic layer deposition of Ru metal. <i>Materials Letters</i> , 2022 , 320, 132321	3.3	0
4	Impedance-based interpretations in 2-dimensional electron gas conduction formed in the LaAlO ₃ /Sr _x Ca _{1-x} TiO ₃ /SrTiO ₃ system. <i>Journal of Physics and Chemistry of Solids</i> , 2016 , 93, 131-136	3.9	
3	Atomic and Electronic Reconstruction at the α -LAO/STO Interface by E-Beam Induced Crystallization. <i>Microscopy and Microanalysis</i> , 2019 , 25, 1894-1895	0.5	
2	Interface Effects on Static and Dynamic Properties of Multiferroic BiFeO ₃ . <i>Microscopy and Microanalysis</i> , 2012 , 18, 320-321	0.5	
1	Direct Observations of Retention Failure in Ferroelectric Memories by in situ Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2012 , 18, 1846-1847	0.5	