

Seung-Hyub Baek

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/3921948/publications.pdf>

Version: 2024-02-01

122
papers

6,585
citations

117453

34
h-index

64668

79
g-index

122
all docs

122
docs citations

122
times ranked

8620
citing authors

#	ARTICLE	IF	CITATIONS
1	Electrical control of antiferromagnetic domains in multiferroic BiFeO ₃ films at room temperature. Nature Materials, 2006, 5, 823-829.	13.3	1,160
2	Spontaneous Vortex Nanodomain Arrays at Ferroelectric Heterointerfaces. Nano Letters, 2011, 11, 828-834.	4.5	419
3	Ferroelastic switching for nanoscale non-volatile magnetoelectric devices. Nature Materials, 2010, 9, 309-314.	13.3	407
4	Giant Piezoelectricity on Si for Hyperactive MEMS. Science, 2011, 334, 958-961.	6.0	394
5	Domain Dynamics During Ferroelectric Switching. Science, 2011, 334, 968-971.	6.0	320
6	Domain Engineering for Enhanced Ferroelectric Properties of Epitaxial (001) BiFeO Thin Films. Advanced Materials, 2009, 21, 817-823.	11.1	277
7	Thick lead-free ferroelectric films with high Curie temperatures through nanocomposite-induced strain. Nature Nanotechnology, 2011, 6, 491-495.	15.6	220
8	High Output Piezo/Triboelectric Hybrid Generator. Scientific Reports, 2015, 5, 9309.	1.6	216
9	Revealing the role of defects in ferroelectric switching with atomic resolution. Nature Communications, 2011, 2, 591.	5.8	214
10	Template engineering of Co-doped BaFe ₂ As ₂ single-crystal thin films. Nature Materials, 2010, 9, 397-402.	13.3	185
11	Powerful curved piezoelectric generator for wearable applications. Nano Energy, 2015, 13, 174-181.	8.2	159
12	Atomic-scale mechanisms of ferroelastic domain-wall-mediated ferroelectric switching. Nature Communications, 2013, 4, .	5.8	152
13	Wafer-scale growth of MoS ₂ thin films by atomic layer deposition. Nanoscale, 2016, 8, 10792-10798.	2.8	139
14	Ferroelastic domain switching dynamics under electrical and mechanical excitations. Nature Communications, 2014, 5, 3801.	5.8	135
15	The Nature of Polarization Fatigue in BiFeO ₃ . Advanced Materials, 2011, 23, 1621-1625.	11.1	127
16	Epitaxial integration of perovskite-based multifunctional oxides on silicon. Acta Materialia, 2013, 61, 2734-2750.	3.8	95
17	A highly-efficient, concentrating-photovoltaic/thermoelectric hybrid generator. Nano Energy, 2017, 37, 242-247.	8.2	91
18	Fabrication of high-performance p-type thin film transistors using atomic-layer-deposited SnO films. Journal of Materials Chemistry C, 2017, 5, 3139-3145.	2.7	81

