# Electrocaloric Cooling Materials and Devices for Zero-G High-Efficiency Refrigeration

Joule

3, 1200-1225

DOI: 10.1016/j.joule.2019.03.021

Citation Report

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Sm-doping induced large enhancement of antiferroelectric and energy storage performances of (111) oriented PbZrO3 thin films. Ceramics International, 2019, 45, 23586-23591. | 2.3 | 26 |
| 2 | Structural Design and Kinematics Analysis of a Multi-legged Wall-climbing Robot. , 2019, , . | | 0 |
| 3 | Electrocaloric Effect with Variations of Diffusivity in Relaxor Ferroelectric Materials. Journal of Electronic Materials, 2019, 48, 7595-7602. | 1.0 | 5 |
| 4 | The Fabrication and Electrocaloric Effect of Bimodal-Grain Structure (Ba0.60Sr0.40)TiO3 Using the Induced Abnormal Grain Growth Method. IOP Conference Series: Materials Science and Engineering, 2019, 678, 012138. | 0.3 | 4 |
| 5 | Broad-temperature-span and large electrocaloric effect in lead-free ceramics utilizing successive and metastable phase transitions. Journal of Materials Chemistry A, 2019, 7, 25526-25536. | 5.2 | 63 |
| 6 | Large electrocaloric response over a broad temperature range near room temperature in BaxSr1â^'xTiO3 single crystals. Journal of Applied Physics, 2019, 126, . | 1.1 | 10 |
| 7 | Thermal control elements for caloric energy conversion. Renewable and Sustainable Energy Reviews, 2020, 118, 109571. | 8.2 | 55 |
| 8 | Tuning the electrocaloric effect in 0.94Bi0.5Na0.5TiO3-0.06BaTiO3 ceramics by relaxor phase blending. Ceramics International, 2020, 46, 4454-4461. | 2.3 | 7 |
| 9 | High fidelity direct measurement of local electrocaloric effect by scanning thermal microscopy. Nano Energy, 2020, 67, 104203. | 8.2 | 30 |
| 10 | Selfâ€Healing of Electrical Damage in Polymers. Advanced Science, 2020, 7, 2002131. | 5.6 | 46 |
| 11 | Electrocaloric effect in relaxor ferroelectric polymer nanocomposites for solid-state cooling. Journal of Materials Chemistry A, 2020, 8, 16814-16830. | 5.2 | 20 |
| 12 | The strong electrocaloric effect in molecular ferroelectric ImClO<sub>4</sub>with ultrahigh electrocaloric strength. Journal of Materials Chemistry A, 2020, 8, 16189-16194. | 5.2 | 23 |
| 13 | Pb(Fe<sub>0.5</sub>Nb<sub>0.5</sub>)O<sub>3</sub>â€“BiFeO<sub>3</sub>-based multicalorics with room-temperature ferroic anomalies. Journal of Materials Chemistry C, 2020, 8, 11282-11291. | 2.7 | 5 |
| 14 | Soft Perovskite-Type Antiferroelectric with Giant Electrocaloric Strength near Room Temperature. Journal of the American Chemical Society, 2020, 142, 20744-20751. | 6.6 | 37 |
| 15 | Electrocaloric devices part II: All-solid heat pump without moving parts. Journal of Advanced Dielectrics, 2020, 10, 2050029. | 1.5 | 8 |
| 16 | Multifunctional barium titanate ceramics via chemical modification tuning phase structure. InformaÂnÂ-MateriÃ¡ly, 2020, 2, 1163-1190. | 8.5 | 112 |
| 17 | A cascade electrocaloric cooling device for large temperature lift. Nature Energy, 2020, 5, 996-1002. | 19.8 | 103 |
| 18 | Electrocaloric properties of Sr and Sn doped BCZT lead-free ceramics. EPJ Applied Physics, 2020, 91, 20905. | 0.3 | 4 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Comprehensive evaluation of electrocaloric effect and fatigue behavior in the 0.9Pb(Mg1/3Nb2/3)O3â€“0.1PbTiO3 bulk relaxor ferroelectric ceramic. Journal of Applied Physics, 2020, 128, . | 1.1 | 11 |
| 20 | Electrocaloric Cooling: A Review of the Thermodynamic Cycles, Materials, Models, and Devices. Magnetochemistry, 2020, 6, 67. | 1.0 | 28 |
| 21 | Interfaceâ€Strengthened Polymer Nanocomposites with Reduced Dielectric Relaxation Exhibit High Energy Density at Elevated Temperatures Utilizing a Facile Dual Crosslinked Network. Small, 2020, 16, e2000714. | 5.2 | 64 |
| 22 | High electrocaloric effect in barium titanate-sodium niobate ceramics with core-shell grain assembly. Journal of Materiomics, 2020, 6, 618-627. | 2.8 | 13 |
