Seung-Hyub Baek

List of Publications by Year in Descending Order

117 papers	5,493 citations	31 h-index	73 g-index
122 ext. papers	6,096 ext. citations	8.3 avg, IF	5.11 L-index

#	Paper	IF	Citations
117	Oxidation of thermoelectric Bi2Te3-based alloys by atomic layer deposition of Ru metal. *Materials Letters*, **2022**, 320, 132321	3.3	0
116	Wide-temperature (up to 100℃) operation of thermostable vanadium oxide based microbolometers with Ti/MgF2 infrared absorbing layer for long wavelength infrared (LWIR) detection. *Applied Surface Science*, **2021**, 547, 149142	6.7	6
115	Atomically sculptured heart in oxide film using convergent electron beam. *Applied Microscopy*, **2021**, 51, 1	1.1	0
114	Hot rolling process for texture development and grain refinement of n-type Bi2Te3 alloys. *Materials Letters*, **2021**, 301, 130278	3.3	0
113	Combined hot extrusion and spark plasma sintering method for producing highly textured thermoelectric Bi2Te3 alloys. *Journal of the European Ceramic Society*, **2020**, 40, 3042-3048	6	4
112	Direct Growth of Ferroelectric Oxide Thin Films on Polymers through Laser-Induced Low-Temperature Liquid-Phase Crystallization. *Chemistry of Materials*, **2020**, 32, 6483-6493	9.6	4
111	Carrier Modulation in Bi2Te3-Based Alloys via Interfacial Doping with Atomic Layer Deposition. *Coatings*, **2020**, 10, 572	2.9	6
110	Selective growth and texturing of VO2(B) thin films for high-temperature microbolometers. *Journal of the European Ceramic Society*, **2020**, 40, 5582-5588	6	4
109	Mapping thermoelectric properties of polycrystalline n-type Bi2Te3-xSex alloys by composition and doping level. *Journal of Alloys and Compounds*, **2020**, 844, 155828	5.7	5
108	3D architectures of single-crystalline complex oxides. *Materials Horizons*, **2020**, 7, 1552-1557	14.4	4
107	Wafer-Scale, Conformal, and Low-Temperature Synthesis of Layered Tin Disulfides for Emerging Nonplanar and Flexible Electronics. *ACS Applied Materials & Interfaces*, **2020**, 12, 2679-2686	9.5	12
106	Substrate Surface Modification for Enlarging Two-Dimensional SnS Grains at Low Temperatures. *Chemistry of Materials*, **2020**, 32, 9026-9033	9.6	3
105	Domain engineering of epitaxial (001) Bi2Te3 thin films by miscut GaAs substrate. *Acta Materialia*, **2020**, 197, 309-315	8.4	2
104	Enhanced thermal stability of Bi2Te3-based alloys via interface engineering with atomic layer deposition. *Journal of the European Ceramic Society*, **2020**, 40, 3592-3599	6	5
103	Gate-tunable giant nonreciprocal charge transport in noncentrosymmetric oxide interfaces. *Nature Communications*, **2019**, 10, 4510	17.4	23
102	Precision Interface Engineering of an Atomic Layer in Bulk BiTe Alloys for High Thermoelectric Performance. *ACS Nano*, **2019**, 13, 7146-7154	16.7	41
101	Optical investigation of the metal-insulator transition in the manganite films with the thickness dependence. *Current Applied Physics*, **2019**, 19, 1019-1023	2.6	2