#	ARTICLE	IF	CITATIONS
19	Phaseâ€Transition Temperatures of Strained Singleâ€Crystal SrRuO ₃ Thin Films. Advanced Materials, 2010, 22, 759-762.	11.1	78
20	Active Control of Ferroelectric Switching Using Defectâ€Dipole Engineering. Advanced Materials, 2012, 24, 6490-6495.	11.1	76
21	Synthesis of SnS Thin Films by Atomic Layer Deposition at Low Temperatures. Chemistry of Materials, 2017, 29, 8100-8110.	3.2	68
22	Precision Interface Engineering of an Atomic Layer in Bulk Bi ₂ Te ₃ Alloys for High Thermoelectric Performance. ACS Nano, 2019, 13, 7146-7154.	7.3	66
23	Free-electron creation at the 60Â° twin boundary in Bi ₂ Te ₃ . Nature Communications, 2016, 7, 12449.	5.8	59
24	Direct Observations of Retention Failure in Ferroelectric Memories. Advanced Materials, 2012, 24, 1106-1110.	11.1	56
25	Giant piezoelectricity in PMN-PT thin films: Beyond PZT. MRS Bulletin, 2012, 37, 1022-1029.	1.7	55
26	Metallicity in LaTiO_3 films induced by lattice deformation. Physical Review B, 2010, 81, .	11.1	54
27	All villi-like metal oxide nanostructures-based chemiresistive electronic nose for an exhaled breath analyzer. Sensors and Actuators B: Chemical, 2018, 257, 295-302.	4.0	51
28	Nonâ€Volatile Control of 2DEG Conductivity at Oxide Interfaces. Advanced Materials, 2013, 25, 4612-4617.	11.1	47
29	Gate-tunable giant nonreciprocal charge transport in noncentrosymmetric oxide interfaces. Nature Communications, 2019, 10, 4510.	5.8	44
30	Self-assembled oxide nanopillars in epitaxial BaFe ₂ As ₂ thin films for vortex pinning. Applied Physics Letters, 2011, 98, .	1.5	42
31	Continuous Control of Charge Transport in Biâ€Deficient BiFeO ₃ Films Through Local Ferroelectric Switching. Advanced Functional Materials, 2012, 22, 4962-4968.	7.8	40
32	Structural approaches for enhancing output power of piezoelectric polyvinylidene fluoride generator. Nano Energy, 2016, 22, 514-523.	8.2	38
33	Nonlocal Spin Diffusion Driven by Giant Spin Hall Effect at Oxide Heterointerfaces. Nano Letters, 2017, 17, 36-43.	4.5	37
34	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.	2.7	37
35	SnO ₂ thin films grown by atomic layer deposition using a novel Sn precursor. Applied Surface Science, 2014, 320, 188-194.	3.1	35
36	Growth and thermoelectric properties of Bi ₂ Te ₃ films deposited by modified MOCVD. Journal of Crystal Growth, 2012, 346, 17-21.	0.7	31

#	ARTICLE	IF	CITATIONS
37	Low-temperature wafer-scale synthesis of two-dimensional SnS ₂ . <i>Nanoscale</i> , 2018, 10, 17712-17721.	2.8	30
38	Design and Experimental Investigation of Thermoelectric Generators for Wearable Applications. <i>Advanced Materials Technologies</i> , 2017, 2, 1600292.	3.0	28
39	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.	2.8	25
40	Tailoring the domain structure of epitaxial BiFeO ₃ thin films. <i>Current Opinion in Solid State and Materials Science</i> , 2014, 18, 39-45.	5.6	24
41	Enhancement of Mechanical Hardness in SnO _x N _y with a Dense High-Pressure Cubic Phase of SnO ₂ . <i>Chemistry of Materials</i> , 2016, 28, 7051-7057.	3.2	23
42	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.	3.8	23
43	Structural Consequences of Ferroelectric Nanolithography. <i>Nano Letters</i> , 2011, 11, 3080-3084.	4.5	22
44	Impact of parasitic thermal effects on thermoelectric property measurements by Harman method. <i>Review of Scientific Instruments</i> , 2014, 85, 045108.	0.6	21
45	Control of the initial growth in atomic layer deposition of Pt films by surface pretreatment. <i>Nanotechnology</i> , 2015, 26, 304003.	1.3	21
46	Enhanced piezoelectric properties of vertically aligned single-crystalline NKN nano-rod arrays. <i>Scientific Reports</i> , 2015, 5, 10151.	1.6	20
47	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.	4.0	20
48	Hardening of BiTe based alloys by dispersing B ₄ C nanoparticles. <i>Acta Materialia</i> , 2015, 97, 68-74.	3.8	19
49	Harman Measurements for Thermoelectric Materials and Modules under Non-Adiabatic Conditions. <i>Scientific Reports</i> , 2016, 6, 39131.	1.6	19
50	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.	3.2	19
51	Sn doping in thermoelectric Bi ₂ Te ₃ films by metal-organic chemical vapor deposition. <i>Applied Surface Science</i> , 2015, 353, 232-237.	3.1	18
52	Thermoelectric Properties of Indium-Selenium Nanocomposites Prepared by Mechanical Alloying and Spark Plasma Sintering. <i>Journal of Electronic Materials</i> , 2012, 41, 1354-1359.	1.0	17
53	Atomic layer deposition of SnO ₂ thin films using tetraethyltin and H ₂ O ₂ . <i>Ceramics International</i> , 2019, 45, 20600-20605.	2.3	17
54	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.	2.8	16

