L-Q Chen

List of Publications by Year in Descending Order

858 papers	49,840 citations	105 h-index	191 g-index
908 ext. papers	57,983 ext. citations	8.4 avg, IF	7.89 L-index

#	Paper	IF	Citations
858	Stability and low-energy orientations of interphase boundaries in multiaxial ferroelectrics: Phase-field simulations. *Physical Review B*, **2022**, 105,	3.3	1
857	Phase-Field Simulations of Tunable Polar Topologies in Lead-Free Ferroelectric/Paraelectric Multilayers with Ultrahigh Energy Storage Performance.. *Advanced Materials*, **2022**, e2108772	24	6
856	Liberating a hidden antiferroelectric phase with interfacial electrostatic engineering.. *Science Advances*, **2022**, 8, eabg5860	14.3	3
855	Q-POP-Thermo: A general-purpose thermodynamics solver for ferroelectric materials. *Computer Physics Communications*, **2022**, 108302	4.2	1
854	Combining the K-bubble strengthening and Y-doping: Microstructure, mechanical/thermal properties, and thermal shock behavior of W-K-Y alloys. *International Journal of Refractory Metals and Hard Materials*, **2022**, 103, 105739	4.1	1
853	Double-gradients design of polymer nanocomposites with high energy density. *Energy Storage Materials*, **2022**, 44, 73-81	19.4	9
852	A Phase-Field Study on Internal to External Oxidation Transition in High-Temperature Structural Alloys. *Jom*, **2022**, 74, 1435-1443	2.1	1
851	Flexoelectric Domain Walls Originated from Structural Phase Transition in Epitaxial BiVO Films.. *Small*, **2022**, e2107540	11	0
850	Optimizing Piezoelectric Nanocomposites by High-Throughput Phase-Field Simulation and Machine Learning.. *Advanced Science*, **2022**, e2105550	13.6	7
849	Local manipulation and topological phase transitions of polar skyrmions. *Matter*, **2022**, 5, 1031-1041	12.7	0
848	The role of lattice dynamics in ferroelectric switching.. *Nature Communications*, **2022**, 13, 1110	17.4	6
847	Role of interfacial energy anisotropy in dendrite orientation in Al-Zn alloys: A phase field study. *Materials and Design*, **2022**, 216, 110555	8.1	5
846	Bimodal polymorphic nanodomains in ferroelectric films for giant energy storage. *Energy Storage Materials*, **2022**, 48, 306-313	19.4	2
845	Ferroelectric crystals with giant electro-optic property enabling ultracompact Q-switches.. *Science*, **2022**, 376, 371-377	33.3	7
844	High Performance High-power Textured Mn/Cu-doped PIN-PMN-PT Ceramics. *Acta Materialia*, **2022** , 118015	8.4	0
843	Phase-Field Model of Stoichiometric Compounds and Solution Phases. *Acta Materialia*, **2022**, 118007	8.4	0
842	High-throughput finite-element design of dielectric composites for high-frequency copper clad laminates. *Composites Science and Technology*, **2022**, 225, 109517	8.6	2

841	Tunable Nanoscale Evolution and Topological Phase Transitions of a Polar Vortex Supercrystal.. *Advanced Materials*, **2021**, e2106401	24	1
840	Thermodynamic Models of Multicomponent Nonstoichiometric Solution Phases Using Internal Process Order Parameters. *Acta Materialia*, **2021**, 223, 117462	8.4	1
839	Microscopic piezoelectric behavior of clamped and membrane (001) PMN-30PT thin films. *Applied Physics Letters*, **2021**, 119, 202903	3.4	0
838	Low-voltage magnetoelectric coupling in membrane heterostructures. *Science Advances*, **2021**, 7, eabh2294	14.3	6
837	In-plane quasi-single-domain BaTiO via interfacial symmetry engineering. *Nature Communications*, **2021**, 12, 6784	17.4	5
