

# Yulan Li

## List of Publications by Year in descending order

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120  
papers

10,336  
citations

53660

45  
h-index

31759

101  
g-index

122  
all docs

122  
docs citations

122  
times ranked

8145  
citing authors

#	ARTICLE	IF	CITATIONS
1	Room-temperature ferroelectricity in strained SrTiO <sub>3</sub> . Nature, 2004, 430, 758-761.	13.7	1,857
2	Enhancement of Ferroelectricity in Strained BaTiO <sub>3</sub> Thin Films. Science, 2004, 306, 1005-1009.	6.0	1,676
3	Effect of substrate constraint on the stability and evolution of ferroelectric domain structures in thin films. Acta Materialia, 2002, 50, 395-411.	3.8	456
4	Ferroelastic switching for nanoscale non-volatile magnetoelectric devices. Nature Materials, 2010, 9, 309-314.	13.3	407
5	A phenomenological thermodynamic potential for BaTiO <sub>3</sub> single crystals. Journal of Applied Physics, 2005, 98, 064101.	1.1	355
6	A Ferroelectric Oxide Made Directly on Silicon. Science, 2009, 324, 367-370.	6.0	347
7	Phase-field model of domain structures in ferroelectric thin films. Applied Physics Letters, 2001, 78, 3878-3880.	1.5	302
8	Phase-field simulations of ferroelectric/ferroelastic polarization switching. Acta Materialia, 2004, 52, 749-764.	3.8	298
9	Probing Nanoscale Ferroelectricity by Ultraviolet Raman Spectroscopy. Science, 2006, 313, 1614-1616.	6.0	295
10	Effect of electrical boundary conditions on ferroelectric domain structures in thin films. Applied Physics Letters, 2002, 81, 427-429.	1.5	226
11	Temperature-strain phase diagram for BaTiO <sub>3</sub> thin films. Applied Physics Letters, 2006, 88, 072905.	1.5	193
12	Phase transitions and domain structures in strained pseudocubic (100)SrTiO <sub>3</sub> thin films. Physical Review B, 2006, 73, .	1.1	160
13	Phase-field simulation of polarization switching and domain evolution in ferroelectric polycrystals. Acta Materialia, 2005, 53, 5313-5321.	3.8	148
14	Effect of grain orientation and grain size on ferroelectric domain switching and evolution: Phase field simulations. Acta Materialia, 2007, 55, 1415-1426.	3.8	140
15	Ferroelectricity in Ultrathin $\text{BaTiO}_3$ Films: Probing the Size Effect by Ultraviolet Raman Spectroscopy. Physical Review Letters, 2009, 103, 177601.	2.9	121
16	Effect of substrate-induced strains on the spontaneous polarization of epitaxial BiFeO <sub>3</sub> thin films. Journal of Applied Physics, 2007, 101, 114105.	1.1	113
17	c-axis oriented epitaxial BaTiO <sub>3</sub> films on (001) Si. Journal of Applied Physics, 2006, 100, 024108.	1.1	106
18	Computer simulation of spinodal decomposition in constrained films. Acta Materialia, 2003, 51, 5173-5185.	3.8	105

