

Designing crystallization in phase-change materials for neuro-inspired computing

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Computational phase-change memory: beyond von Neumann computing. Journal Physics D: Applied Physics, 2019, 52, 443002.	1.3	78
2	Effect of Cu doping on microstructure and thermal stability of Ge ₂ Sb ₂ Te ₅ thin film. Applied Physics A: Materials Science and Processing, 2019, 125, 1.	1.1	8
3	Phase-change heterostructure enables ultralow noise and drift for memory operation. Science, 2019, 366, 210-215.	6.0	261
4	Threshold switching dynamics of pseudo-binary GeTeSb ₂ Te ₃ phase change memory devices. Journal Physics D: Applied Physics, 2019, 52, 375301.	1.3	6
5	Layered Switching Mechanisms in Sb ₂ Te ₃ . Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900320.	1.2	20
6	<i>In-situ</i> investigation on the crystallization property and microstructure evolution induced by thermal annealing and electron beam irradiation of titanium antimony thin film. Applied Physics Letters, 2019, 115, .	1.5	11
7	Effects of biaxial strain on interfacial intermixing and local structures in strain engineered GeTe-Sb ₂ Te ₃ superlattices. Applied Surface Science, 2019, 493, 904-912.	3.1	11
8	Chalcogenide glasses as a playground for the application of first-principles molecular dynamics to disordered materials. Solid State Sciences, 2019, 95, 105925.	1.5	4
9	Machine Learning Interatomic Potentials as Emerging Tools for Materials Science. Advanced Materials, 2019, 31, e1902765.	11.1	389
10	Direct Measurement of Crystal Growth Velocity in Epitaxial Phase-Change Material Thin Films. ACS Applied Materials & Interfaces, 2019, 11, 41544-41550.	4.0	13
11	Insights into the fivefold symmetry of the amorphous Sb-based change materials in the rapid phase change from first principles. Acta Materialia, 2019, 181, 439-446.	3.8	6
12	Solar-stimulated optoelectronic synapse based on organic heterojunction with linearly potentiated synaptic weight for neuromorphic computing. Nano Energy, 2019, 66, 104095.	8.2	100
13	Multi-color modulation based on bump structures of phase-change material for color printing. Optical Materials, 2019, 98, 109445.	1.7	6
14	Kinetics Features Conducive to Cache-Type Nonvolatile Phase-Change Memory. Chemistry of Materials, 2019, 31, 8794-8800.	3.2	35
15	Structural and electronic properties of liquid, amorphous, and supercooled liquid phases of In ₂ Te ₅ from first-principles. Journal of Chemical Physics, 2019, 151, 134503.	1.2	8
16	Temperature dependence of structural, dynamical, and electronic properties of amorphous Bi ₂ Te ₃ : an ab initio study. New Journal of Physics, 2019, 21, 093062.	1.2	4
17	Giant Photoinduced Chirality in Thin Film Ge ₂ Sb ₂ Te ₅ . Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900449.	1.2	2
18	Phase-change materials in electronics and photonics. MRS Bulletin, 2019, 44, 686-690.	1.7	44

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19	Harnessing machine learning potentials to understand the functional properties of phase-change materials. MRS Bulletin, 2019, 44, 705-709.	1.7	24
20	Ovonic threshold switching selectors for three-dimensional stackable phase-change memory. MRS Bulletin, 2019, 44, 715-720.	1.7	70
21	Phase-change materials: The view from the liquid phase and the metallicity parameter. MRS Bulletin, 2019, 44, 691-698.	1.7	28
22	Crystallization kinetics with fragile-to-strong crossover in Zn-Sb-Te supercooled phase-change liquids. Applied Physics Letters, 2019, 115, .	1.5	7
23	Progressive amorphization of GeSbTe phase-change material under electron beam irradiation. APL Materials, 2019, 7, .	2.2	25
24	Stabilizing amorphous Sb by adding alien seeds for durable memory materials. Physical Chemistry Chemical Physics, 2019, 21, 4494-4500.	1.3	31
25	Ge-Sb-Te Chalcogenide Thin Films Deposited by Nanosecond, Picosecond, and Femtosecond Laser Ablation. Nanomaterials, 2019, 9, 676.	1.9	16
26	Catching structural transitions in liquids. Science, 2019, 364, 1032-1033.	6.0	34
27	Nonvolatile waveguide transmission tuning with electrically-driven ultra-small GST phase-change material. Science Bulletin, 2019, 64, 782-789.	4.3	75
28	<i>In situ</i> observations of the reversible vacancy ordering process in van der Waals-bonded Ge ₂ Sb ₂ Te ₃ superlattices. Nanoscale, 2019, 11, 10838-10845.	2.8	43
29	Change in Crystallization Mechanism of Sb Film by Doping VO ₂ for Ultraretention and High-Speed Phase-Change Memory. Crystal Growth and Design, 2019, 19, 3477-3483.	1.4	10
30	Chemical Design Principles for Cache-Type Sc ₂ Sb ₂ Te Phase-Change Memory Materials. Chemistry of Materials, 2019, 31, 4008-4015.	3.2	44
31	Phase Change Materials and Superlattices for Non-Volatile Memories. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900130.	1.2	23
32	Atomic-scale observation of defects motion in van der Waals layered chalcogenide based materials. Scripta Materialia, 2019, 166, 154-158.	2.6	17
33	Parameters of Lateral and Unsteady Cord Currents in a Cylindrical Chalcogenide Glassy Semiconductor. Semiconductors, 2019, 53, 1651-1655.	0.2	1
34	Exploring ultrafast threshold switching in In ₃ SbTe ₂ phase change memory devices. Scientific Reports, 2019, 9, 19251.	1.6	28
35	Designing Multiple Crystallization in Superlattice-like Phase-Change Materials for Multilevel Phase-Change Memory. ACS Applied Materials & Interfaces, 2019, 11, 45885-45891.	4.0	20
36	Phase change thin films for non-volatile memory applications. Nanoscale Advances, 2019, 1, 3836-3857.	2.2	97