836	Predicting phase transformation kinetics during metal additive manufacturing using non-isothermal Johnson-Mehl-Avrami models: Application to Inconel 718 and Ti-6Al-4V. *Additive Manufacturing*, **2021**, 49, 102478	6.1	0
835	Atomic-scale observation of non-classical nucleation-mediated phase transformation in a titanium alloy. *Nature Materials*, **2021**,	27	5
834	Magnetoelectrics and Multiferroics **2021**, 595-623		
833	Ultrahigh energy density of poly(vinylidene fluoride) from synergistically improved dielectric constant and withstand voltage by tuning the crystallization behavior. *Journal of Materials Chemistry A*, **2021**, 9, 27660-27671	13	5
832	Inverse Domain-Size Dependence of Piezoelectricity in Ferroelectric Crystals. *Advanced Materials*, **2021**, e2105071	24	6
831	Giant Thermal Transport Tuning at a Metal/Ferroelectric Interface. *Advanced Materials*, **2021**, e2105778	24	2
830	DFTTK: Density Functional Theory ToolKit for high-throughput lattice dynamics calculations. *Calphad: Computer Coupling of Phase Diagrams and Thermochemistry*, **2021**, 75, 102355	1.9	4
829	Nanotextured Dynamics of a Light-Induced Phase Transition in VO. *Nano Letters*, **2021**, 21, 9052-9060	11.5	3
828	Stress-dependence of dislocation dissociation, nucleation and annihilation in elastically anisotropic Cu. *International Journal of Plasticity*, **2021**, 138, 102927	7.6	2
827	Effect of Heat Treatment on the Microstructure and Mechanical Properties of Selective Laser-Melted Ti64 and Ti-5Al-5Mo-5V-1Cr-1Fe. *Metals*, **2021**, 11, 534	2.3	5
826	Toroidal polar topology in strained ferroelectric polymer. *Science*, **2021**, 371, 1050-1056	33.3	24
825	Quantifying the effect of hydride microstructure on zirconium alloys embrittlement using image analysis. *Journal of Nuclear Materials*, **2021**, 547, 152817	3.3	8
824	Vortex Domain Walls in Ferroelectrics. *Nano Letters*, **2021**, 21, 3533-3539	11.5	9

823	Polymer Dielectrics with Simultaneous Ultrahigh Energy Density and Low Loss. *Advanced Materials*, **2021**, 33, e2008198	24	33
822	Domain patterns and super-elasticity of freestanding BiFeO3 membranes via phase-field simulations. *Acta Materialia*, **2021**, 208, 116689	8.4	5
821	Subterahertz collective dynamics of polar vortices. *Nature*, **2021**, 592, 376-380	50.4	15
820	Engineering new limits to magnetostriction through metastability in iron-gallium alloys. *Nature Communications*, **2021**, 12, 2757	17.4	2
819	A multiscale insight into the growth of h-BN: effect of the enclosure. *2D Materials*, **2021**, 8, 035033	5.9	3
818	Multi-scale simulation of Al□u□d alloy for yield strength prediction of large components in quenching-aging process. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2021**, 814, 141223	5.3	1
817	In-situ domain structure characterization of Pb(Mg1/3Nb2/3)O3-PbTiO3 crystals under alternating current electric field poling. *Acta Materialia*, **2021**, 210, 116853	8.4	7
816	Nano-imaging of strain-tuned stripe textures in a Mott crystal. *Npj Quantum Materials*, **2021**, 6,	5	4
815	Evolution of topological defects at two sequential phase transitions of Nd2SrFe2O7. *Physical Review Research*, **2021**, 3,	3.9	2
814	Ultrahigh specific strength in a magnesium alloy strengthened by spinodal decomposition. *Science Advances*, **2021**, 7,	14.3	49
813	Superelastic oxide micropillars enabled by surface tension-modulated 90° domain switching with excellent fatigue resistance. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	4