| 23 | Ferroelectric nanocomposites: Influence of nanoparticle size distribution on electrocaloric conversion parameters. , 2020, , . | | 1 |
| 24 | Toward a solid-state thermal diode for room-temperature magnetocaloric energy conversion. Journal of Applied Physics, 2020, 127, . | 1.1 | 17 |
| 25 | High energy storage efficiency and large electrocaloric effect in lead-free BaTi0.89Sn0.11O3 ceramic. Ceramics International, 2020, 46, 23867-23876. | 2.3 | 47 |
| 26 | The Influence of the Distribution Function of Ferroelectric Nanoparticles Sizes on Their Electrocaloric and Pyroelectric Properties. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 2445-2453. | 1.7 | 1 |
| 27 | Large Electrocaloric Effect in (Bi<sub>0.5</sub>Na<sub>0.5</sub>)TiO<sub>3</sub>-Based Relaxor Ferroelectrics. ACS Applied Materials & Interfaces, 2020, 12, 33934-33940. | 4.0 | 58 |
| 28 | Performance evaluation of R1234yf heat pump system for an electric vehicle in cold climate. International Journal of Refrigeration, 2020, 115, 117-125. | 1.8 | 32 |
| 29 | Selfâ€Actuating Electrocaloric Cooling Fibers. Advanced Energy Materials, 2020, 10, 1903902. | 10.2 | 19 |
| 30 | Toward Multifunctional Electronics: Flexible NBT-Based Film with a Large Electrocaloric Effect and High Energy Storage Property. ACS Applied Materials & Interfaces, 2020, 12, 6082-6089. | 4.0 | 42 |
| 31 | Enhanced electrocaloric effect of relaxor potassium sodium niobate lead-free ceramic via multilayer structure. Scripta Materialia, 2021, 193, 97-102. | 2.6 | 16 |
| 32 | Enhanced electrocaloric effect in the Sm and Hf co-doped BaTiO3 ceramics. Ceramics International, 2021, 47, 1101-1108. | 2.3 | 24 |
| 33 | Performance evaluation of secondary loop low-temperature heat pump system for frost prevention in electric vehicles. Applied Thermal Engineering, 2021, 182, 115615. | 3.0 | 15 |
| 34 | Enhanced Electrocaloric Response of Vinylidene Fluorideâ€“Based Polymers via Oneâ€Step Molecular Engineering. Advanced Functional Materials, 2021, 31, . | 7.8 | 21 |
| 35 | Impact of hysteresis on caloric cooling performance. International Journal of Refrigeration, 2021, 121, 302-312. | 1.8 | 15 |
| 36 | Fabryâ€“Perot resonance assisted dual-layer coating with enhanced wavelength-selective refection and emission for daytime radiative cooling. Optics Communications, 2021, 483, 126673. | 1.0 | 8 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Recent advances in the development of radiative sky cooling inspired from solar thermal harvesting. Nano Energy, 2021, 81, 105611. | 8.2 | 36 |
| 38 | Numerical evaluation of a kilowatt-level rotary electrocaloric refrigeration system. International Journal of Refrigeration, 2021, 121, 279-288. | 1.8 | 13 |
| 39 | A Review of Recent Advances in Emerging Alternative Heating and Cooling Technologies. Energies, 2021, 14, 502. | 1.6 | 19 |
| 40 | Ferroelectric-relaxor crossover induce large electrocaloric effect with ultrawide temperature span in NaNbO3-based lead-free ceramics. Applied Physics Letters, 2021, 118, . | 1.5 | 20 |
| 41 | Large electrocaloric response with superior temperature stability in NaNbO<sub>3</sub>-based relaxor ferroelectrics benefiting from the crossover region. Journal of Materials Chemistry A, 2021, 9, 2806-2814. | 5.2 | 32 |
| 42 | Fluxionality by quantum tunnelling: nonclassical 21-homododecahedryl cation rearrangement re-revisited. Chemical Communications, 2021, 57, 10735-10738. | 2.2 | 1 |
| 43 | Electrostatic Actuating Doubleâ€Unit Electrocaloric Cooling Device with High Efficiency. Advanced Energy Materials, 2021, 11, 2003771. | 10.2 | 16 |
| 44 | Advances and obstacles in pressure-driven solid-state cooling: A review of barocaloric materials. MRS Energy & Sustainability, 2021, 8, 3. | 1.3 | 21 |