100	Atomic layer deposition of SnO2 thin films using tetraethyltin and H2O2. *Ceramics International*, **2019**, 45, 20600-20605	5.1	6
99	Atomic and Electronic Reconstruction at the a-LAO/STO Interface by E-Beam Induced Crystallization. *Microscopy and Microanalysis*, **2019**, 25, 1894-1895	0.5	
98	Li alloy-based non-volatile actuators. *Nano Energy*, **2019**, 57, 653-659	17.1	6
97	Probing surface electronic properties of a patterned conductive STO by reactive ion etching. *Applied Surface Science*, **2019**, 466, 730-736	6.7	3
96	Study of Rashba Spin□Orbit Field at LaAlO3/SrTiO3 Heterointerfaces. *Journal of Electronic Materials* , **2019**, 48, 1347-1352	1.9	1
95	Impurity-free, mechanical doping for the reproducible fabrication of the reliable n-type Bi2Te3-based thermoelectric alloys. *Acta Materialia*, **2018**, 150, 153-160	8.4	16
94	All villi-like metal oxide nanostructures-based chemiresistive electronic nose for an exhaled breath analyzer. *Sensors and Actuators B: Chemical*, **2018**, 257, 295-302	8.5	40
93	Laser-irradiated inclined metal nanocolumns for selective, scalable, and room-temperature synthesis of plasmonic isotropic nanospheres. *Journal of Materials Chemistry C*, **2018**, 6, 6038-6045	7.1	31
92	A possible superconductor-like state at elevated temperatures near metal electrodes in an LaAlO/SrTiO interface. *Scientific Reports*, **2018**, 8, 11558	4.9	1
91	Low-temperature wafer-scale synthesis of two-dimensional SnS. *Nanoscale*, **2018**, 10, 17712-17721	7.7	21
90	Texture-induced reduction in electrical resistivity of p-type (Bi,Sb)2Te3 by a hot extrusion. *Journal of Alloys and Compounds*, **2018**, 764, 261-266	5.7	9
89	A novel class of oxynitrides stabilized by nitrogen dimer formation. *Scientific Reports*, **2018**, 8, 14471	4.9	1
88	Interface Engineering for Extremely Large Grains in Explosively Crystallized TiO2 Films Grown by Low-Temperature Atomic Layer Deposition. *Chemistry of Materials*, **2017**, 29, 2046-2054	9.6	14
87	Fabrication of high-performance p-type thin film transistors using atomic-layer-deposited SnO films. *Journal of Materials Chemistry C*, **2017**, 5, 3139-3145	7.1	53
86	Dramatic enhancement of the saturation magnetization of a sol-gel synthesized Y3Fe5O12 by a mechanical pressing process. *Journal of Alloys and Compounds*, **2017**, 711, 693-697	5.7	15
85	Design and Experimental Investigation of Thermoelectric Generators for Wearable Applications. *Advanced Materials Technologies*, **2017**, 2, 1600292	6.8	22
84	A highly-efficient, concentrating-photovoltaic/thermoelectric hybrid generator. *Nano Energy*, **2017**, 37, 242-247	17.1	70
83	Mechanically Robust, Stretchable Solar Absorbers with Submicron-Thick Multilayer Sheets for Wearable and Energy Applications. *ACS Applied Materials & Interfaces*, **2017**, 9, 18061-18068	9.5	8

82	Domain engineering in BiFeO3 thin films. *Current Applied Physics*, **2017**, 17, 688-703	2.6	14
81	Nonlocal Spin Diffusion Driven by Giant Spin Hall Effect at Oxide Heterointerfaces. *Nano Letters*, **2017**, 17, 36-43	11.5	26
80	Electron beam induced epitaxial crystallization in a conducting and insulating a-LaAlO3/SrTiO3 system. *RSC Advances*, **2017**, 7, 40279-40285	3.7	8
79	A two-step synthesis process of thermoelectric alloys for the separate control of carrier density and mobility. *Journal of Alloys and Compounds*, **2017**, 727, 191-195	5.7	5
78	Synthesis of SnS Thin Films by Atomic Layer Deposition at Low Temperatures. *Chemistry of Materials*, **2017**, 29, 8100-8110	9.6	49
77	Origin of insulating weak-ferromagnetic phase in ultra-thin La0.67Sr0.33MnO3 films on SrTiO3 substrate. *AIP Advances*, **2017**, 7, 085224	1.5	4
76	Correction of the Electrical and Thermal Extrinsic Effects in Thermoelectric Measurements by the Harman Method. *Scientific Reports*, **2016**, 6, 26507	4.9	9
75	Enhancement of Mechanical Hardness in SnOxNy with a Dense High-Pressure Cubic Phase of SnO2. *Chemistry of Materials*, **2016**, 28, 7051-7057	9.6	18
74	Free-electron creation at the 60° twin boundary in Bi2Te3. *Nature Communications*, **2016**, 7, 12449	17.4	43
73	Large linear magnetoresistance in heavily-doped Nb:SrTiO epitaxial thin films. *Scientific Reports*, **2016**, 6, 34295	4.9	7
72	Thermal stability of 2DEG at amorphous LaAlO/crystalline SrTiO heterointerfaces. *Nano Convergence*, **2016**, 3, 7	9.2	3
71	Impedance-based interpretations in 2-dimensional electron gas conduction formed in the LaAlO3/SrxCa1−xTiO3/SrTiO3 system. *Journal of Physics and Chemistry of Solids*, **2016**, 93, 131-136	3.9	
70	Comprehensive study on critical role of surface oxygen vacancies for 2DEG formation and annihilation in LaAlO3/SrTiO3 heterointerfaces. *Electronic Materials Letters*, **2016**, 12, 243-250	2.9	10
69	Structural approaches for enhancing output power of piezoelectric polyvinylidene fluoride generator. *Nano Energy*, **2016**, 22, 514-523	17.1	28
68	Thickness-Dependent Electrocaloric Effect in Pb0.9La0.1Zr0.65Ti0.35O3 Films Grown by Sol–Gel Process. *Journal of Electronic Materials*, **2016**, 45, 1057-1064	1.9	9
67	Harman Measurements for Thermoelectric Materials and Modules under Non-Adiabatic Conditions. *Scientific Reports*, **2016**, 6, 39131	4.9	14
66	Effect of spark plasma sintering conditions on the thermoelectric properties of (Bi0.25Sb0.75)2Te3 alloys. *Journal of Alloys and Compounds*, **2016**, 678, 396-402	5.7	23
65	Wafer-scale growth of MoS2 thin films by atomic layer deposition. *Nanoscale*, **2016**, 8, 10792-8	7.7	111