812	Enhanced electric-field-induced strains in (K,Na)NbO3 piezoelectrics from heterogeneous structures. *Materials Today*, **2021**, 46, 44-53	21.8	11
811	Universal phase dynamics in VO switches revealed by ultrafast operando diffraction. *Science*, **2021**, 373, 352-355	33.3	18
810	Emergent chirality in a polar meron to skyrmion transition revealed by 4D-STEM. *Microscopy and Microanalysis*, **2021**, 27, 348-350	0.5	2
809	Precipitation Hardening in Ferroelectric Ceramics. *Advanced Materials*, **2021**, 33, e2102421	24	9
808	Three-dimensional Phase-field simulation of □ precipitation kinetics in Inconel 625 during heat treatment. *Computational Materials Science*, **2021**, 187, 110123	3.2	5
807	Explicit Dynamics of Diffuse Interface in Phase-Field Model. *Advanced Theory and Simulations*, **2021**, 4, 2000162	3.5	2
806	Local negative permittivity and topological phase transition in polar skyrmions. *Nature Materials*, **2021**, 20, 194-201	27	33

805	Ferroelastic Nanodomain-mediated Mechanical Switching of Ferroelectricity in Thick Epitaxial Films. *Nano Letters*, **2021**, 21, 445-452	11.5	2
804	Dislocation-induced large local polarization inhomogeneity of ferroelectric materials. *Scripta Materialia*, **2021**, 194, 113624	5.6	2
803	Superhierarchical Inorganic/Organic Nanocomposites Exhibiting Simultaneous Ultrahigh Dielectric Energy Density and High Efficiency. *Advanced Functional Materials*, **2021**, 31, 2007994	15.6	21
802	Heat-treatment induced microstructural evolution and enhanced mechanical property of selective laser melted near β-Ti-5Al-5Mo-5 V-3Cr-1Zr alloy. *Journal of Alloys and Compounds*, **2021**, 858, 158351	5.7	11
801	Ultrasensitive magnetostrictive responses at the pre-transitional rhombohedral side of ferromagnetic morphotropic phase boundary. *Journal of Materials Science*, **2021**, 56, 1713-1729	4.3	4
800	Magnetoelectrics and Multiferroics **2021**, 1-29		
799	Corrosion behavior of additive manufactured Ti-6Al-4V in sulfamic acid cleaning solution. *New Journal of Chemistry*, **2021**, 45, 2967-2973	3.6	5
798	Dendrite-free Lithium Based on Lessons Learned from Lithium and Magnesium Electrodeposition Morphology Simulations. *Cell Reports Physical Science*, **2021**, 2, 100294	6.1	6
797	Strain-Induced Interlayer Parallel-to-Antiparallel Magnetic Transitions of Twisted Bilayers. *Advanced Theory and Simulations*, **2021**, 4, 2000215	3.5	1
796	Phase-field simulation of magnetic microstructure and domain switching in (Tb0.27Dy0.73)Fe2 single crystal. *AIP Advances*, **2021**, 11, 015207	1.5	2
795	Quasi-one-dimensional metallic conduction channels in exotic ferroelectric topological defects. *Nature Communications*, **2021**, 12, 1306	17.4	12
794	Designing polymer nanocomposites with high energy density using machine learning. *Npj Computational Materials*, **2021**, 7,	10.9	9
793	Hydrogel Ionic Diodes toward Harvesting Ultralow-Frequency Mechanical Energy. *Advanced Materials*, **2021**, 33, e2103056	24	13
792	Microstructure and Mechanical Property of Ti-5Al-5Mo-5V-3Cr-1Zr Alloy Fabricated by Selective Laser Melting with a Preheated Substrate. *Advanced Engineering Materials*, **2021**, 23, 2100265	3.5	0
791	Giant room temperature elastocaloric effect in metal-free thin-film perovskites. *Npj Computational Materials*, **2021**, 7,	10.9	2