| 45 | Thermodynamic cycles and electrical charge recovery in high-efficiency electrocaloric cooling systems. International Journal of Refrigeration, 2021, 131, 970-979. | 1.8 | 9 |
| 46 | Multifunctional Cantilevers as Working Elements in Solid-State Cooling Devices. Actuators, 2021, 10, 58. | 1.2 | 6 |
| 47 | Electrocaloric effects in multiferroics. Physical Review B, 2021, 103, . | 1.1 | 4 |
| 48 | Advanced Thermoelectric Materials for Flexible Cooling Application. Advanced Functional Materials, 2021, 31, 2010695. | 7.8 | 47 |
| 49 | Electric-field-driven coexistence of positive and negative electrocaloric effects near room temperature for high-efficiency two-stage cooling. Applied Physics Letters, 2021, 118, . | 1.5 | 12 |
| 50 | Heat recovery design and test for the secondary loop heat pump MAC system. International Journal of Refrigeration, 2021, 123, 45-51. | 1.8 | 3 |
| 51 | Maxwell relation, giant (negative) electrocaloric effect, and polarization hysteresis. Applied Physics Letters, 2021, 118, . | 1.5 | 18 |
| 52 | Strain engineering on electrocaloric effect in PbTiO3 and BaTiO3. Advanced Composites and Hybrid Materials, 2021, 4, 1239-1247. | 9.9 | 6 |
| 53 | Electrocaloric cooling over high device temperature span. Joule, 2021, 5, 780-793. | 11.7 | 32 |
| 54 | A Review of a Good Binary Ferroelectric Ceramic: BaTiO<sub>3</sub>â€“BiFeO<sub>3</sub>. ACS Applied Electronic Materials, 2022, 4, 2109-2145. | 2.0 | 40 |

| # | Article | IF | Citations |
|---|---|---|---|
| 55 | Ti-doping induced antiferroelectric to ferroelectric phase transition and electrical properties in Sm-PbZrO3 thin films. Current Applied Physics, 2021, 24, 12-18. | 1.1 | 4 |
| 56 | Thermo-hydraulic evaluation of oscillating-flow shell-and-tube-like regenerators for (elasto)caloric cooling. Applied Thermal Engineering, 2021, 190, 116842. | 3.0 | 19 |
| 57 | Concept design and numerical evaluation of a highly efficient rotary electrocaloric refrigeration device. Applied Thermal Engineering, 2021, 190, 116806. | 3.0 | 12 |
| 58 | Antiferroelectrics: History, fundamentals, crystal chemistry, crystal structures, size effects, and applications. Journal of the American Ceramic Society, 2021, 104, 3775-3810. | 1.9 | 83 |
| 59 | Electric field induced phase transitions and electrocaloric effect of La3+ doped Pb(Zr,Sn,Ti)O3 ceramics. Ceramics International, 2021, 47, 13939-13947. | 2.3 | 8 |
| 60 | Solutions to obstacles in the commercialization of room-temperature magnetic refrigeration. Renewable and Sustainable Energy Reviews, 2021, 143, 110933. | 8.2 | 23 |
| 61 | Designed Giant Roomâ€Temperature Electrocaloric Effects in Metalâ€Free Organic Perovskite [MDABCO](NH<sub>4</sub>)I<sub>3</sub> by Phaseâ€“Field Simulations. Advanced Functional Materials, 2021, 31, 2104393. | 7.8 | 27 |
| 63 | Roomâ€Temperature Symmetric Giant Positive and Negative Electrocaloric Effect in PbMg<sub>0.5</sub>W<sub>0.5</sub>O<sub>3</sub> Antiferroelectric Ceramic. Advanced Functional Materials, 2021, 31, 2101176. | 7.8 | 22 |
| 64 | Thermoelectric response as a tool to observe electrocaloric effect in a thin conducting ferroelectric SnSe flake. Physical Review B, 2021, 104, . | 1.1 | 5 |
| 65 | Polymerâ€/Ceramicâ€based Dielectric Composites for Energy Storage and Conversion. Energy and Environmental Materials, 2022, 5, 486-514. | 7.3 | 66 |
| 66 | A Metal-Free Molecular Antiferroelectric Material Showing High Phase Transition Temperatures and Large Electrocaloric Effects. Journal of the American Chemical Society, 2021, 143, 14379-14385. | 6.6 | 33 |
| 67 | Electrocaloric effect in ferroelectric materials: From phase field to first-principles based effective Hamiltonian modeling. Materials Reports Energy, 2021, 1, 100050. | 1.7 | 3 |
| 68 | Electrocaloric Performance of Multilayer Ceramic Chips: Effect of Geometric Structure Induced Internal Stress. ACS Applied Materials & Interfaces, 2021, 13, 38508-38516. | 4.0 | 2 |