64	Powerful curved piezoelectric generator for wearable applications. *Nano Energy*, **2015**, 13, 174-181	17.1	120
63	Effect of Sn Doping on the Thermoelectric Properties of n-type Bi2(Te,Se)3 Alloys. *Journal of Electronic Materials*, **2015**, 44, 1926-1930	1.9	7
62	A differential method for measuring cooling performance of a thermoelectric module. *Applied Thermal Engineering*, **2015**, 87, 209-213	5.8	3
61	Sn doping in thermoelectric Bi2Te3 films by metal-organic chemical vapor deposition. *Applied Surface Science*, **2015**, 353, 232-237	6.7	15
60	High output piezo/triboelectric hybrid generator. *Scientific Reports*, **2015**, 5, 9309	4.9	170
59	Impedance-based interfacial analysis of the LaAlO3/SrTiO3 oxide heterostructure involving a 2-dimensional electron gas layer. *Journal of Physics and Chemistry of Solids*, **2015**, 82, 60-66	3.9	1
58	Thermoelectric Properties of Sn-Doped Bi0.4Sb1.6Te3 Thin Films. *Journal of Electronic Materials*, **2015**, 44, 1573-1578	1.9	2
57	Symmetry-dependent interfacial reconstruction to compensate polar discontinuity at perovskite oxide interfaces (LaAlO3/SrTiO3 and LaAlO3/CaTiO3). *Applied Physics Letters*, **2015**, 106, 071601	3.4	6
56	Growth Enhancement and Nitrogen Loss in ZnOxNy Low-Temperature Atomic Layer Deposition with NH3. *Journal of Physical Chemistry C*, **2015**, 119, 23470-23477	3.8	6
55	Control of the initial growth in atomic layer deposition of Pt films by surface pretreatment. *Nanotechnology*, **2015**, 26, 304003	3.4	19
54	Orientation-Controlled Growth of Pt Films on SrTiO3 (001) by Atomic Layer Deposition. *Chemistry of Materials*, **2015**, 27, 6779-6783	9.6	8
53	Enhanced piezoelectric properties of vertically aligned single-crystalline NKN nano-rod arrays. *Scientific Reports*, **2015**, 5, 10151	4.9	17
52	Giant Electroresistive Ferroelectric Diode on 2DEG. *Scientific Reports*, **2015**, 5, 10548	4.9	9
51	Hardening of Bi□e based alloys by dispersing B4C nanoparticles. *Acta Materialia*, **2015**, 97, 68-74	8.4	17
50	Conductance Change Induced by the Rashba Effect in the LaAlO3/SrTiO3 Interface. *Journal of Nanoscience and Nanotechnology*, **2015**, 15, 8632-6	1.3	2
49	Electric-field-induced shift in the threshold voltage in LaAlO3/SrTiO3 heterostructures. *Scientific Reports*, **2015**, 5, 8023	4.9	11
48	Tailoring the domain structure of epitaxial BiFeO3 thin films. *Current Opinion in Solid State and Materials Science*, **2014**, 18, 39-45	12	20
47	Ferroelastic domain switching dynamics under electrical and mechanical excitations. *Nature Communications*, **2014**, 5, 3801	17.4	110