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37	Structural and resistive switching behaviour in lanthanum strontium manganite - Reduced graphene oxide nanocomposite system. <i>Journal of Alloys and Compounds</i> , 2020, 815, 152213.	2.8	20
38	A multi-level optical storage scheme via two-step picosecond laser irradiations: time/space modulations of microstructure and its optical property. <i>Semiconductor Science and Technology</i> , 2020, 35, 035025.	1.0	2
39	Chalcogenide Thermoelectrics Empowered by an Unconventional Bonding Mechanism. <i>Advanced Functional Materials</i> , 2020, 30, 1904862.	7.8	148
40	Chemical understanding of resistance drift suppression in Ge ² Sn ² Te phase-change memory materials. <i>Journal of Materials Chemistry C</i> , 2020, 8, 71-77.	2.7	36
41	Reversible Polymorphic Transition and Hysteresis-Driven Phase Selectivity in Single-Crystalline C8-BTBT Rods. <i>Small</i> , 2020, 16, e1906109.	5.2	16
42	Reduction in thermal conductivity of Sb ₂ Te phase-change material by scandium/yttrium doping. <i>Journal of Alloys and Compounds</i> , 2020, 821, 153499.	2.8	14
43	Atomistic simulations of thermal conductivity in GeTe nanowires. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 054001.	1.3	20
44	An extremely fast, energy-efficient RESET process in Ge ₂ Sb ₂ Te ₅ phase change memory device revealed by the choice of electrode materials and interface effects. <i>Semiconductor Science and Technology</i> , 2020, 35, 015022.	1.0	6
45	Recent Progress in Artificial Synapses Based on Two-Dimensional van der Waals Materials for Brain-Inspired Computing. <i>ACS Applied Electronic Materials</i> , 2020, 2, 371-388.	2.0	110
46	The crystallization mechanism of zirconium-doped Sb ₂ Te ₃ material for phase-change random-access memory application. <i>Journal of Materials Science: Materials in Electronics</i> , 2020, 31, 5861-5865.	1.1	4
47	Nanoscale amorphous interfaces in phase-change memory materials: structure, properties and design. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 114002.	1.3	4
48	Soft eSkin: distributed touch sensing with harmonized energy and computing. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2020, 378, 20190156.	1.6	70
49	Neural Network Molecular Dynamics at Scale. , 2020, , .		2
50	Fully photon operated transmistor / all-optical switch based on a layered Ge ₁ Sb ₂ Te ₄ phase change medium. <i>FlatChem</i> , 2020, 23, 100186.	2.8	26
51	Albumen based protein gated bioinspired neuromorphic transistors with learning abilities. <i>Organic Electronics</i> , 2020, 87, 105961.	1.4	10
52	Glassy GaS: transparent and unusually rigid thin films for visible to mid-IR memory applications. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 25560-25573.	1.3	15
53	A review of melting and freezing processes of PCM/nano-PCM and their application in energy storage. <i>Energy</i> , 2020, 211, 118698.	4.5	271
54	Progress in metasurfaces based on Ge ² Sb ² Te phase-change materials. <i>Journal of Applied Physics</i> , 2020, 128, 140904.	1.1	13

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55	Welcome to the single-molecule electret device. <i>Nature Nanotechnology</i> , 2020, 15, 966-967.	15.6	4
56	Emerging Memristive Artificial Synapses and Neurons for Energy-Efficient Neuromorphic Computing. <i>Advanced Materials</i> , 2020, 32, e2004659.	11.1	175
57	Liquid-liquid phase transitions in glass-forming systems and their implications for memory technology. <i>International Journal of Applied Glass Science</i> , 2020, 11, 236-244.	1.0	13
58	Photoexcitation Induced Ultrafast Nonthermal Amorphization in Sb_2Te_3 . <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 10242-10249.	2.1	12
59	Reversible phase-change characteristics and structural origin in Cr doped $Ge_2Sb_2Te_5$ thin films. <i>Thin Solid Films</i> , 2020, 716, 138434.	0.8	10
60	Microwave AC Resonance Induced Phase Change in Sb_2Te_3 Nanowires. <i>Nano Letters</i> , 2020, 20, 8668-8674.	4.5	1
61	Memristors: Understanding, Utilization and Upgradation for Neuromorphic Computing. <i>Nano</i> , 2020, 15, 2030005.	0.5	2
62	Terahertz Nanoimaging and Nanospectroscopy of Chalcogenide Phase-Change Materials. <i>ACS Photonics</i> , 2020, 7, 3499-3506.	3.2	29
63	Synthesis of Macroscopic Single Crystals of $Ge_2Sb_2Te_5$ via Single-Shot Femtosecond Optical Excitation. <i>Crystal Growth and Design</i> , 2020, 20, 6660-6667.	1.4	0
64	Artificial van der Waals hybrid synapse and its application to acoustic pattern recognition. <i>Nature Communications</i> , 2020, 11, 3936.	5.8	125
65	Influence of phase transformation on structure-property relationship in quaternary $In_{10}Sb_{10}Ag_{10}Se_{70}$ chalcogenide films. <i>Journal of Materials Science: Materials in Electronics</i> , 2020, 31, 16398-16405.	1.1	5
66	Determination of the parameters of diffusion and unsteady filament currents in a cylindrical chalcogenide glassy semiconductor. <i>Journal of Physics: Conference Series</i> , 2020, 1482, 012005.	0.3	0
67	Stimuli-Enabled Artificial Synapses for Neuromorphic Perception: Progress and Perspectives. <i>Small</i> , 2020, 16, e2001504.	5.2	55
68	High thermal stability and fast operation speed phase-change memory devices containing Hf-doped $Ge_2Sb_2Te_5$ films. <i>Materials Letters</i> , 2020, 278, 128402.	1.3	8
69	Unveiling the structural origin to control resistance drift in phase-change memory materials. <i>Materials Today</i> , 2020, 41, 156-176.	8.3	96
70	Designing the disorder: the kinetics of nonisothermal crystallization of the orientationally disordered crystalline phase in a nematic mesogen. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 24236-24248.	1.3	14
71	Reflection spectra of a thin-film $GeSbTe$ diffraction grating on a silicon nitride waveguide. <i>IOP Conference Series: Materials Science and Engineering</i> , 2020, 840, 012008.	0.3	0
72	Review of electrical contacts to phase change materials and an unexpected trend between metal work function and contact resistance to germanium telluride. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2020, 38, .	0.9	9