790	Room-temperature ultrasensitive magnetoelastic responses near the magnetic-ordering tricritical region. *Journal of Applied Physics*, **2021**, 130, 063901	2.5	0
789	Dynamics of voltage-driven oscillating insulator-metal transitions. *Physical Review B*, **2021**, 104,	3.3	2
788	Spectral phase-field model of deformation twinning and plastic deformation. *International Journal of Plasticity*, **2021**, 143, 103019	7.6	5

787	Phase diagrams, superdomains, and superdomain walls in K Na1-NbO3 epitaxial thin films. *Acta Materialia*, **2021**, 215, 117038	8.4	3
786	Realize High Thermoelectric Properties in n-Type BiTeSe/YO Nanocomposites by Constructing Heterointerfaces. *ACS Applied Materials & Interfaces*, **2021**, 13, 38526-38533	9.5	5
785	From classical thermodynamics to phase-field method. *Progress in Materials Science*, **2021**, 100868	42.2	29
784	Inherent stochasticity during insulator-metal transition in VO. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	3
783	Investigation of zirconium hydride morphology in a single crystal using quantitative phase field simulations supported by experiments. *Journal of Nuclear Materials*, **2021**, 153303	3.3	3
782	Graded hierarchical microstructure and mechanical property of electron beam melted Ti5Al5Mo5V3Cr1Zr. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2021**, 825, 141914	5.3	2
781	Boundary conditions manipulation of polar vortex domains in BiFeO3 membranes via phase-field simulations. *Journal Physics D: Applied Physics*, **2021**, 54, 495301	3	1
780	Ultrahigh energy storage in superparaelectric relaxor ferroelectrics. *Science*, **2021**, 374, 100-104	33.3	49
779	Role of interfaces in organic–inorganic flexible thermoelectrics. *Nano Energy*, **2021**, 89, 106380	17.1	9
778	Improper molecular ferroelectrics with simultaneous ultrahigh pyroelectricity and figures of merit. *Science Advances*, **2021**, 7,	14.3	13
777	Enabling High-Energy-Density High-Efficiency Ferroelectric Polymer Nanocomposites with Rationally Designed Nanofillers. *Advanced Functional Materials*, **2021**, 31, 2006739	15.6	36
776	Microstructural impacts on ionic conductivity of oxide solid electrolytes from a combined atomistic-mesoscale approach. *Npj Computational Materials*, **2021**, 7,	10.9	4
775	High-entropy polymer produces a giant electrocaloric effect at low fields.. *Nature*, **2021**, 600, 664-669	50.4	17
774	Flexoelectric control of physical properties by atomic force microscopy. *Applied Physics Reviews*, **2021**, 8, 041327	17.3	7
773	The Optimized N, P, and K Fertilization for Bermudagrass Integrated Turf Performance during the Establishment and Its Importance for the Sustainable Management of Urban Green Spaces. *Sustainability*, **2020**, 12, 10294	3.6	6
772	Temperature dependence of three-dimensional domain wall arrangement in ferroelectric K0.9Na0.1NbO3 epitaxial thin films. *Journal of Applied Physics*, **2020**, 128, 184101	2.5	6
771	Spinodal electronic phase separation during insulator-metal transitions. *Physical Review B*, **2020**, 102,	3.3	4
770	Structural Insight in the Interfacial Effect in Ferroelectric Polymer Nanocomposites. *Advanced Materials*, **2020**, 32, e2005431	24	36

769	Mechanically induced ferroelectric switching in BaTiO3 thin films. *Acta Materialia*, **2020**, 193, 151-162	8.4	12
768	High-throughput data-driven interface design of high-energy-density polymer nanocomposites. *Journal of Materiomics*, **2020**, 6, 573-581	6.7	9