| 69 | Enhanced electrocaloric strengths at room temperature in (SrxBa1â^'x)(Sn0.05Ti0.95)O3 lead-free ceramics. Journal of Alloys and Compounds, 2021, 871, 159519. | 2.8 | 27 |
| 70 | Modelling of elastocaloric regenerators with enhanced heat transfer structures. International Journal of Heat and Mass Transfer, 2021, 176, 121372. | 2.5 | 18 |
| 71 | Coexistence of giant positive and large negative electrocaloric effects in lead-free ferroelectric thin film for continuous solid-state refrigeration. Nano Energy, 2021, 88, 106222. | 8.2 | 13 |
| 72 | Electrostatic Assembly of Laminated Transparent Piezoelectrets for Epidermal and Implantable Electronics. Nano Energy, 2021, 89, 106450. | 8.2 | 28 |
| 73 | Design of selectively multilayered periodic gratings by PSO algorithm for radiative cooling. Optics Communications, 2021, 500, 127323. | 1.0 | 4 |

| # | Article | IF | Citations |
|---|---|---|---|
| 74 | Giant energy storage density in Ba, La co-doped PbHfO3-based antiferroelectric ceramics by a rolling process. Journal of Alloys and Compounds, 2021, 888, 161539. | 2.8 | 17 |
| 75 | Large electrocaloric strength in Bi(Mg0.5Ti0.5)O3-modified tetragonal-structured Bi0.5Na0.5TiO3â€“12.5BaTiO3 ceramics. Journal of Alloys and Compounds, 2021, 889, 161601. | 2.8 | 2 |
| 76 | Large electrocaloric and pyroelectric energy harvesting effect over a broad temperature range via modulating the relaxor behavior in non-relaxor ferroelectrics. Journal of Materials Chemistry A, 2021, 9, 22015-22024. | 5.2 | 6 |
| 77 | Electrocaloric refrigeration capacity in BNT-based ferroelectrics benefiting from low depolarization temperature and high breakdown electric field. Journal of Materials Chemistry A, 2021, 9, 12772-12781. | 5.2 | 11 |
| 78 | Decoding the relationship between the electrocaloric strength and phase structure in perovskite ferroelectrics towards high performance. Journal of Materials Chemistry C, 2021, 9, 2063-2072. | 2.7 | 11 |
| 79 | Thermal-stability of the enhanced piezoelectric, energy storage and electrocaloric properties of a lead-free BCZT ceramic. RSC Advances, 2021, 11, 9459-9468. | 1.7 | 33 |
| 80 | Energy Applications of Magnetocaloric Materials. Advanced Energy Materials, 2020, 10, 1903741. | 10.2 | 291 |
| 81 | A high-performance solid-state electrocaloric cooling system. Science, 2020, 370, 129-133. | 6.0 | 130 |
| 82 | Electrocaloric devices part I: Analytical solution of one-dimensional transient heat conduction in a multilayer electrocaloric system. Journal of Advanced Dielectrics, 2020, 10, 2050028. | 1.5 | 9 |
| 83 | Emergent Enhanced Electrocaloric Effect within Wide Temperature Span in Laminated Composite Ceramics. Advanced Functional Materials, 2022, 32, 2108182. | 7.8 | 25 |
| 84 | Negative Electrocaloric Effects in Antiferroelectric Materials: a Review. Wuji Cailiao Xuebao/Journal of Inorganic Materials, 2022, 37, 376. | 0.6 | 2 |
| 85 | Investigation into electrocaloric effect of different types of ferroelectric materials by Landau-Devonshire theory. Wuli Xuebao/Acta Physica Sinica, 2020, 69, 217801. | 0.2 | 8 |
| 86 | Broad Distribution of Local Polar States Generates Large Electrothermal Properties in Pb-Free Relaxor Ferroelectrics. Chemistry of Materials, 0, , . | 3.2 | 2 |
| 87 | Achieving synergistic electromechanical and electrocaloric responses by local structural evolution in lead-free BNT-based relaxor ferroelectrics. Chemical Engineering Journal, 2022, 431, 133386. | 6.6 | 13 |
| 88 | Gate-tunable charge carrier electrocaloric effect in trilayer graphene. Scientific Reports, 2021, 11, 22000. | 1.6 | 2 |
| 89 | Improved Non-Piezoelectric Electric Properties Based on La Modulated Ferroelectric-Ergodic Relaxor Transition in (Bi0.5Na0.5)TiO3-Ba(Ti, Zr)O3 Ceramics. Materials, 2021, 14, 6666. | 1.3 | 4 |