#	ARTICLE	IF	CITATIONS
73	Ultrahigh drive current and large selectivity in GeS selector. <i>Nature Communications</i> , 2020, 11, 4636.	5.8	83
74	Temperature-Dependent Local Structural Changes of Amorphous Thin Ge ₂₀ Te ₈₀ Film Revealed by In Situ Resistance, X-Ray Diffraction, and Raman Spectroscopy Studies. <i>Physica Status Solidi (B): Basic Research</i> , 2020, 257, 2000451.	0.7	1
75	Tailoring geometric phases of two-dimensional functional materials under light: a brief review. <i>International Journal of Smart and Nano Materials</i> , 2020, 11, 191-206.	2.0	2
76	Recent Advances on Neuromorphic Devices Based on Chalcogenide Phase-Change Materials. <i>Advanced Functional Materials</i> , 2020, 30, 2003419.	7.8	144
77	Improving the performance of phase-change memory by grain refinement. <i>Journal of Applied Physics</i> , 2020, 128, 075101.	1.1	25
78	Q-Selector-Based Prefetching Method for DRAM/NVM Hybrid Main Memory System. <i>Electronics (Switzerland)</i> , 2020, 9, 2158.	1.8	2
79	Optical Properties of Amorphous and Crystalline GeTe Nanoparticle Thin Films: A Phase-Change Material for Tunable Photonics. <i>ACS Applied Nano Materials</i> , 2020, 3, 4314-4320.	2.4	20
80	Intermixing suppression through the interface in GeTe/Sb ₂ Te ₃ superlattice. <i>Applied Physics Express</i> , 2020, 13, 075503.	1.1	13
81	Violation of the Stokes-Einstein relation in Ge ₂ Sb ₂ Te ₅ , GeTe, Ag ₄ In ₃ Sb ₆ Te ₂₆ , and Ge ₁₅ Sb ₈₅ , and its connection to fast crystallization. <i>Acta Materialia</i> , 2020, 195, 491-500.	3.8	19
82	Structural Transitions in Ge ₂ Sb ₂ Te ₅ Phase Change Memory Thin Films Induced by Nanosecond UV Optical Pulses. <i>Materials</i> , 2020, 13, 2082.	1.3	13
83	Direct synthesis of metastable phases of 2D transition metal dichalcogenides. <i>Chemical Society Reviews</i> , 2020, 49, 3952-3980.	18.7	142
84	Changes of Structure and Bonding with Thickness in Chalcogenide Thin Films. <i>Advanced Materials</i> , 2020, 32, e2001033.	11.1	19
85	Optically Rewritable Memory in a Graphene-Ferroelectric-Photovoltaic Heterostructure. <i>Physical Review Applied</i> , 2020, 13, .	1.5	21
86	Investigation of V ₂ O ₅ /Ge ₈ Sb ₉₂ multilayer thin film for high-data-retention and high-speed phase change memory applications. <i>Applied Physics A: Materials Science and Processing</i> , 2020, 126, 1.	1.1	3
87	In situ TEM revealing pretreatment and interface effects in Ge ₂ Sb ₂ Te ₅ . <i>Applied Physics Letters</i> , 2020, 116, 222105.	1.5	6
88	Graphene mediated resistive switching and thermoelectric behavior in lanthanum cobaltate. <i>Journal of Applied Physics</i> , 2020, 127, .	1.1	25
89	Unique 2D-3D Structure Transformations in Trichalcogenide CrSiTe ₃ under High Pressure. <i>Journal of Physical Chemistry C</i> , 2020, 124, 15600-15606.	1.5	15
90	Protonic solid-state electrochemical synapse for physical neural networks. <i>Nature Communications</i> , 2020, 11, 3134.	5.8	82

#	ARTICLE	IF	CITATIONS
91	Study on the Performance of Superlattice-Like Thin Film V_{2O_5}/Sb in Phase Change Memory. ECS Journal of Solid State Science and Technology, 2020, 9, 033003.	0.9	5
92	Semiconductor Quantum Dots for Memories and Neuromorphic Computing Systems. Chemical Reviews, 2020, 120, 3941-4006.	23.0	203
93	Challenges and Trends in Developing Nonvolatile Memory-Enabled Computing Chips for Intelligent Edge Devices. IEEE Transactions on Electron Devices, 2020, 67, 1444-1453.	1.6	35
94	Crystal-Like Glassy Structure in Sc-Doped $BiSbTe$ Ensuring Excellent Speed and Power Efficiency in Phase Change Memory. ACS Applied Materials & Interfaces, 2020, 12, 16601-16608.	4.0	11
95	The interplay between Peierls distortions and metavalent bonding in $IV-VI$ compounds: comparing $GeTe$ with related monochalcogenides. Journal Physics D: Applied Physics, 2020, 53, 234002.	1.3	43
96	â€œStickierâ€•Surface Sb_2Te_3 Templates Enable Fast Memory Switching of Phase Change Material $GeSb_2Te_4$ with Growth-Dominated Crystallization. ACS Applied Materials & Interfaces, 2020, 12, 33397-33407.	4.0	53
97	Berry curvature memory through electrically driven stacking transitions. Nature Physics, 2020, 16, 1028-1034.	6.5	100
98	Origin of functionality for functional materials at atomic scale. Nano Select, 2020, 1, 183-199.	1.9	12
99	Stress Buildup Upon Crystallization of $GeTe$ Thin Films: Curvature Measurements and Modelling. Nanomaterials, 2020, 10, 1247.	1.9	2
100	<i>In situ</i> TEM observation of void formation and migration in phase change memory devices with confined nanoscale $Ge_2Sb_2Te_5$. Nanoscale Advances, 2020, 2, 3841-3848.	2.2	19
101	Phase-change memory. , 2020, , 63-96.		3
102	Thermal Effects on the Crystallization Kinetics, and Interfacial Adhesion of Single-Crystal Phase-Change Gallium. Advanced Materials, 2020, 32, e1907453.	11.1	5
103	Bonding similarities and differences between $Yb-Sb-Te$ and $Sc-Sb-Te$ phase-change memory materials. Journal of Materials Chemistry C, 2020, 8, 3646-3654.	2.7	28
104	Investigation of crystallization behavior and structure of nanocomposite multilayer phase change thin films with zinc antimony and germanium antimony. Journal Physics D: Applied Physics, 2020, 53, 135106.	1.3	0
105	An overview of phase-change memory device physics. Journal Physics D: Applied Physics, 2020, 53, 213002.	1.3	202
106	Recent Progress in Synaptic Devices Based on 2D Materials. Advanced Intelligent Systems, 2020, 2, 1900167.	3.3	55
107	A comprehensive review on emerging artificial neuromorphic devices. Applied Physics Reviews, 2020, 7, .	5.5	417
108	Thermodynamic assessment of the $Te-X$ ($X = As, Si, Co$) systems. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2020, 68, 101743.	0.7	12