#	ARTICLE	IF	CITATIONS
55	Mechanically Robust, Stretchable Solar Absorbers with Submicron-Thick Multilayer Sheets for Wearable and Energy Applications. ACS Applied Materials & Interfaces, 2017, 9, 18061-18068.	4.0	16
56	Domain engineering in BiFeO ₃ thin films. Current Applied Physics, 2017, 17, 688-703.	1.1	16
57	Full Range Dielectric Characteristics of Calcium Copper Titanate Thin Films Prepared by Continuous Composition-Spread Sputtering. ACS Combinatorial Science, 2014, 16, 478-484.	3.8	15
58	Nonlinearity in the high-electric-field piezoelectricity of epitaxial BiFeO ₃ on SrTiO ₃ . Applied Physics Letters, 2012, 100, 062906.	1.5	14
59	Tunable conductivity at LaAlO ₃ /Sr _x Ca _{1-x} TiO ₃ (0 ≤ x ≤ 1) heterointerfaces. Applied Physics Letters, 2013, 102, 012903.	1.5	14
60	Enhancement of Initial Growth of ZnO Films on Layer-Structured Bi ₂ Te ₃ by Atomic Layer Deposition. Chemistry of Materials, 2014, 26, 6448-6453.	3.2	14
61	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.	1.0	14
62	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. Applied Surface Science, 2021, 547, 149142.	3.1	14
63	Strain-assisted, low-temperature synthesis of high-performance thermoelectric materials. Physical Chemistry Chemical Physics, 2014, 16, 3529.	1.3	13
64	Electric-field-induced Shift in the Threshold Voltage in LaAlO ₃ /SrTiO ₃ Heterostructures. Scientific Reports, 2015, 5, 8023.	1.6	13
65	Selective growth and texturing of VO ₂ (B) thin films for high-temperature microbolometers. Journal of the European Ceramic Society, 2020, 40, 5582-5588.	2.8	13
66	Anisotropic relaxation and crystallographic tilt in BiFeO ₃ on miscut SrTiO ₃ (001). Applied Physics Letters, 2010, 96, 051901.	1.5	12
67	Large linear magnetoresistance in heavily-doped Nb:SrTiO ₃ epitaxial thin films. Scientific Reports, 2016, 6, 34295.	1.6	12
68	Comprehensive study on critical role of surface oxygen vacancies for 2DEC formation and annihilation in LaAlO ₃ /SrTiO ₃ heterointerfaces. Electronic Materials Letters, 2016, 12, 243-250.	1.0	12
69	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. Journal of Electronic Materials, 2016, 45, 1057-1064.	1.0	12
70	Texture-induced reduction in electrical resistivity of p-type (Bi,Sb) ₂ Te ₃ by a hot extrusion. Journal of Alloys and Compounds, 2018, 764, 261-266.	2.8	12
71	Dynamic temperature response of electrocaloric multilayer capacitors. Applied Physics Letters, 2014, 104, .	1.5	11
72	Correction of the Electrical and Thermal Extrinsic Effects in Thermoelectric Measurements by the Harman Method. Scientific Reports, 2016, 6, 26507.	1.6	11