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19	A review: applications of the phase field method in predicting microstructure and property evolution of irradiated nuclear materials. Npj Computational Materials, 2017, 3, .	3.5	100
20	Effect of solutes on dislocation motion –a phase-field simulation. International Journal of Plasticity, 2004, 20, 403-425.	4.1	95
21	Multiferroic Domain Dynamics in Strained Strontium Titanate. Physical Review Letters, 2006, 97, 257602.	2.9	90
22	Ferroelectric domain morphologies of (001) PbZr <sub>1-x</sub> Ti <sub>x</sub> O <sub>3</sub> epitaxial thin films. Journal of Applied Physics, 2005, 97, 034112.	1.1	87
23	Absence of low-temperature phase transitions in epitaxial BaTiO <sub>3</sub> thin films. Physical Review B, 2004, 69, .	1.1	84
24	Structural evidence for enhanced polarization in a commensurate short-period BaTiO <sub>3</sub> •SrTiO <sub>3</sub> superlattice. Applied Physics Letters, 2006, 89, 092905.	1.5	80
25	Phase-field model for epitaxial ferroelectric and magnetic nanocomposite thin films. Applied Physics Letters, 2007, 90, 052909.	1.5	77
26	Stripe domain structure in epitaxial (001) BiFeO <sub>3</sub> thin films on orthorhombic TbScO <sub>3</sub> substrate. Applied Physics Letters, 2009, 94, .	1.5	76
27	Effect of interfacial dislocations on ferroelectric phase stability and domain morphology in a thin film –a phase-field model. Journal of Applied Physics, 2003, 94, 2542-2547.	1.1	74
28	Prediction of ferroelectricity in BaTiO <sub>3</sub> •SrTiO <sub>3</sub> superlattices with domains. Applied Physics Letters, 2007, 91, .	1.5	74
29	Computer simulation of ferroelectric domain structures in epitaxial BiFeO <sub>3</sub> thin films. Journal of Applied Physics, 2008, 103, .	1.1	70
30	Thermodynamics and ferroelectric properties of KNbO <sub>3</sub> . Journal of Applied Physics, 2009, 106, .	1.1	70
31	Equilibrium strain-energy analysis of coherently strained core–shell nanowires. Journal of Crystal Growth, 2008, 310, 3084-3092.	0.7	69
32	Correlated polarization switching in the proximity of a $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mn} \rangle 180 \langle \text{mml:mn} \rangle \langle \text{mml:mo} \rangle \hat{\text{A}} \langle \text{mml:mo} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:math} \rangle \text{domain wall}$ . Physical Review B, 2010, 82, .	1.1	65
33	Thermodynamics of nanodomain formation and breakdown in scanning probe microscopy: Landau-Ginzburg-Devonshire approach. Physical Review B, 2009, 80, .	1.1	63
34	Phase-field modeling of void migration and growth kinetics in materials under irradiation and temperature field. Journal of Nuclear Materials, 2010, 407, 119-125.	1.3	63
35	The effect of mechanical strains on the ferroelectric and dielectric properties of a model single crystal ? Phase field simulation. Acta Materialia, 2005, 53, 2495-2507.	3.8	61
36	Work function of the mixed-valent manganese perovskites. Journal of Applied Physics, 2004, 95, 7971-7975.	1.1	60

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37	Surface effect on domain wall width in ferroelectrics. Journal of Applied Physics, 2009, 106, .	1.1	59
38	Size-dependent polarization distribution in ferroelectric nanostructures: Phase field simulations. Applied Physics Letters, 2008, 92, .	1.5	56
39	The influence of 180° ferroelectric domain wall width on the threshold field for wall motion. Journal of Applied Physics, 2008, 104, 084107.	1.1	53
40	Phase field simulations of ferroelectrics domain structures in PbZr <sub>1-x</sub> Ti <sub>x</sub> O <sub>3</sub> bilayers. Acta Materialia, 2013, 61, 2909-2918.	3.8	50
41	Phase-field simulations of intragranular fission gas bubble evolution in UO <sub>2</sub> under post-irradiation thermal annealing. Nuclear Instruments & Methods in Physics Research B, 2013, 303, 62-67.	0.6	50
42	Interfacial coherency and ferroelectricity of BaTiO <sub>3</sub> /SrTiO <sub>3</sub> superlattice films. Applied Physics Letters, 2007, 91, 252904.	1.5	49
43	Growth of nanoscale BaTiO <sub>3</sub> /SrTiO <sub>3</sub> superlattices by molecular-beam epitaxy. Journal of Materials Research, 2008, 23, 1417-1432.	1.2	49
44	Phase-field model of pitting corrosion kinetics in metallic materials. Npj Computational Materials, 2018, 4, .	3.5	49
45	Strain effect on coercive field of epitaxial barium titanate thin films. Applied Physics Letters, 2008, 92, .	1.5	47
46	Misfit strain—misfit strain diagram of epitaxial BaTiO <sub>3</sub> thin films: Thermodynamic calculations and phase-field simulations. Applied Physics Letters, 2008, 93, 232904.	1.5	46
47	Atomistic studies of nucleation of He clusters and bubbles in bcc iron. Nuclear Instruments & Methods in Physics Research B, 2013, 303, 68-71.	0.6	45
48	Domain stability of PbTiO <sub>3</sub> thin films under anisotropic misfit strains: Phase-field simulations. Journal of Applied Physics, 2008, 104, .	1.1	42
49	Calculation of internal stresses around Cu precipitates in the bcc Fe matrix by atomic simulation. Modelling and Simulation in Materials Science and Engineering, 1999, 7, 641-655.	0.8	41
50	Influence of interfacial dislocations on hysteresis loops of ferroelectric films. Journal of Applied Physics, 2008, 104, .	1.1	41
51	Diffusion of small He clusters in bulk and grain boundaries in $\delta$ -Fe. Journal of Nuclear Materials, 2013, 442, S667-S673.	1.3	41
52	A Phase Diagram for Epitaxial PbZr <sub>1-x</sub> Ti <sub>x</sub> O <sub>3</sub> Thin Films at the Bulk Morphotropic Boundary Composition. Journal of the American Ceramic Society, 2005, 88, 1669-1672.	1.9	38
53	A modified Landau—Devonshire thermodynamic potential for strontium titanate. Applied Physics Letters, 2010, 96, .	1.5	38
54	Influence of anisotropic strain on the dielectric and ferroelectric properties of $\text{SrTiO}_3$ films on $\text{DyScO}_3$ . Physical Review B, 2009, 79, .	1.1	36