| 90 | Electrocaloric Enhancement Induced by Cocrystallization of Vinylidene Difluoride-Based Polymer Blends. ACS Macro Letters, 2021, 10, 1555-1562. | 2.3 | 5 |
| 91 | High comprehensive electrocaloric performance in barium titanate-based ceramics via integrating diffuse phase transition near room temperature and a high applied electric field. Ceramics International, 2022, 48, 6842-6849. | 2.3 | 4 |

| # | Article | IF | Citations |
|---|---|---|---|
| 92 | Flexible microfluidic electrocaloric cooling capillary tube with giant specific device cooling power density. Joule, 2022, 6, 258-268. | 11.7 | 18 |
| 93 | A compact elastocaloric refrigerator. Innovation(China), 2022, 3, 100205. | 5.2 | 27 |
| 94 | Enhancement of the electrocaloric effect in PbZr0.7Ti0.3O3 ceramics via La doping: Driven by phase co-existence or defect effects?. Acta Materialia, 2022, 225, 117559. | 3.8 | 3 |
| 95 | Eco-friendly cooling materials with synergistic behavior of electromechanical and electrocaloric effects based on constructing B-site defect field. Applied Materials Today, 2022, 26, 101332. | 2.3 | 2 |
| 96 | Electrocaloric Coolers: A Review. Advanced Electronic Materials, 2022, 8, . | 2.6 | 39 |
| 97 | Electrocaloric effects in ferroelectric polymers. , 2022, , 535-570. | | 3 |
| 98 | Understanding electrocaloric cooling of ferroelectrics guided by phaseâ€field modeling. Journal of the American Ceramic Society, 2022, 105, 3689-3714. | 1.9 | 17 |
| 99 | Understanding the enhanced electrocaloric effect in BaTiO3-based ferroelectrics at critical state. Acta Materialia, 2022, 227, 117735. | 3.8 | 16 |
| 100 | Intelligent self-actuating lead-free cooling ceramics based on A-site defect engineering. Acta Materialia, 2022, 227, 117750. | 3.8 | 17 |
| 101 | Harmonic Analysis of Temperature Profiles of Active Caloric Regenerato. SSRN Electronic Journal, 0, , . | 0.4 | 0 |
| 102 | Double bond with a licence to chill. Joule, 2022, 6, 289-290. | 11.7 | 3 |
| 103 | Large electrocaloric response via percolation of polar nanoregions. Physical Review B, 2022, 105, . | 1.1 | 2 |
| 104 | Large Room-Temperature Electrocaloric Response Realized in Potassium-Sodium Niobate by a Relaxor Enhancement Effect and Multilayer Ceramic Construct. ACS Applied Materials & Interfaces, 2022, 14, 11626-11635. | 4.0 | 13 |
| 105 | Pumping into a cool future: electrocaloric materials for zero-carbon refrigeration. Frontiers in Energy, 2022, 16, 19-22. | 1.2 | 6 |
| 106 | Materials, physics and systems for multicaloric cooling. Nature Reviews Materials, 2022, 7, 633-652. | 23.3 | 89 |
| 107 | Electric field dependence of electrocaloric performances in KTa0.57Nb0.43O3 single crystal. Journal of Materials Science: Materials in Electronics, 2022, 33, 10939-10954. | 1.1 | 2 |
| 108 | The electrocaloric effect of Ba1-La Ti0.9Sn0.1O3 ceramics with excellent temperature stability near room temperature. Ceramics International, 2022, 48, 16956-16966. | 2.3 | 4 |
| 109 | Performance optimization on the irreversible regenerative Ericsson refrigeration cycle using electrocaloric materials as the working medium. International Journal of Refrigeration, 2022, , . | 1.8 | 0 |

| # | Article | IF | Citations |
|---|---|---|---|
| 110 | Driving Barocaloric Effects in a Molecular Spin-Crossover Complex at Low Pressures. Journal of the American Chemical Society, 2022, 144, 6493-6503. | 6.6 | 23 |
| 111 | Enhanced Electrocaloric Effect Induced by the Electric-Field-Generated Like-Multiphase Coexistence in Anisotropic KTa<sub>1â€“x</sub>Nb<sub>x</sub>O<sub>3</sub> Single Crystals. Crystal Growth and Design, 2022, 22, 3485-3492. | 1.4 | 3 |
| 112 | Pure negative electrocaloric effect achieved by SiN/p-GaN composite substrate. Nano Energy, 2022, 97, 107195. | 8.2 | 6 |
| 113 | Pressure-induced room temperature electrocaloric effect in BiFeO3-PbTiO3 solid solution based on Landau-Devonshire theory. Materials Today Communications, 2022, 31, 103396. | 0.9 | 2 |