46	Thermoelectric Properties of Highly Deformed and Subsequently Annealed p-Type (Bi0.25Sb0.75)2Te3 Alloys. *Journal of Electronic Materials*, **2014**, 43, 1726-1732	1.9	4
45	Strain-assisted, low-temperature synthesis of high-performance thermoelectric materials. *Physical Chemistry Chemical Physics*, **2014**, 16, 3529-33	3.6	9
44	Nonvolatile resistance switching on two-dimensional electron gas. *ACS Applied Materials & Interfaces*, **2014**, 6, 17785-91	9.5	1
43	Influence of gas ambient on charge writing at the LaAlO/SrTiO heterointerface. *ACS Applied Materials & Interfaces*, **2014**, 6, 14037-42	9.5	4
42	Impact of parasitic thermal effects on thermoelectric property measurements by Harman method. *Review of Scientific Instruments*, **2014**, 85, 045108	1.7	16
41	Effect of Heat Treatment on the Thermoelectric Properties of Bismuth Antimony Telluride Prepared by Mechanical Deformation and Mechanical Alloying. *Journal of Electronic Materials*, **2014**, 43, 2255-2261	1.9	13
40	SnO 2 thin films grown by atomic layer deposition using a novel Sn precursor. *Applied Surface Science*, **2014**, 320, 188-194	6.7	28
39	Full range dielectric characteristics of calcium copper titanate thin films prepared by continuous composition-spread sputtering. *ACS Combinatorial Science*, **2014**, 16, 478-84	3.9	12
38	Dynamic temperature response of electrocaloric multilayer capacitors. *Applied Physics Letters*, **2014** , 104, 213902	3.4	10
37	Enhancement of Initial Growth of ZnO Films on Layer-Structured Bi2Te3 by Atomic Layer Deposition. *Chemistry of Materials*, **2014**, 26, 6448-6453	9.6	12
36	Thermopower Enhancement of Bi2Te3 Films by Doping I Ions. *Journal of Electronic Materials*, **2014**, 43, 2000-2005	1.9	9
35	Non-volatile control of 2DEG conductivity at oxide interfaces. *Advanced Materials*, **2013**, 25, 4612-7	24	44
34	Composition-Dependent Thermoelectric Properties of n-Type Bi2Te2.7Se0.3 Doped with In4Se3. *Journal of Electronic Materials*, **2013**, 42, 2178-2183	1.9	6
33	Atomic-scale mechanisms of ferroelastic domain-wall-mediated ferroelectric switching. *Nature Communications*, **2013**, 4,	17.4	128
32	Tunable conductivity at LaAlO3/SrxCa1TiO3 (0 x 1) heterointerfaces. *Applied Physics Letters*, **2013**, 102, 012903	3.4	13
31	Epitaxial integration of perovskite-based multifunctional oxides on silicon. *Acta Materialia*, **2013**, 61, 2734-2750	8.4	85
30	Capacitance voltage analysis of LaAlO3/SrTiO3 heterostructures. *Applied Physics Letters*, **2013**, 102, 112906	3.4	7
29	Effect of Mechanical Deformation on Thermoelectric Properties of p-Type(Bi0.225Sb0.775)2Te3Alloys. *Journal of Nanomaterials*, **2013**, 2013, 1-6	3.2	2