#	ARTICLE	IF	CITATIONS
73	Li alloy-based non-volatile actuators. <i>Nano Energy</i> , 2019, 57, 653-659.	8.2	11
74	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.	2.8	11
75	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.	3.2	11
76	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.	2.8	11
77	Giant Electroresistive Ferroelectric Diode on 2DEG. <i>Scientific Reports</i> , 2015, 5, 10548.	1.6	10
78	Electron beam induced epitaxial crystallization in a conducting and insulating a-LaAlO ₃ /SrTiO ₃ system. <i>RSC Advances</i> , 2017, 7, 40279-40285.	1.7	10
79	Carrier Modulation in Bi ₂ Te ₃ -Based Alloys via Interfacial Doping with Atomic Layer Deposition. <i>Coatings</i> , 2020, 10, 572.	1.2	10
80	Thermopower Enhancement of Bi ₂ Te ₃ Films by Doping I Ions. <i>Journal of Electronic Materials</i> , 2014, 43, 2000-2005.	1.0	9
81	Orientation-Controlled Growth of Pt Films on SrTiO ₃ (001) by Atomic Layer Deposition. <i>Chemistry of Materials</i> , 2015, 27, 6779-6783.	3.2	9
82	Substrate Surface Modification for Enlarging Two-Dimensional SnS Grains at Low Temperatures. <i>Chemistry of Materials</i> , 2020, 32, 9026-9033.	3.2	9
83	3D architectures of single-crystalline complex oxides. <i>Materials Horizons</i> , 2020, 7, 1552-1557.	6.4	9
84	Capacitance-voltage analysis of LaAlO ₃ /SrTiO ₃ heterostructures. <i>Applied Physics Letters</i> , 2013, 102, 112906.	1.5	8
85	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.	1.0	8
86	Defect-Controlled, Scalable Layer-by-Layer Assembly of High-k Perovskite Oxide Nanosheets for All Two-Dimensional Nanoelectronics. <i>Chemistry of Materials</i> , 2021, 33, 8685-8692.	3.2	8
87	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, .	1.5	7
88	Growth Enhancement and Nitrogen Loss in ZnO _x N _y Low-Temperature Atomic Layer Deposition with NH ₃ . <i>Journal of Physical Chemistry C</i> , 2015, 119, 23470-23477.	1.5	7
89	Probing surface electronic properties of a patterned conductive STO by reactive ion etching. <i>Applied Surface Science</i> , 2019, 466, 730-736.	3.1	7
90	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.	2.8	7

#	ARTICLE	IF	CITATIONS
91	Composition-Dependent Thermoelectric Properties of n-Type Bi ₂ Te _{2.7} Se _{0.3} Doped with In ₄ Se ₃ . Journal of Electronic Materials, 2013, 42, 2178-2183.	1.0	6
92	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.	2.8	6
93	Origin of insulating weak-ferromagnetic phase in ultra-thin La _{0.67} Sr _{0.33} MnO ₃ films on SrTiO ₃ substrate. AIP Advances, 2017, 7, 085224.	0.6	6
94	A novel class of oxynitrides stabilized by nitrogen dimer formation. Scientific Reports, 2018, 8, 14471.	1.6	6
95	Domain engineering of epitaxial (001) Bi ₂ Te ₃ thin films by miscut GaAs substrate. Acta Materialia, 2020, 197, 309-315.	3.8	6
96	Twin wall distortions through structural investigation of epitaxial BiFeO ₃ thin films. Journal of Materials Research, 2011, 26, 2844-2853.	1.2	5
97	Nonvolatile Resistance Switching on Two-Dimensional Electron Gas. ACS Applied Materials & Interfaces, 2014, 6, 17785-17791.	4.0	5
98	Influence of Gas Ambient on Charge Writing at the LaAlO ₃ /SrTiO ₃ Heterointerface. ACS Applied Materials & Interfaces, 2014, 6, 14037-14042.	4.0	5
99	Thermal stability of 2DEG at amorphous LaAlO ₃ /crystalline SrTiO ₃ heterointerfaces. Nano Convergence, 2016, 3, 7.	6.3	5
100	Stepwise growth of crystalline MoS ₂ in atomic layer deposition. Journal of Materials Chemistry C, 2022, 10, 7031-7038.	2.7	5
101	Thermal stress-assisted annealing to improve the crystalline quality of an epitaxial YSZ buffer layer on Si. Journal of Materials Chemistry C, 2022, 10, 10027-10036.	2.7	5
102	Thermoelectric Properties of Highly Deformed and Subsequently Annealed p-Type (Bi _{0.25} Sb _{0.75}) ₂ Te ₃ Alloys. Journal of Electronic Materials, 2014, 43, 1726-1732.	1.0	4
103	Epitaxial growth of CdTe films on GaAs-buffered (001) Si substrates by metal organic chemical vapor deposition. Materials Letters, 2012, 87, 139-141.	1.3	3
104	Three-Dimensional Bi ₂ Te ₃ Nanocrystallites Embedded in 2D Bi ₂ Te ₃ Films Grown by MOCVD. Journal of Electronic Materials, 2012, 41, 1237-1241.	1.0	3
105	Effect of Mechanical Deformation on Thermoelectric Properties of p-Type (Bi _{0.225} Sb _{0.775}) ₂ Te ₃ Alloys. Journal of Nanomaterials, 2013, 2013, 1-6.	1.5	3
106	Conductance Change Induced by the Rashba Effect in the LaAlO ₃ /SrTiO ₃ Interface. Journal of Nanoscience and Nanotechnology, 2015, 15, 8632-8636.	0.9	3
107	A differential method for measuring cooling performance of a thermoelectric module. Applied Thermal Engineering, 2015, 87, 209-213.	3.0	3
108	Thermoelectric Properties of Sn-Doped Bi _{0.4} Sb _{1.6} Te ₃ Thin Films. Journal of Electronic Materials, 2015, 44, 1573-1578.	1.0	3