767	Domain wall tuned superconductivity in superconductor/ferromagnet bilayers. *Journal Physics D: Applied Physics*, **2020**, 53, 375001	3	1
766	Lead-free (Ag,K)NbO materials for high-performance explosive energy conversion. *Science Advances*, **2020**, 6, eaba0367	14.3	16
765	Hybrid Magnetic Micropillar Arrays for Programmable Actuation. *Advanced Materials*, **2020**, 32, e2001879	24	34
764	Ferroelectric Domain Wall Memristor. *Advanced Functional Materials*, **2020**, 30, 2000109	15.6	47
763	Spontaneous ferroelectric order in lead-free relaxor Na1/2Bi1/2TiO3-based composites. *Physical Review B*, **2020**, 101,	3.3	10
762	Colossal flexoresistance in dielectrics. *Nature Communications*, **2020**, 11, 2586	17.4	10
761	An All-Scale Hierarchical Architecture Induces Colossal Room-Temperature Electrocaloric Effect at Ultralow Electric Field in Polymer Nanocomposites. *Advanced Materials*, **2020**, 32, e1907927	24	16
760	Low-energy complementary ferroelectric-nanocrack logic. *Nano Energy*, **2020**, 75, 104871	17.1	3
759	Observation of Unconventional Dynamics of Domain Walls in Uniaxial Ferroelectric Lead Germanate. *Advanced Functional Materials*, **2020**, 30, 2000284	15.6	9
758	Multiscale computational understanding and growth of 2D materials: a review. *Npj Computational Materials*, **2020**, 6,	10.9	49
757	Mechanically controllable nonlinear dielectrics. *Science Advances*, **2020**, 6, eaaz3180	14.3	12
756	Strain engineering of dischargeable energy density of ferroelectric thin-film capacitors. *Nano Energy*, **2020**, 72, 104665	17.1	26
755	A new design of divided solenoid with high homogeneity based on linear programming. *Review of Scientific Instruments*, **2020**, 91, 014708	1.7	
754	Domain Dynamics under Ultrafast Electric-Field Pulses. *Physical Review Letters*, **2020**, 124, 107601	7.4	16
753	A thermodynamic study of phase transitions and electrocaloric properties of K0.5Na0.5NbO3 single crystals. *Applied Physics Letters*, **2020**, 116, 092902	3.4	5
752	Molecular Cloning and Functional Characterization of and Transcription Factors from Wintersweet (L.). *Plants*, **2020**, 9,	4.5	9

751	Phase-field study of the effects of the multi-controlling parameters on columnar dendrite during directional solidification in hexagonal materials. *European Physical Journal E*, **2020**, 43, 41	1.5	2
750	Irradiation hardening behaviors of tungsten□potassium alloy studied by accelerated 3-MeVW2+ ions. *Chinese Physics B*, **2020**, 29, 046102	1.2	3
749	Constructing Polymorphic Nanodomains in BaTiO3 Films via Epitaxial Symmetry Engineering. *Advanced Functional Materials*, **2020**, 30, 1910569	15.6	14
748	Annealing induced shrinkage-fill effect of tungsten-potassium alloys with trace titanium doping. *International Journal of Refractory Metals and Hard Materials*, **2020**, 90, 105193	4.1	2
747	Transparent ferroelectric crystals with ultrahigh piezoelectricity. *Nature*, **2020**, 577, 350-354	50.4	181
746	Thermodynamic and phase-field studies of phase transitions, domain structures, and switching for Ba(Zr Ti1□)□O3 solid solutions. *Acta Materialia*, **2020**, 186, 609-615	8.4	4
745	Nanopore-induced dielectric and piezoelectric enhancement in PbTiO3 nanowires. *Acta Materialia*, **2020**, 187, 146-152	8.4	8
744	Unexpected Giant Microwave Conductivity in a Nominally Silent BiFeO Domain Wall. *Advanced Materials*, **2020**, 32, e1905132	24	11
743	Deterministic reversal of single magnetic vortex circulation by an electric field. *Science Bulletin*, **2020**, 65, 1260-1267	10.6	10