| 114 | Harmonic analysis of temperature profiles of active caloric regenerators. International Journal of Heat and Mass Transfer, 2022, 190, 122694. | 2.5 | 2 |
| 115 | High-entropy polymer produces a giant electrocaloric effect at low fields. Nature, 2021, 600, 664-669. | 13.7 | 121 |
| 116 | Phase transitions and electrocaloric effects of (111)-oriented K<sub>0.5</sub>Na<sub>0.5</sub>NbO<sub>3</sub> epitaxial films: effect of external stress and misfit strains. Wuli Xuebao/Acta Physica Sinica, 2022, . | 0.2 | 0 |
| 117 | Novel Fluoriteâ€Structured Materials for Solidâ€State Refrigeration. Small, 2022, 18, e2200133. | 5.2 | 2 |
| 118 | Enhancing Electrocaloric Heat Pump Performance by Over 99% Efficient Power Converters and Offset Fields. IEEE Access, 2022, 10, 46571-46588. | 2.6 | 7 |
| 119 | Ultrasensitive barocaloric material for room-temperature solid-state refrigeration. Nature Communications, 2022, 13, 2293. | 5.8 | 23 |
| 120 | Tuning the electrocaloric effect by tailoring phase fraction in BaTiO3-based ferroelectrics. Journal of the European Ceramic Society, 2022, 42, 5172-5178. | 2.8 | 8 |
| 121 | Lattice disorder effect on the structural, ferroelectric and electrocaloric properties of (Ba, Sr,) Tj ETQq1 1 0.784314 rgBT /Overlock 10 | 2.8 | 5 |
| 122 | Electric hysteresis and validity of indirect electrocaloric characterization in antiferroelectric ceramics. Scripta Materialia, 2022, 216, 114763. | 2.6 | 5 |
| 123 | High radiation tolerance of electrocaloric (1-x)Pb(Mg1/3Nb2/3)O3â€“xPbTiO3. Journal of the European Ceramic Society, 2022, 42, 5575-5583. | 2.8 | 4 |
| 124 | Enhanced electrocaloric effect and energy storage response in lead-free (1-x)K0.5Na0.5NbO3 - xBaTiO3 ferroelectric ceramics. Ceramics International, 2022, 48, 27018-27026. | 2.3 | 5 |
| 125 | Electrocaloric response modulated by misfit strain in different oriented epitaxial ferroelectric thin films. International Journal of Solids and Structures, 2022, 252, 111808. | 1.3 | 5 |
| 126 | Emerging Flexible Thermally Conductive Films: Mechanism, Fabrication, Application. Nano-Micro Letters, 2022, 14, . | 14.4 | 47 |
| 127 | Ferroelectric Smectic Liquid Crystals as Electrocaloric Materials. Crystals, 2022, 12, 809. | 1.0 | 1 |

| # | Article | IF | Citations |
|---|---|---|---|
| 128 | Influence of voltage amplitude parameters on the electrocaloric response in ferroelectric materials. Ferroelectrics, 2022, 591, 43-50. | 0.3 | 0 |
| 129 | Designing Ultrafast Cooling Rate for Room Temperature Electrocaloric Effects by Phaseâ€Field Simulations. Advanced Theory and Simulations, 2022, 5, . | 1.3 | 4 |
| 130 | Fully self-powered electrocaloric cooling/heating with triboelectric nanogenerator. Nano Energy, 2022, 101, 107623. | 8.2 | 4 |
| 131 | Stabilization of the ferrielectric phase in NaNbO<sub>3</sub>-based lead-free ceramics for a wide-temperature large electrocaloric effect. Journal of Materials Chemistry A, 2022, 10, 18070-18077. | 5.2 | 8 |
| 132 | Giant Room-Temperature Electrocaloric Effect of Polymer-Ceramic Composites with Orientated BaSrTiO<sub>3</sub> Nanofibers. Nano Letters, 2022, 22, 6560-6566. | 4.5 | 13 |
| 133 | Bimodal-Structured 0.9KNbO3-0.1BaTiO3 Solid Solutions with Highly Enhanced Electrocaloric Effect at Room Temperature. Nanomaterials, 2022, 12, 2674. | 1.9 | 0 |
| 134 | Temperature-dependent dual-mode thermal management device with net zero energy for year-round energy saving. Nature Communications, 2022, 13, . | 5.8 | 49 |
| 135 | Microâ€Nano Porous Structure for Efficient Daytime Radiative Sky Cooling. Advanced Functional Materials, 2022, 32, . | 7.8 | 37 |
| 136 | Electrocaloric Heat Pumps Using Two Independently-Controlled Layers to Achieve High Cooling Power. SSRN Electronic Journal, 0, , . | 0.4 | 0 |