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55	Effect of ferroelastic twin walls on local polarization switching: Phase-field modeling. Applied Physics Letters, 2008, 93, .	1.5	35
56	Piezoelectric response of single-crystal $\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$ near morphotropic phase boundary predicted by phase-field simulation. Applied Physics Letters, 2010, 97, .	1.5	35
57	A thermodynamic free energy function for potassium niobate. Applied Physics Letters, 2009, 94, .	1.5	34
58	Cubic to tetragonal martensitic transformation in a thin film elastically constrained by a substrate. Metals and Materials International, 2003, 9, 221-226.	1.8	32
59	Quantification of Internal Electric Fields and Local Polarization in Ferroelectric Superlattices. ACS Nano, 2011, 5, 640-646.	7.3	31
60	Computer simulations of interstitial loop growth kinetics in irradiated bcc Fe. Journal of Nuclear Materials, 2012, 427, 259-267.	1.3	29
61	Hot deformation characteristics of AZ80 magnesium alloy: Work hardening effect and processing parameter sensitivities. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 687, 113-122.	2.6	27
62	Dipole spring ferroelectrics in superlattice $\text{SrTiO}_3/\text{BaTiO}_3$ thin films exhibiting constricted hysteresis loops. Applied Physics Letters, 2012, 100, .	1.5	26
63	Correlation between number of ferroelectric variants and coercive field of lead zirconate titanate single crystals. Applied Physics Letters, 2007, 91, 032902.	1.5	25
64	Phase transitions and domain stabilities in biaxially strained (001) $\text{SrTiO}_3$ epitaxial thin films. Journal of Applied Physics, 2010, 108, 084113.	1.1	25
65	Piezoelectric anisotropy of a $\text{KNbO}_3$ single crystal. Journal of Applied Physics, 2010, 108, 094111.	1.1	25
66	Calibrating multi-machine power system parameters with the extended Kalman filter. , 2011, , .		23
67	Three-dimensional phase-field simulation of domain structures in ferroelectric islands. Applied Physics Letters, 2008, 92, 122906.	1.5	22
68	Three-dimensional phase-field modeling of spinodal decomposition in constrained films. Metals and Materials International, 2003, 9, 61-66.	1.8	21
69	Non-classical nuclei and growth kinetics of Cr precipitates in FeCr alloys during ageing. Modelling and Simulation in Materials Science and Engineering, 2014, 22, 025002.	0.8	20
70	Dynamic drag of solute atmosphere on moving edge dislocations—Phase-field simulation. Journal of Applied Physics, 2004, 96, 229-236.	1.1	19
71	Polarization rotation transitions in anisotropically strained $\text{SrTiO}_3$ thin films. Applied Physics Letters, 2008, 92, 192902.	1.5	19
72	Investigation of magnetic signatures and microstructures for heat-treated ferritic/martensitic HT-9 alloy. Acta Materialia, 2013, 61, 3285-3296.	3.8	19