28	Direct observations of retention failure in ferroelectric memories. *Advanced Materials*, **2012**, 24, 1106-10	24	47
27	Epitaxial growth of CdTe films on GaAs-buffered (001) Si substrates by metal organic chemical vapor deposition. *Materials Letters*, **2012**, 87, 139-141	3.3	3
26	Growth and thermoelectric properties of Bi2Te3 films deposited by modified MOCVD. *Journal of Crystal Growth*, **2012**, 346, 17-21	1.6	29
25	Giant piezoelectricity in PMN-PT thin films: Beyond PZT. *MRS Bulletin*, **2012**, 37, 1022-1029	3.2	47
24	A Structural Investigation of CdTe(001) Thin Films on GaAs/Si(001) Substrates by High-Resolution Electron Microscopy. *Journal of Electronic Materials*, **2012**, 41, 2795-2798	1.9	1
23	Nonlinearity in the high-electric-field piezoelectricity of epitaxial BiFeO3 on SrTiO3. *Applied Physics Letters*, **2012**, 100, 062906	3.4	13
22	Continuous Control of Charge Transport in Bi-Deficient BiFeO3 Films Through Local Ferroelectric Switching. *Advanced Functional Materials*, **2012**, 22, 4962-4968	15.6	36
21	Thermoelectric Properties of Indium-Selenium Nanocomposites Prepared by Mechanical Alloying and Spark Plasma Sintering. *Journal of Electronic Materials*, **2012**, 41, 1354-1359	1.9	14
20	Three-Dimensional Bi2Te3 Nanocrystallites Embedded in 2D Bi2Te3 Films Grown by MOCVD. *Journal of Electronic Materials*, **2012**, 41, 1237-1241	1.9	3
19	Active control of ferroelectric switching using defect-dipole engineering. *Advanced Materials*, **2012**, 24, 6490-5	24	62
18	Interface Effects on Static and Dynamic Properties of Multiferroic BiFeO3. *Microscopy and Microanalysis*, **2012**, 18, 320-321	0.5	
17	Direct Observations of Retention Failure in Ferroelectric Memories by in situ Transmission Electron Microscopy. *Microscopy and Microanalysis*, **2012**, 18, 1846-1847	0.5	
16	Domain dynamics during ferroelectric switching. *Science*, **2011**, 334, 968-71	33.3	277
15	Revealing the role of defects in ferroelectric switching with atomic resolution. *Nature Communications*, **2011**, 2, 591	17.4	184
14	Giant piezoelectricity on Si for hyperactive MEMS. *Science*, **2011**, 334, 958-61	33.3	319
13	Thick lead-free ferroelectric films with high Curie temperatures through nanocomposite-induced strain. *Nature Nanotechnology*, **2011**, 6, 491-5	28.7	191
12	The nature of polarization fatigue in BiFeO3. *Advanced Materials*, **2011**, 23, 1621-5	24	117
11	Structural consequences of ferroelectric nanolithography. *Nano Letters*, **2011**, 11, 3080-4	11.5	21

10	Spontaneous vortex nanodomain arrays at ferroelectric heterointerfaces. *Nano Letters*, **2011**, 11, 828-34	11.5	365
9	Self-assembled oxide nanopillars in epitaxial BaFe2As2 thin films for vortex pinning. *Applied Physics Letters*, **2011**, 98, 042509	3.4	40
8	Twin wall distortions through structural investigation of epitaxial BiFeO3 thin films. *Journal of Materials Research*, **2011**, 26, 2844-2853	2.5	5
7	Ferroelastic switching for nanoscale non-volatile magnetoelectric devices. *Nature Materials*, **2010**, 9, 309-14	27	344
6	Template engineering of Co-doped BaFe2As2 single-crystal thin films. *Nature Materials*, **2010**, 9, 397-402	27	173
5	Anisotropic relaxation and crystallographic tilt in BiFeO3 on miscut SrTiO3 (001). *Applied Physics Letters*, **2010**, 96, 051901	3.4	10
4	Metallicity in LaTiO3 thin films induced by lattice deformation. *Physical Review B*, **2010**, 81,	3.3	50
3	Phase-transition temperatures of strained single-crystal SrRuO3 thin films. *Advanced Materials*, **2010**, 22, 759-62	24	70
2	Domain Engineering for Enhanced Ferroelectric Properties of Epitaxial (001) BiFeO Thin Films. *Advanced Materials*, **2009**, 21, 817-823	24	251
1	Electrical control of antiferromagnetic domains in multiferroic BiFeO3 films at room temperature. *Nature Materials*, **2006**, 5, 823-9	27	1054