| 137 | Bioinspired zero-energy thermal-management device based on visible and infrared thermochromism for all-season energy saving. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, . | 3.3 | 17 |
| 138 | High-performance cooling and heat pumping based on fatigue-resistant elastocaloric effect in compression. Joule, 2022, 6, 2338-2357. | 11.7 | 33 |
| 139 | Giant room-temperature electrocaloric effect within wide temperature span in Sn-doped Ba0.85Ca0.15Zr0.1Ti0.9O3 lead-free thin films. Ceramics International, 2023, 49, 1846-1854. | 2.3 | 5 |
| 140 | Enhanced electrocaloric performance within wide temperature span in Al-doped BaZr0.2Ti0.8O3 ceramics. Journal of Materials Science: Materials in Electronics, 2022, 33, 24986-24994. | 1.1 | 3 |
| 141 | Thermal management of chips by a device prototype using synergistic effects of 3-D heat-conductive network and electrocaloric refrigeration. Nature Communications, 2022, 13, . | 5.8 | 36 |
| 142 | Sustainability performance of space-cooling technologies and approaches. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 2022, 44, 9017-9042. | 1.2 | 7 |
| 143 | Polymer nanocomposite dielectrics with high electrocaloric effect for flexible solid-state cooling devices. Journal of Central South University, 2022, 29, 2857-2872. | 1.2 | 0 |
| 144 | Analysis of the electric field dependence on the electrocaloric properties on BaHf0.11Ti0.89O3 ferroelectric ceramics. Applied Physics A: Materials Science and Processing, 2022, 128, . | 1.1 | 0 |
| 145 | Electrocaloric Effect in Different Oriented BaZr0.15Ti0.85O3 Single Crystals. Materials, 2022, 15, 7018. | 1.3 | 0 |

| # | Article | IF | Citations |
|---|---|---|---|
| 146 | Emerging materials and engineering strategies for performance advance of radiative sky cooling technology. Chemical Engineering Journal, 2023, 453, 139739. | 6.6 | 17 |
| 147 | The impact of oxygen partial pressure during sintering on the electrocaloric effect of Ba<sub>0.7</sub>Sr<sub>0.3</sub>TiO<sub>3</sub> ceramics. Journal of Materials Chemistry C, 2022, 10, 16847-16856. | 2.7 | 1 |
| 148 | Field-driven merging of polarizations and enhanced electrocaloric effect in BaTiO3-based lead-free ceramics. Journal of Advanced Ceramics, 2022, 11, 1777-1788. | 8.9 | 10 |
| 149 | Polymer elastomer near plastic-to-rubber critical transition produces enhanced elastocaloric effects. Cell Reports Physical Science, 2022, 3, 101147. | 2.8 | 2 |
| 150 | Electrocaloric heat pumps using two independently-controlled layers to achieve high cooling power. Nano Energy, 2022, 104, 107984. | 8.2 | 2 |
| 151 | Electrocaloric effect at special points in the composition-temperature-electric field phase diagram of barium zirconate-titanate (BZT). Journal of the European Ceramic Society, 2023, 43, 1952-1963. | 2.8 | 5 |
| 152 | Inverse electrocaloric effect in ferroelectrics and antiferroelectrics: A phenomenological approach. Physica B: Condensed Matter, 2023, 651, 414598. | 1.3 | 0 |
| 153 | GaN Power Converter Applied to Electrocaloric Heat Pump Prototype and Carnot Cycle. , 2022, , . | | 2 |
| 154 | Phase transformation and growth mechanism of RF sputtered ferroelectric lead scandium tantalate (PbSc <sub>0.5</sub> Ta <sub>0.5</sub> O <sub>3</sub> ) films. Journal of the American Ceramic Society, 0, , . | 1.9 | 1 |
| 155 | Origin of negative electrocaloric effect in Pnma -type antiferroelectric perovskites. Physical Review B, 2022, 106, . | 1.1 | 2 |
| 156 | Simulation study on superposition expansion of belt electrocaloric refrigeration structure. Applied Thermal Engineering, 2023, 221, 119855. | 3.0 | 1 |
| 157 | Simultaneous enhancement of the electrocaloric effect and electrostrain via exploiting the reversible polarization rotation. Ceramics International, 2023, 49, 7094-7098. | 2.3 | 1 |
| 158 | A hot future for cool materials. Frontiers in Energy, 0, , . | 1.2 | 1 |