#	ARTICLE	IF	CITATIONS
109	Optical investigation of the metal-insulator transition in the manganite films with the thickness dependence. <i>Current Applied Physics</i> , 2019, 19, 1019-1023.	1.1	3
110	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.	1.0	2
111	Study of Rashba Spin-Orbit Field at LaAlO ₃ /SrTiO ₃ Heterointerfaces. <i>Journal of Electronic Materials</i> , 2019, 48, 1347-1352.	1.0	2
112	Hot rolling process for texture development and grain refinement of n-type Bi ₂ Te ₃ alloys. <i>Materials Letters</i> , 2021, 301, 130278.	1.3	2
113	Effects of oxygen sources on properties of atomic-layer-deposited ferroelectric hafnium zirconium oxide thin films. <i>Ceramics International</i> , 2022, 48, 3280-3286.	2.3	2
114	Oxidation of thermoelectric Bi ₂ Te ₃ -based alloys by atomic layer deposition of Ru metal. <i>Materials Letters</i> , 2022, 320, 132321.	1.3	2
115	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.	1.9	1
116	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.	1.6	1
117	Atomically sculptured heart in oxide film using convergent electron beam. <i>Applied Microscopy</i> , 2021, 51, 1.	0.8	1
118	Interface Effects on Static and Dynamic Properties of Multiferroic BiFeO ₃ . <i>Microscopy and Microanalysis</i> , 2012, 18, 320-321.	0.2	0
119	Direct Observations of Retention Failure in Ferroelectric Memories by in situ Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2012, 18, 1846-1847.	0.2	0
120	<i>A Special Section on</i> Selected Peer-Reviewed Articles from the International Conference on Advanced Electromaterials 2011 (ICAE2011). <i>Journal of Nanoscience and Nanotechnology</i> , 2013, 13, 3254-3259.	0.9	0
121	Impedance-based interpretations in 2-dimensional electron gas conduction formed in the LaAlO ₃ /Sr _{1-x} Ca _x TiO ₃ /SrTiO ₃ system. <i>Journal of Physics and Chemistry of Solids</i> , 2016, 93, 131-136.	1.9	0
122	Atomic and Electronic Reconstruction at the a-LAO/STO Interface by E-Beam Induced Crystallization. <i>Microscopy and Microanalysis</i> , 2019, 25, 1894-1895.	0.2	0