742	Expression of the subgroup IIIf bHLH transcription factor CpbHLH1 from Chimonanthus praecox (L.) in transgenic model plants inhibits anthocyanin accumulation. *Plant Cell Reports*, **2020**, 39, 891-907	5.1	8
741	Alveolus-Inspired Active Membrane Sensors for Self-Powered Wearable Chemical Sensing and Breath Analysis. *ACS Nano*, **2020**, 14, 6067-6075	16.7	167
740	Strain Control of Domain Structures in Ferroelectric Thin Films: Applications of Phase-Field Method **2020**, 1213-1230		0
739	Three-dimensional pseudopotential lattice Boltzmann model for multiphase flows at high density ratio. *Physical Review E*, **2020**, 102, 053308	2.4	4
738	High-throughput phase-field simulations and machine learning of resistive switching in resistive random-access memory. *Npj Computational Materials*, **2020**, 6,	10.9	4
737	Presence of a purely tetragonal phase in ultrathin BiFeO3 films: Thermodynamics and phase-field simulations. *Acta Materialia*, **2020**, 183, 110-117	8.4	8
736	Coupling in situ synchrotron X-ray radiography and phase-field simulation to study the effect of low cooling rates on dendrite morphology during directional solidification in Mg□d alloys. *Journal of Alloys and Compounds*, **2020**, 815, 152385	5.7	16
735	Engineering interfacial adhesion for high-performance lithium metal anode. *Nano Energy*, **2020**, 67, 104242	17.1	18
734	Engineering nanoscale polarization at the SrTiO3/Ge interface. *Scripta Materialia*, **2020**, 178, 489-492	5.6	1

733	Extraordinarily Large Electrocaloric Strength of Metal-Free Perovskites. *Advanced Materials*, **2020**, 32, e1906224	24	29
732	Stability and dynamics of skyrmions in ultrathin magnetic nanodisks under strain. *Acta Materialia*, **2020**, 183, 145-154	8.4	8
731	Phase-field simulation of two-dimensional topological charges in nematic liquid crystals. *Journal of Applied Physics*, **2020**, 128, 124701	2.5	0
730	Giant tuning of ferroelectricity in single crystals by thickness engineering. *Science Advances*, **2020**, 6,	14.3	19
729	Shear-strain-induced over 90° rotation of local magnetization in FeCoSiB/PMN-PT (011) multiferroic heterostructures. *Acta Materialia*, **2020**, 199, 495-503	8.4	0
728	Defects engineering driven high power factor of ZrNiSn-based Half-Heusler thermoelectric materials. *Chemical Physics Letters*, **2020**, 755, 137770	2.5	7
727	Giant piezoelectricity in oxide thin films with nanopillar structure. *Science*, **2020**, 369, 292-297	33.3	34
726	Uncertainty quantification and reduction in metal additive manufacturing. *Npj Computational Materials*, **2020**, 6,	10.9	10
725	The chromosome-level wintersweet (Chimonanthus praecox) genome provides insights into floral scent biosynthesis and flowering in winter. *Genome Biology*, **2020**, 21, 200	18.3	23
724	A Tandem 0D/2D/2D NbS Quantum Dot/Nb O Nanosheet/g-C N Flake System with Spatial Charge-Transfer Cascades for Boosting Photocatalytic Hydrogen Evolution. *Small*, **2020**, 16, e2003302	11	16
723	Phase-field model of deformation twin-grain boundary interactions in hexagonal systems. *Acta Materialia*, **2020**, 200, 821-834	8.4	4
722	Dramatically Enhanced Combination of Ultimate Tensile Strength and Electric Conductivity of Alloys via Machine Learning Screening. *Acta Materialia*, **2020**, 200, 803-810	8.4	33
721	Lightweight Porous Polystyrene with High Thermal Conductivity by Constructing 3D Interconnected Network of Boron Nitride Nanosheets. *ACS Applied Materials & Interfaces*, **2020**, 12, 46767-46778	9.5	31