#	ARTICLE	IF	CITATIONS
109	A unified mid-gap defect model for amorphous GeTe phase change material. <i>Applied Physics Letters</i> , 2020, 116, .	1.5	7
110	Resistive switching materials for information processing. <i>Nature Reviews Materials</i> , 2020, 5, 173-195.	23.3	668
111	Normal-to-topological insulator martensitic phase transition in group-IV monochalcogenides driven by light. <i>NPG Asia Materials</i> , 2020, 12, .	3.8	18
112	Impact of interfaces on bipolar resistive switching behavior in amorphous GeSbTe thin films. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 184002.	1.3	13
113	Improvement in stability of GST PCMs on Sm addition for memory devices. <i>Journal of Non-Crystalline Solids</i> , 2020, 532, 119887.	1.5	4
114	In situ study of vacancy disordering in crystalline phase-change materials under electron beam irradiation. <i>Acta Materialia</i> , 2020, 187, 103-111.	3.8	27
115	Brain-inspired computing with memristors: Challenges in devices, circuits, and systems. <i>Applied Physics Reviews</i> , 2020, 7, .	5.5	217
116	Uncovering $\hat{\Gamma}^2$ -relaxations in amorphous phase-change materials. <i>Science Advances</i> , 2020, 6, eaay6726.	4.7	33
117	First-principles prediction of the native filament:dielectric interfaces for the possible filamentary switching mechanism in chalcogenide selector devices. <i>Journal of Applied Physics</i> , 2020, 127, 045105.	1.1	3
118	Recent advances of polymeric phase change composites for flexible electronics and thermal energy storage system. <i>Composites Part B: Engineering</i> , 2020, 195, 108094.	5.9	77
119	Microscopic Mechanism of Carbon-Dopant Manipulating Device Performance in CGeSbTe-Based Phase Change Random Access Memory. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 23051-23059.	4.0	24
120	Synergy effect of co-doping Sc and Y in $\text{Sb}_{20}\text{Te}_{30}$ for phase-change memory. <i>Journal of Materials Chemistry C</i> , 2020, 8, 6672-6679.	2.7	24
121	Programmable Synapse-Like MoS_2 Field-Effect Transistors Phase-Engineered by Dynamic Lithium Ion Modulation. <i>Advanced Electronic Materials</i> , 2020, 6, 1901410.	2.6	13
122	Sub-Angstrom Characterization of the Structural Origin for High In-Plane Anisotropy in 2D GeS_2 . <i>ACS Nano</i> , 2020, 14, 4456-4462.	7.3	25
123	Time-dependent density-functional theory molecular-dynamics study on amorphization of Sc-Sb-Te alloy under optical excitation. <i>Npj Computational Materials</i> , 2020, 6, .	3.5	32
124	Independent tuning of bright and dark meta-atoms with phase change materials on EIT metasurfaces. <i>Nanoscale</i> , 2020, 12, 10065-10071.	2.8	13
125	Polyamorphism in $\text{K}_{20}\text{Sb}_{80}\text{Se}_{130}$ for multi-level phase-change memory. <i>Journal of Materials Chemistry C</i> , 2020, 8, 6364-6369.	2.7	14
126	Kinetics of volume and surface driven crystallization in thin films. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 355401.	0.7	3

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127	Perspective on photonic memristive neuromorphic computing. <i>Photonix</i> , 2020, 1, .	5.5	81
128	Effects of surface oxidation on the crystallization characteristics of Ge-rich Ge-Sb-Te alloys thin films. <i>Applied Surface Science</i> , 2020, 518, 146227.	3.1	24
129	Origin of short- and medium-range order in supercooled liquid Ge ₃ Sb ₂ Te ₆ using <i>ab initio</i> molecular dynamics simulations. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 9759-9766.	1.3	4
130	Phase dependence of Schottky barrier heights for GeSbTe and related phase-change materials. <i>Journal of Applied Physics</i> , 2020, 127, .	1.1	7
131	Phase change memory applications: the history, the present and the future. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 283002.	1.3	63
132	Y-Doped Sb ₂ Te ₃ Phase-Change Materials: Toward a Universal Memory. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 20672-20679.	4.0	65
133	Roadmap on emerging hardware and technology for machine learning. <i>Nanotechnology</i> , 2021, 32, 012002.	1.3	104
134	Temperature dependent evolution of local structure in chalcogenide-based superlattices. <i>Applied Surface Science</i> , 2021, 536, 147959.	3.1	42
135	Experimental observation of two-stage crystallization of Ge ₂ Sb ₂ Te ₅ amorphous thin films under the influence of a pulsed laser. <i>Journal of Alloys and Compounds</i> , 2021, 851, 156924.	2.8	12
136	Structure and Dynamics of Supercooled Liquid Ge ₂ Sb ₂ Te ₅ from Machine-Learning-Driven Simulations. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2000403.	1.2	4
137	Enhancing thermoelectric performance of Sb ₂ Te ₃ through swapped bilayer defects. <i>Nano Energy</i> , 2021, 79, 105484.	8.2	32
138	The Future of Memristors: Materials Engineering and Neural Networks. <i>Advanced Functional Materials</i> , 2021, 31, 2006773.	7.8	187
139	Tetrahedral Complexity in Amorphous Networks: A Possible Clue for the Unique Properties of Phase-Change Materials. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2000490.	1.2	3
140	Absence of Partial Amorphization in GeSbTe Chalcogenide Superlattices. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2000457.	1.2	1
141	Metavalent Bonding in Solids: Characteristic Representatives, Their Properties, and Design Options. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2000482.	1.2	28
142	Overview of the Role of Alloying Modifiers on the Performance of Phase Change Memory Materials. <i>Journal of Electronic Materials</i> , 2021, 50, 1-24.	1.0	19
143	Magnetic Transition of Metallic Phase-Change Materials. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2000425.	1.2	0
144	Optoelectronic dynamic memristor systems based on two-dimensional crystals. <i>Chaos, Solitons and Fractals</i> , 2021, 142, 110523.	2.5	11