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73	Phase-field simulations of thickness-dependent domain stability in PbTiO <sub>3</sub> thin films. Acta Materialia, 2012, 60, 3296-3301.	3.8	18
74	Mesoscale Phase-Field Modeling of Charge Transport in Nanocomposite Electrodes for Lithium-Ion Batteries. Journal of Physical Chemistry C, 2013, 117, 28-40.	1.5	18
75	Coupled Lattice Polarization and Ferromagnetism in Multiferroic NiTiO <sub>3</sub> Thin Films. ACS Applied Materials & Interfaces, 2017, 9, 21879-21890.	4.0	18
76	Effect of loading path on grain misorientation and geometrically necessary dislocation density in polycrystalline aluminum under reciprocating shear. Computational Materials Science, 2022, 205, 111221.	1.4	18
77	Asymptotic description of the stress field around the bond edge of a cylindrical joint. Archive of Applied Mechanics, 1998, 68, 552-565.	1.2	17
78	Application of the phase-field method in predicting gas bubble microstructure evolution in nuclear fuels. International Journal of Materials Research, 2010, 101, 515-522.	0.1	15
79	Influence of interfacial coherency on ferroelectric switching of superlattice BaTiO <sub>3</sub> /SrTiO <sub>3</sub> . Applied Physics Letters, 2015, 107, .	1.5	15
80	Effect of grain structure and strain rate on dynamic recrystallization and deformation behavior: A phase field-crystal plasticity model. Computational Materials Science, 2020, 180, 109707.	1.4	15
81	A quantitative phase-field model of gas bubble evolution in UO <sub>2</sub> . Computational Materials Science, 2020, 184, 109867.	1.4	14
82	Lattice misorientation evolution and grain refinement in Al-Si alloys under high-strain shear deformation. Materialia, 2021, 18, 101146.	1.3	14
83	Evolution kinetics of interstitial loops in irradiated materials: a phase-field model. Modelling and Simulation in Materials Science and Engineering, 2012, 20, 015011.	0.8	13
84	Phase-field modeling of void evolution and swelling in materials under irradiation. Science China: Physics, Mechanics and Astronomy, 2011, 54, 856-865.	2.0	12
85	Piezoelectric enhancement of $\alpha$ -PbTiO <sub>3</sub> superlattices through domain. Physical Review B, 2014, 90, .		
86	Computational and experimental investigations of magnetic domain structures in patterned magnetic thin films. Journal Physics D: Applied Physics, 2015, 48, 305001.	1.3	12
87	Magnetic hardening from the suppression of domain walls by nonmagnetic particles. IEEE Magnetics Letters, 2013, 4, 3500104-3500104.	0.6	11
88	Microstructure-based model of nonlinear ultrasonic response in materials with distributed defects. Journal of Applied Physics, 2019, 125, .	1.1	11
89	PMU placement for dynamic state tracking of power systems. , 2011, , .		10
90	Ab initio study of defect properties in YPO <sub>4</sub> . Computational Materials Science, 2012, 54, 170-175.	1.4	10