720	Controlled Nucleation and Stabilization of Ferroelectric Domain Wall Patterns in Epitaxial (110) Bismuth Ferrite Heterostructures. *Advanced Functional Materials*, **2020**, 30, 2003571	15.6	5
719	Tunable Non-Volatile Memory by Conductive Ferroelectric Domain Walls in Lithium Niobate Thin Films. *Crystals*, **2020**, 10, 804	2.3	9
718	Phase transition enhanced superior elasticity in freestanding single-crystalline multiferroic BiFeO membranes. *Science Advances*, **2020**, 6,	14.3	25
717	Electric-field-controlled magnetization switching in multiferroic heterostructures containing interactive magnetic nanoislands. *Journal Physics D: Applied Physics*, **2020**, 53, 024002	3	4
716	Atomic imaging of mechanically induced topological transition of ferroelectric vortices. *Nature Communications*, **2020**, 11, 1840	17.4	24

715	Electrical Tunability of Domain Wall Conductivity in LiNbO Thin Films. *Advanced Materials*, **2019**, 31, e1902890	24	38
714	Super-elastic ferroelectric single-crystal membrane with continuous electric dipole rotation. *Science*, **2019**, 366, 475-479	33.3	127
713	Microstructure and mechanical properties of as-deposited and heat treated Ti5Al5Mo5V3Cr1Zr (Ti-55531) alloy fabricated by laser melting deposition. *Journal of Alloys and Compounds*, **2019**, 810, 151792	5.7	18
712	Ferroelectric domain structures and temperature-misfit strain phase diagrams of K1-xNaxNbO3 thin films: A phase-field study. *Applied Physics Letters*, **2019**, 115, 092902	3.4	14
711	Mechanical-force-induced non-local collective ferroelastic switching in epitaxial lead-titanate thin films. *Nature Communications*, **2019**, 10, 3951	17.4	25
710	Observation of Strong Polarization Enhancement in Ferroelectric Tunnel Junctions. *Nano Letters*, **2019**, 19, 6812-6818	11.5	12
709	Current-Driven Insulator-To-Metal Transition in Strongly Correlated VO2. *Physical Review Applied*, **2019**, 11,	4.3	12
708	Enhanced flexoelectricity at reduced dimensions revealed by mechanically tunable quantum tunnelling. *Nature Communications*, **2019**, 10, 537	17.4	34
707	An alternative approach to predict Seebeck coefficients: Application to La3Te4. *Scripta Materialia*, **2019**, 169, 87-91	5.6	7
706	Ultrathin, flexible, solid polymer composite electrolyte enabled with aligned nanoporous host for lithium batteries. *Nature Nanotechnology*, **2019**, 14, 705-711	28.7	442
705	A Coherently Strained Monoclinic [111]PbTiO3 Film Exhibiting Zero Poisson's Ratio State. *Advanced Functional Materials*, **2019**, 29, 1901687	15.6	19
704	Interaction Dynamics Between Ferroelectric and Antiferroelectric Domains in a PbZrO3-Based Ceramic. *Physical Review Applied*, **2019**, 11,	4.3	12
703	Uncertainty Quantification in Metallic Additive Manufacturing Through Physics-Informed Data-Driven Modeling. *Jom*, **2019**, 71, 2625-2634	2.1	21
702	Flexoelectricity in solids: Progress, challenges, and perspectives. *Progress in Materials Science*, **2019**, 106, 100570	42.2	123
701	Robust polarization switching in self-assembled BiFeO3 nanoislands with quad-domain structures. *Acta Materialia*, **2019**, 175, 324-330	8.4	14
700	Synergy of micro-/mesoscopic interfaces in multilayered polymer nanocomposites induces ultrahigh energy density for capacitive energy storage. *Nano Energy*, **2019**, 62, 220-229	17.1	84