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145	Neuromorphic computing: From devices to integrated circuits. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2021, 39, 010801.	0.6	10
146	Can two-dimensional confinement trigger the fragile-to-strong crossover in phase-change supercooled liquids. Scripta Materialia, 2021, 192, 89-93.	2.6	5
147	Nucleation Dynamics of Phase-Change Memory Materials: Atomic Motion and Property Evolution. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2000441.	1.2	5
148	First-Principles Study on the Crystalline Ga ₄ Sb ₆ Te ₃ Phase Change Compound. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2000382.	1.2	2
149	High-Stability and Low-Noise Multilevel Switching in In ₃ SbTe ₂ Material for Phase Change Photonic Memory Applications. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2000354.	1.2	7
150	Novel IV-VI semiconductors with ultralow lattice thermal conductivity. Journal of Materials Chemistry C, 2021, 9, 4189-4199.	2.7	14
151	Programmable phase-change metasurfaces on waveguides for multimode photonic convolutional neural network. Nature Communications, 2021, 12, 96.	5.8	186
152	Antimony thin films demonstrate programmable optical nonlinearity. Science Advances, 2021, 7, .	4.7	42
153	Bulk Glassy GeTe ₂ : A Missing Member of the Tetrahedral GeX ₂ Family and a Precursor for the Next Generation of Phase-Change Materials. Chemistry of Materials, 2021, 33, 1031-1045.	3.2	17
154	Particle shape tunes fragility in hard polyhedron glass-formers. Soft Matter, 2021, 17, 600-610.	1.2	2
155	Nonvolatile switching in In ₂ Se ₃ -silicon microring resonators. , 2021, , .		3
156	First-principles thermal transport in amorphous Ge ₂ Sb ₂ Te ₅ at the nanoscale. RSC Advances, 2021, 11, 10747-10752.	1.7	6
157	Atomic layer deposition of chalcogenides for next-generation phase change memory. Journal of Materials Chemistry C, 2021, 9, 3708-3725.	2.7	23
158	Characterizations of electronic and optical properties of Sb-based phase-change material stabilized by alloying Cr. Applied Physics Letters, 2021, 118, .	1.5	7
160	Unraveling the structural and bonding nature of antimony sesquichalcogenide glass for electronic and photonic applications. Journal of Materials Chemistry C, 0, , .	2.7	15
161	Interface controlled thermal resistances of ultra-thin chalcogenide-based phase change memory devices. Nature Communications, 2021, 12, 774.	5.8	59
162	Exploring Phase-Change Memory: From Material Systems to Device Physics. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2000394.	1.2	9
163	Reconfigurable all-dielectric metalens with diffraction-limited performance. Nature Communications, 2021, 12, 1225.	5.8	221

#	ARTICLE	IF	CITATIONS
164	Enhancing the surface morphology for improved phase change mechanism by Sm doping in Ge ₂ Sb ₂ Te ₅ thin films. <i>Applied Physics A: Materials Science and Processing</i> , 2021, 127, 1.	1.1	3
165	Ab initio molecular dynamics and materials design for embedded phase-change memory. <i>Npj Computational Materials</i> , 2021, 7, .	3.5	44
166	The use of photothermal techniques for thermal conductivity and thermal boundary resistance measurements of phase-change chalcogenides alloys. <i>Journal of Applied Physics</i> , 2021, 129, .	1.1	8
167	Phase and grain size engineering in Ge-Sb-Te-O by alloying with La-Sr-Mn-O towards improved material properties. <i>Materials and Design</i> , 2021, 199, 109392.	3.3	24
168	Spatiotemporal Terahertz Metasurfaces for Ultrafast All-Optical Switching with Electrically Triggered Bistability. <i>Laser and Photonics Reviews</i> , 2021, 15, 2000456.	4.4	24
169	Physical properties and structure characteristics of titanium-modified antimony-selenium phase change thin film. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	12
170	The effect of graphene and reduced graphene oxide on the resistive switching behavior of La _{0.7} Ba _{0.3} MnO ₃ . <i>Materials Today Communications</i> , 2021, 26, 102040.	0.9	10
171	Stochastic resonance in a metal-oxide memristive device. <i>Chaos, Solitons and Fractals</i> , 2021, 144, 110723.	2.5	101
173	Change in Structure of Amorphous Sb-Te Phase-Change Materials as a Function of Stoichiometry. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2100064.	1.2	10
174	A scheme for enabling the ultimate speed of threshold switching in phase change memory devices. <i>Scientific Reports</i> , 2021, 11, 6111.	1.6	4
175	Two-Dimensional Metal Telluride Atomic Crystals: Preparation, Physical Properties, and Applications. <i>Advanced Functional Materials</i> , 2021, 31, 2010901.	7.8	22
176	Three Resistance States Achieved by Nanocrystalline Decomposition in Ge ₂ Ga ₂ Sb Compound for Multilevel Phase Change Memory. <i>Advanced Electronic Materials</i> , 2021, 7, 2100164.	2.6	16
177	Dimensional transformation of chemical bonding during crystallization in a layered chalcogenide material. <i>Scientific Reports</i> , 2021, 11, 4782.	1.6	16
178	Multiresponsive Nonvolatile Memories Based on Optically Switchable Ferroelectric Organic Field-Effect Transistors. <i>Advanced Materials</i> , 2021, 33, e2007965.	11.1	52
179	High-Throughput Screening for Phase-Change Memory Materials. <i>Advanced Functional Materials</i> , 2021, 31, 2009803.	7.8	43
180	Phase-change mechanism and role of each element in Ag-In-Sb-Te: Chemical bond evolution. <i>Applied Surface Science</i> , 2021, 544, 148838.	3.1	8
181	Phase transitions in 2D materials. <i>Nature Reviews Materials</i> , 2021, 6, 829-846.	23.3	205
182	On the Molecular Mechanism of a Photo-Responsive Phase Change Memory. <i>Advanced Theory and Simulations</i> , 2021, 4, 2100017.	1.3	2