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91	Distributed dynamic state estimation with extended Kalman filter. , 2011, , .		9
92	Local sequential ensemble Kalman filter for simultaneously tracking states and parameters. , 2012, , .		9
93	Predicting Thermal Conductivity Evolution of Polycrystalline Materials Under Irradiation Using Multiscale Approach. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 1060-1069.	1.1	9
94	Effects of unequally biaxial misfit strains on polarization phase diagrams in embedded ferroelectric thin layers: Phase field simulations. Applied Physics Letters, 2008, 93, 132908.	1.5	8
95	Stress Singularity Analysis of Axisymmetric Piezoelectric Bonded Structure. JSME International Journal Series A-Solid Mechanics and Material Engineering, 2002, 45, 363-370.	0.4	7
96	Morphology, orientation relationship, and stability analysis of Cu <sub>2</sub> O nanoclusters on SrTiO <sub>3</sub> (100). Applied Physics Letters, 2009, 95, 053111.	1.5	7
97	Direct determination of the effect of strain on domain morphology in ferroelectric superlattices with scanning probe microscopy. Journal of Applied Physics, 2012, 112, 052011.	1.1	7
98	Application of ensemble Kalman filter in power system state tracking and sensitivity analysis. , 2012, , .		7
99	Simulation of magnetic hysteresis loops and magnetic Barkhausen noise of $\hat{\mu}$ -iron containing nonmagnetic particles. AIP Advances, 2015, 5, .	0.6	6
100	A phase field study of the thermal migration of gas bubbles in UO <sub>2</sub> nuclear fuel under temperature gradient. Computational Materials Science, 2020, 183, 109817.	1.4	6
101	The stable configurations of small vacancy clusters in. Modelling and Simulation in Materials Science and Engineering, 1996, 4, 493-499.	0.8	5
102	Pressure and electric field effects on piezoelectric responses of KNbO <sub>3</sub> . Journal of Applied Physics, 2012, 112, 064106.	1.1	5
103	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
104	Interaction of crack-tip and notch-tip stress singularities for circular cylinder in torsion. Theoretical and Applied Fracture Mechanics, 1993, 18, 259-272.	2.1	4
105	Thermal stresses in coated structures. Surface and Coatings Technology, 1998, 99, 125-131.	2.2	4
106	Minimum tetragonality in PbTiO <sub>3</sub> /BaTiO <sub>3</sub> ferroelectric superlattices. Journal of Applied Physics, 2013, 114, 144103.	1.1	4
107	Effect of defects, magnetocrystalline anisotropy, and shape anisotropy on magnetic structure of iron thin films by magnetic force microscopy. AIP Advances, 2017, 7, .	0.6	4
108	The stress intensity of crack-tip and notch-tip in cylinder under torsion. International Journal of Engineering Science, 1995, 33, 447-455.	2.7	3

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109	Microstructure-Dependent Rate Theory Model of Radiation-Induced Segregation in Binary Alloys. <i>Frontiers in Materials</i> , 2021, 8, .	1.2	3
110	Extended Shear Deformation of the Immiscible Cu-Nb Alloy Resulting in Nanostructuring and Oxygen Ingress with Enhancement in Mechanical Properties. <i>ACS Omega</i> , 2022, 7, 13721-13736.	1.6	3
111	Meso-scale magnetic signatures for nuclear reactor steel irradiation embrittlement monitoring. , 2015, , .		2
112	Leaching model of radionuclides in metal-organic framework particles. <i>Computational Materials Science</i> , 2022, 201, 110886.	1.4	2
113	Torsion of composite cylinder containing crack terminating at bimaterial interface. <i>International Journal of Fracture</i> , 1993, 63, 11-20.	1.1	1
114	Domain Structures and Phase Diagram in 2D Ferroelectrics Under Applied Biaxial Strains - Phase Field Simulations and Thermodynamic Calculations. <i>Materials Research Society Symposia Proceedings</i> , 2005, 881, 1.	0.1	1
115	Dynamic Paradigm for Future Power Grid Operation. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2012, 45, 218-223.	0.4	1
116	Microstructure-dependent rate theory model of defect segregation and phase stability in irradiated polycrystalline $\text{LiAlO}_2$ . <i>Modelling and Simulation in Materials Science and Engineering</i> , 2022, 30, 025005.	0.8	1
117	Sensitivity analysis of the Kalman Filter and its applications in power systems. , 2011, , .		0
118	Magnetization Reversal Process of Single Crystal $\hat{\pm}$ -Fe Containing a Nonmagnetic Particle. <i>Chinese Physics Letters</i> , 2015, 32, 067502.	1.3	0
119	Mesoscale Phase Field Modeling of Glass Strengthening Under Triaxial Compression. <i>International Journal of Applied Glass Science</i> , 2016, 7, 384-393.	1.0	0
120	Nanomechanics of Ferroelectric Thin Films and Heterostructures. <i>Springer Series in Materials Science</i> , 2016, , 469-488.	0.4	0