699	Phase-field modeling and machine learning of electric-thermal-mechanical breakdown of polymer-based dielectrics. *Nature Communications*, **2019**, 10, 1843	17.4	97
698	Polymer Nanocomposites: Polymer Nanocomposites with Interpenetrating Gradient Structure Exhibiting Ultrahigh Discharge Efficiency and Energy Density (Adv. Energy Mater. 15/2019). *Advanced Energy Materials*, **2019**, 9, 1970047	21.8	1

697	Perspective: voltage control of magnetization in multiferroic heterostructures. *National Science Review*, **2019**, 6, 621-624	10.8	11
696	Current assisted memory effect in superconductor/ferromagnet bilayers: a potential candidate for memristors. *Superconductor Science and Technology*, **2019**, 32, 095002	3.1	4
695	Electrokinetic Phenomena Enhanced Lithium-Ion Transport in Leaky Film for Stable Lithium Metal Anodes. *Advanced Energy Materials*, **2019**, 9, 1900704	21.8	51
694	Initial Irreversible Losses and Enhanced High-Temperature Performance of Rare-Earth Permanent Magnets. *Advanced Functional Materials*, **2019**, 29, 1900690	15.6	23
693	Electrical polarization induced by atomically engineered compositional gradient in complex oxide solid solution. *NPG Asia Materials*, **2019**, 11,	10.3	4
692	Observation of room-temperature polar skyrmions. *Nature*, **2019**, 568, 368-372	50.4	221
691	Kinetic control of tunable multi-state switching in ferroelectric thin films. *Nature Communications*, **2019**, 10, 1282	17.4	28
690	Optical creation of a supercrystal with three-dimensional nanoscale periodicity. *Nature Materials*, **2019**, 18, 377-383	27	61
689	Strain Engineering in Functional Materials. *Journal of Applied Physics*, **2019**, 125, 082201	2.5	4
688	Hydrogen in zirconium alloys: A review. *Journal of Nuclear Materials*, **2019**, 518, 440-460	3.3	93
687	Conformational Domain Wall Switch. *Advanced Functional Materials*, **2019**, 29, 1807523	15.6	32
686	Understanding, Predicting, and Designing Ferroelectric Domain Structures and Switching Guided by the Phase-Field Method. *Annual Review of Materials Research*, **2019**, 49, 127-152	12.8	60
685	New frontiers for the materials genome initiative. *Npj Computational Materials*, **2019**, 5,	10.9	171
684	Scalable Polymer Nanocomposites with Record High-Temperature Capacitive Performance Enabled by Rationally Designed Nanostructured Inorganic Fillers. *Advanced Materials*, **2019**, 31, e1900875	24	120
683	First-principles lattice dynamics and thermodynamic properties of pre-perovskite PbTiO3. *Acta Materialia*, **2019**, 171, 146-153	8.4	5
682	Direct observation of weakened interface clamping effect enabled ferroelastic domain switching. *Acta Materialia*, **2019**, 171, 184-189	8.4	8
681	Polymer Nanocomposites with Interpenetrating Gradient Structure Exhibiting Ultrahigh Discharge Efficiency and Energy Density. *Advanced Energy Materials*, **2019**, 9, 1803411	21.8	84
680	Multiscale crystal-plasticity phase field and extended finite element methods for fatigue crack initiation and propagation modeling. *International Journal of Fracture*, **2019**, 216, 41-57	2.3	6

679	Computational modeling of grain boundary electrostatic effect in polycrystalline SrTiO3 thin film. *Journal of the American Ceramic Society*, **2019**, 102, 4136-4151	3.8	3
678	A thermodynamically consistent phase-field model for viscous sintering. *Journal of the American Ceramic Society*, **2019**, 102, 674-685	3.8	5
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