#	ARTICLE	IF	CITATIONS
183	Investigation of amorphous-crystalline transformation induced optical and electronic properties change in annealed As ₅₀ Se ₅₀ thin films. <i>Optical and Quantum Electronics</i> , 2021, 53, 1.	1.5	16
184	Stimuli-Responsive Memristive Materials for Artificial Synapses and Neuromorphic Computing. <i>Advanced Materials</i> , 2021, 33, e2006469.	11.1	88
185	Non-Volatile In-Ga-Zn-O Transistors for Neuromorphic Computing. <i>Applied Physics A: Materials Science and Processing</i> , 2021, 127, 1.	1.1	6
186	Mechanical characterization and properties of continuous wave laser irradiated Ge ₂ Sb ₂ Te ₅ stripes. <i>Materials and Design</i> , 2021, 202, 109545.	3.3	1
187	Search for a possible flexible-to-rigid transition in models of phase change materials. <i>Physical Review B</i> , 2021, 103, .	1.1	6
188	Non-isothermal crystallization kinetics of Se ₈₂ xTe ₁₈ Gex (0 ≤ x ≤ 12) for memory applications. <i>Indian Journal of Physics</i> , 2022, 96, 1075-1085.	0.9	4
189	The changing state of porous materials. <i>Nature Materials</i> , 2021, 20, 1179-1187.	13.3	147
190	Neuro-Inspired Signal Processing in Ferromagnetic Nanofibers. <i>Biomimetics</i> , 2021, 6, 32.	1.5	6
191	Phase-Change-Memory Process at the Limit: A Proposal for Utilizing Monolayer Sb ₂ Te ₃ . <i>Advanced Science</i> , 2021, 8, 2004185.	5.6	25
192	High Thermal Stability and Fast Speed Phase Change Memory by Optimizing GeTe Alloys with Ru Doping. <i>ECS Journal of Solid State Science and Technology</i> , 2021, 10, 055009.	0.9	1
193	Thermal stability improvement of Sb-Si ₃ N ₄ composite phase-change film by tuning crystallization mechanism. <i>Journal of Alloys and Compounds</i> , 2021, 863, 158720.	2.8	3
194	Effects of Ca doping on the crystallization kinetics of GeTe. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	6
195	Adaptive Extreme Edge Computing for Wearable Devices. <i>Frontiers in Neuroscience</i> , 2021, 15, 611300.	1.4	67
196	Effect of local structure on the optical and dielectric behaviour of Sm doped GeSbTe phase change material. <i>Optical Materials</i> , 2021, 115, 111057.	1.7	5
197	On the Origin of Wake-Up and Antiferroelectric-Like Behavior in Ferroelectric Hafnium Oxide. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2100086.	1.2	54
198	Integrated Neuromorphic Photonics: Synapses, Neurons, and Neural Networks. <i>Advanced Photonics Research</i> , 2021, 2, 2000212.	1.7	32
199	Advances in Photonic Devices Based on Optical Phase-Change Materials. <i>Molecules</i> , 2021, 26, 2813.	1.7	13
200	Universal memory based on phase-change materials: From phase-change random access memory to optoelectronic hybrid storage*. <i>Chinese Physics B</i> , 2021, 30, 058504.	0.7	13

#	ARTICLE	IF	CITATIONS
201	Electrical and Mechanical Properties Enhancement in Superlattice-Like GaSb/Ge ₂ Sb ₂ Te ₅ Phase Change Thin Films. Advanced Materials Interfaces, 2021, 8, 2100405.	1.9	5
202	Direct laser printing color images based on the microstructure modulation of phase change material. Optics and Laser Technology, 2021, 138, 106895.	2.2	2
203	MD-HM. , 2021, , .		11
204	Multimodal Tuning of Synaptic Plasticity Using Persistent Luminescent Memitters. Advanced Materials, 2022, 34, e2101895.	11.1	31
205	The rise of intelligent matter. Nature, 2021, 594, 345-355.	13.7	228
206	Obtaining glasses in the extremely crystallizing Ge ⁴⁺ Sb ⁴⁺ Te phase change material. Journal of Non-Crystalline Solids, 2021, 562, 120730.	1.5	7
207	ITO-based microheaters for reversible multi-stage switching of phase-change materials: towards miniaturized beyond-binary reconfigurable integrated photonics. Optics Express, 2021, 29, 20449.	1.7	62
208	Unusual Force Constants Guided Distortion-Triggered Loss of Long-Range Order in Phase Change Materials. Materials, 2021, 14, 3514.	1.3	4
209	Unraveling the optical contrast in Sb ₂ Te and AgInSbTe phase-change materials. JPhys Photonics, 2021, 3, 034011.	2.2	12
210	Metal chalcogenides for neuromorphic computing: emerging materials and mechanisms. Nanotechnology, 2021, 32, 372001.	1.3	16
211	Cr ₇ Ge ₃₃ Te ₆₀ /Hf ₁₆ Ge ₆ Sb ₇₈ Superlattice-Like Thin Film with Triple-Phase Transitions for Multilevel Phase-Change Memory. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100222.	1.2	4
212	Silicon Photonics for Artificial Intelligence and Neuromorphic Computing. , 2021, , .		0
213	Critical phenomena of the layered ferrimagnet Mn ₃ Si ₂ Te ₆ following proton irradiation. Journal of Applied Physics, 2021, 130, .	1.1	8
214	Phase-change memory based on matched <sc>GeTe</sc>, <sc>SbTe</sc> and <sc>InTe</sc> octahedrons: Improved electrical performances and robust thermal stability. Informa ^Å Mater ^Å Jly, 2021, 3, 1008-1015.	8.5	16
215	Laser ablation of Ga ⁵⁺ Sb ⁵⁺ Te thin films monitored with quadrupole ion trap time-of-flight mass spectrometry. Journal of the American Ceramic Society, 2021, 104, 6643.	1.9	0
216	Reconfigurable Multifunctional Ambipolar Polymer-Blend Transistors with Improved Switching-Off Capability. Advanced Functional Materials, 2021, 31, 2103369.	7.8	13
217	Enhanced resistance switching in ultrathin Ag/SrTiO ₃ /(La,Sr)MnO ₃ memristors and their long-term plasticity for neuromorphic computing. Applied Physics Letters, 2021, 119, .	1.5	11
218	Resistive Switching Effect of Multiferroic Complex Oxide Solid Solution Thin Films. ACS Applied Electronic Materials, 2021, 3, 3278-3286.	2.0	1