| 159 | Developing a prototype of a Not in Kind Heat Pump based on elastocaloric effect. , 2022, , . | | 0 |
| 160 | Polymeric nanocomposites for electrocaloric refrigeration. Frontiers in Energy, 0, , . | 1.2 | 1 |
| 161 | Electrocaloric coolingâ€"From materials to devices. Journal of Applied Physics, 2022, 132, . | 1.1 | 5 |
| 162 | An Active Pixelâ€Matrix Electrocaloric Device for Targeted and Differential Thermal Management. Advanced Materials, 0, , 2209181. | 11.1 | 9 |
| 163 | New horizons in magnetic refrigeration using artificial intelligence. Applied Energy, 2023, 335, 120773. | 5.1 | 4 |

| # | Article | IF | Citations |
|---|---|---|---|
| 164 | Electrocaloric polymers and related materials. , 2023, , 245-263. | | 0 |
| 165 | Effect of MgO doping on energy storage and electrocaloric properties of ferroelectric 0.6Ba(Zr0.2Ti0.8)O3â€“0.4(Ba0.7Ca0.3)TiO3 ceramics. Materials Today Communications, 2023, 35, 105754. | 0.9 | 3 |
| 166 | A micro solid-state refrigeration prototype device based on the electrocaloric effect. Materials Letters, 2023, 341, 134263. | 1.3 | 0 |
| 167 | Correlation between multi-factor phase diagrams and complex electrocaloric behaviors in PNZST antiferroelectric ceramic system. Journal of Advanced Ceramics, 2023, 12, 463-473. | 8.9 | 3 |
| 168 | Direct measurement of electrocaloric effect based on multi-harmonic lock-in thermography. Applied Physics Letters, 2023, 122, 082903. | 1.5 | 1 |
| 169 | Antiferroelectric orthorhombic P-to-R phase transition induced exotic electrocaloric effect in NaNbO3-based lead-free ceramics. Applied Physics Letters, 2023, 122, . | 1.5 | 4 |
| 170 | Electrocaloric devices using cantilever structures. , 2023, , 379-405. | | 0 |
| 171 | Electrocaloric effects in thin film structures. , 2023, , 225-244. | | 0 |
| 172 | Analytical calculations of the electrocaloric response of ferroelectric nanoparticles. , 2023, , 37-62. | | 0 |
| 173 | Flexible Pb(Zr0.52,Ti0.48)O3 thin film acoustic emission sensor for monitoring partial discharge in power cable. AIP Advances, 2023, 13, . | 0.6 | 2 |
| 174 | Multi-element B-site substituted perovskite ferroelectrics exhibit enhanced electrocaloric effect. Science China Technological Sciences, 0, , . | 2.0 | 0 |
| 175 | A self-actuated electrocaloric polymer heat pump design exploiting the synergy of electrocaloric effect and electrostriction. JPhys Energy, 2023, 5, 024009. | 2.3 | 3 |
| 176 | Analysis of the Scale of Global Human Needs and Opportunities for Sustainable Catalytic Technologies. Topics in Catalysis, 2023, 66, 338-374. | 1.3 | 6 |
| 177 | High-entropy design for dielectric materials: Status, challenges, and beyond. Journal of Applied Physics, 2023, 133, . | 1.1 | 5 |
| 178 | Electrocaloric effect in BaTiO<sub>3</sub> multilayer capacitors with first-order phase transitions. JPhys Energy, 2023, 5, 024017. | 2.3 | 4 |
| 179 | Thermodynamic Analysis on the Performance of Barocaloric Refrigeration Systems Using Neopentyl Glycol as the Refrigerant. Journal of Thermal Science, 2023, 32, 1063-1073. | 0.9 | 5 |
| 187 | Statistical Mechanical Model of the Giant Electrocaloric Effect in Ferroelectric Polymers. ACS Macro Letters, 0, , 848-853. | 2.3 | 0 |
| 191 | Fluoropolymer ferroelectrics: Multifunctional platform for polar-structured energy conversion. Science, 2023, 380, . | 6.0 | 30 |

| # | Article | IF | Citations |
|---|---|---|---|
| 195 | A review on different theoretical models of electrocaloric effect for refrigeration. Frontiers in Energy, 2023, 17, 478-503. | 1.2 | 4 |
| 203 | Real Time Control System for Installation and Maintenance of Refrigeration Equipment Based on Adaptive PID Algorithm. , 2023, , . | | 0 |
| 205 | Low-pressure-induced large barocaloric effect in MnAs0.94Sb0.06 alloy around room temperature. Rare Metals, 2023, 42, 3977-3984. | 3.6 | 2 |