#	ARTICLE	IF	CITATIONS
219	Scalable massively parallel computing using continuous-time data representation in nanoscale crossbar array. <i>Nature Nanotechnology</i> , 2021, 16, 1079-1085.	15.6	53
220	Unraveling the Atomic Structure of Bulk Binary GaTe Glasses with Surprising Nanotectonic Features for Phase-Change Memory Applications. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 37363-37379.	4.0	12
221	A Marr's Three-Level Analytical Framework for Neuromorphic Electronic Systems. <i>Advanced Intelligent Systems</i> , 2021, 3, 2100054.	3.3	3
222	All-Optical Synapse With Directional Coupler Structure Based on Phase Change Material. <i>IEEE Photonics Journal</i> , 2021, 13, 1-6.	1.0	3
223	Phase-Change Memory by GeSbTe Electrodeposition in Crossbar Arrays. <i>ACS Applied Electronic Materials</i> , 2021, 3, 3610-3618.	2.0	12
224	The potential of chemical bonding to design crystallization and vitrification kinetics. <i>Nature Communications</i> , 2021, 12, 4978.	5.8	35
225	Sub-Picosecond Non-Equilibrium States in the Amorphous Phase of GeTe Phase-Change Material Thin Films. <i>Advanced Materials</i> , 2021, 33, e2102721.	11.1	8
226	Reliable Ge ₂ Sb ₂ Te ₅ based phase-change electronic synapses using carbon doping and programmed pulses. <i>Journal of Materiomics</i> , 2022, 8, 382-391.	2.8	7
227	An optical synapse based on a polymer waveguide with a GST ₂₂₅ active layer. <i>Applied Physics Letters</i> , 2021, 119, 081105.	1.5	4
228	Structural features of chalcogenide glass SiTe: An ovonic threshold switching material. <i>APL Materials</i> , 2021, 9, .	2.2	12
229	Colloidal quantum dot electronics. <i>Nature Electronics</i> , 2021, 4, 548-558.	13.1	192
230	Gaussian Process Regression for Materials and Molecules. <i>Chemical Reviews</i> , 2021, 121, 10073-10141.	23.0	384
231	Reconfigurable metasurface-based 1 Å– 2 waveguide switch. <i>Photonics Research</i> , 2021, 9, 2104.	3.4	15
232	Towards High-Performance Resistive Switching Behavior through Embedding a System into 2D Imine-Linked Covalent Organic Frameworks. <i>Angewandte Chemie</i> , 0, , .	1.6	7
233	Performance Improvement of Sb Phase Change Thin Film by Y Doping. <i>ECS Journal of Solid State Science and Technology</i> , 2021, 10, 093002.	0.9	6
234	Crystallization of Ge ₂ Sb ₂ Te ₅ under high hydrostatic pressures: Differences in nanoscale atomic ordering in as-deposited and pressure-induced amorphous phases. <i>Journal of Alloys and Compounds</i> , 2021, 874, 159980.	2.8	3
235	High-Throughput Calculations on the Decomposition Reactions of Off-Stoichiometry GeSbTe Alloys for Embedded Memories. <i>Nanomaterials</i> , 2021, 11, 2382.	1.9	12
236	Towards High-Performance Resistive Switching Behavior through Embedding a System into 2D Imine-Linked Covalent Organic Frameworks. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 27135-27143.	7.2	35

#	ARTICLE	IF	CITATIONS
237	Orbital-selective electronic excitation in phase-change memory materials: a brief review. Zeitschrift Fur Naturforschung - Section B Journal of Chemical Sciences, 2021, .	0.3	0
238	Structure, bonding nature and transition dynamics of amorphous Te. Scripta Materialia, 2021, 202, 114011.	2.6	15
239	Full-color, multi-level transmittance modulators: From reflectivity/gradient absorption coupling mechanism to materials map. Acta Materialia, 2021, 216, 117132.	3.8	2
240	Thermal transport of amorphous phase change memory materials using population-coherence theory: a first-principles study. Journal Physics D: Applied Physics, 2021, 54, 505302.	1.3	7
241	A fast, low-energy multi-state phase-change artificial synapse based on uniform partial-state transitions. APL Materials, 2021, 9, .	2.2	20
242	Ultrafast crystallization mechanism of amorphous Ge ₁₅ Sb ₈₅ unraveled by pressure-driven simulations. Acta Materialia, 2021, 216, 117123.	3.8	13
243	1/f noise in amorphous Sb ₂ Te ₃ for energy-efficient stochastic synapses in neuromorphic computing. Semiconductor Science and Technology, 2021, 36, 124001.	1.0	4
244	¹²⁵ Te NMR for structural investigations in phase change materials: Optimization of experimental conditions coupled to NMR shift prediction. Solid State Nuclear Magnetic Resonance, 2021, 115, 101751.	1.5	1
245	Effect of vacuum annealing on structural and electrical properties of germanium telluride thin films. Materials Research Bulletin, 2022, 146, 111575.	2.7	9
246	Radio-frequency magnetron co-sputtered Ge-Sb-Te phase change thin films. Journal of Non-Crystalline Solids, 2021, 569, 121003.	1.5	1
247	Thermodynamics and kinetics of glassy and liquid phase-change materials. Materials Science in Semiconductor Processing, 2021, 135, 106094.	1.9	7
248	Bonding nature and optical contrast of TiTe ₂ /Sb ₂ Te ₃ phase-change heterostructure. Materials Science in Semiconductor Processing, 2021, 135, 106080.	1.9	13
249	Boosting crystallization speed in ultrathin phase-change bridge memory device using Sb ₂ Te ₃ . Materials Science in Semiconductor Processing, 2021, 134, 105999.	1.9	10
250	Transmissivity to reflectivity change delay phenomenon observed in GeTe thin films at laser-induced reamorphization. Optics and Laser Technology, 2021, 143, 107305.	2.2	9
251	Simulation-based analysis of novel phase change memory structure with separated program and read paths for low program current and endurance enhancement. Materials Science in Semiconductor Processing, 2021, 134, 105987.	1.9	2
252	Multi-level phase-change memory with ultralow power consumption and resistance drift. Science Bulletin, 2021, 66, 2217-2224.	4.3	41
253	Artificial intelligence model for efficient simulation of monatomic phase change material antimony. Materials Science in Semiconductor Processing, 2021, 136, 106146.	1.9	7
254	A Raman study on nanosecond-laser-induced multi-level switching of Ge ₂ Sb ₂ Te ₅ thin films. Optics and Laser Technology, 2021, 144, 107393.	2.2	12

#	ARTICLE	IF	CITATIONS
255	Observing the spontaneous formation of a sub-critical nucleus in a phase-change amorphous material from ab initio molecular dynamics. <i>Materials Science in Semiconductor Processing</i> , 2021, 136, 106102.	1.9	5
256	High performance of Er-doped Sb ₂ Te material used in phase change memory. <i>Journal of Alloys and Compounds</i> , 2021, 889, 161701.	2.8	14
257	Fabrication and characterization of Sr _{0.8} Bi _{2.2} Ta ₂ O ₉ /Al ₂ O ₃ gate stack for ferroelectric field effect transistors. <i>Applied Physics A: Materials Science and Processing</i> , 2021, 127, 1.	1.1	0
258	A review of in situ transmission electron microscopy study on the switching mechanism and packaging reliability in non-volatile memory. <i>Journal of Semiconductors</i> , 2021, 42, 013102.	2.0	6
259	Materials Screening for Disorder-Controlled Chalcogenide Crystals for Phase-Change Memory Applications. <i>Advanced Materials</i> , 2021, 33, e2006221.	11.1	32
260	Transport of charge carriers and optoelectronic applications of highly ordered metal phthalocyanine heterojunction thin films. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 9631-9642.	1.3	6
261	A nanoimprinted artificial engram device. <i>Nanoscale Horizons</i> , 2021, 6, 718-728.	4.1	1
262	12-state multi-level cell storage implemented in a 128 Mb phase change memory chip. <i>Nanoscale</i> , 2021, 13, 10455-10461.	2.8	14
263	Mechanism of amorphous phase stabilization in ultrathin films of monoatomic phase change material. <i>Nanoscale</i> , 2021, 13, 16146-16155.	2.8	22
264	Hardware Implementation of Neuromorphic Computing Using Large-Scale Memristor Crossbar Arrays. <i>Advanced Intelligent Systems</i> , 2021, 3, 2000137.	3.3	96
265	Physical and mechanical properties of intermediate phase chalcogenide glasses with centroid compositions in the Ge-Te-In-Ag system. <i>Journal of Non-Crystalline Solids</i> , 2020, 543, 120112.	1.5	8
266	Impact of crystallization process in multilevel optical switching in Ge ₂ Sb ₂ Te ₅ and Ag ₅ In ₅ Sb ₆₀ Te ₃₀ phase-change materials. <i>Journal of Applied Physics</i> , 2020, 128, 043101.	1.3	7
267	Strain-induced phase selection in epitaxial Ge ₂ Sb ₂ Te ₅ thin films. <i>Applied Physics Letters</i> , 2020, 117, 041101.	0.9	3
268	Reconfigurable dielectric metasurface for active wavefront modulation based on a phase-change material metamolecule design. <i>Optics Express</i> , 2020, 28, 38241.	1.7	14
269	VO ₂ based dynamic tunable absorber and its application in switchable control and real-time color display in the visible region. <i>Optics Express</i> , 2020, 28, 37590.	1.7	35
270	Infrared photodetector based on GeTe nanofilms with high performance. <i>Optics Letters</i> , 2020, 45, 1108.	1.7	12
271	GaTe/Sb ₂ Te ₃ thin-films phase change characteristics. <i>Optics Letters</i> , 2020, 45, 1067.	1.7	6
272	Wavelength-selective 2 nd -order optical switch based on a Ge ₂ Sb ₂ Te ₅ -assisted microring. <i>Photonics Research</i> , 2020, 8, 1171.	3.4	58

#	ARTICLE	IF	CITATIONS
273	Tunable nanophotonics enabled by chalcogenide phase-change materials. <i>Nanophotonics</i> , 2020, 9, 1189-1241.	2.9	294
275	MOF-Based Sustainable Memory Devices. <i>Advanced Functional Materials</i> , 2022, 32, 2107949.	7.8	31
276	A new opportunity for the emerging tellurium semiconductor: making resistive switching devices. <i>Nature Communications</i> , 2021, 12, 6081.	5.8	25
277	Role of substrate temperature and tellurium flux on the electrical and optical properties of MBE grown GeTe and Sb ₂ Te ₃ thin films on GaAs (100). <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2020, 38, 032210.	0.6	3
278	Infrared photovoltaic detector based on p-GeTe/n-Si heterojunction. <i>Nanoscale Research Letters</i> , 2020, 15, 138.	3.1	9
280	Neuromorphic Photonics: Current Status and Challenges. , 2020, , .		1
281	Phase Evolution and Amorphous Stability upon Solid-State Reaction in Superlattice-Like GeSbTe Combinatorial Thin Films. <i>ACS Applied Electronic Materials</i> , 2020, 2, 3880-3888.	2.0	2
282	Switching between singular points in non-PT-symmetric multilayer structures using phase-change materials. <i>Optics Express</i> , 2021, 29, 454.	1.7	1
283	Challenges and Trends of Nonvolatile In-Memory-Computation Circuits for AI Edge Devices. <i>IEEE Open Journal of the Solid-State Circuits Society</i> , 2021, 1, 171-183.	2.0	25
284	A first-principles study of the switching mechanism in GeTe/InSbTe superlattices. <i>Nanoscale Advances</i> , 2020, 2, 5209-5218.	2.2	3
285	Atypical phase-change alloy Ga ₂ Te ₃ : atomic structure, incipient nanotectonic nuclei, and multilevel writing. <i>Journal of Materials Chemistry C</i> , 2021, 9, 17019-17032.	2.7	12
286	Rules of hierarchical melt and coordinate bond to design crystallization in doped phase change materials. <i>Nature Communications</i> , 2021, 12, 6473.	5.8	17
287	Thermally Controlled Charge-Carrier Transitions in Disordered PbSbTe Chalcogenides. <i>Advanced Materials</i> , 2022, 34, e2106868.	11.1	5
288	Progress in measuring, modeling, and manipulating thermal boundary conductance. <i>Advances in Heat Transfer</i> , 2021, 53, 327-404.	0.4	0
289	Dynamics of reversible optical properties switching of Ge ₂ Sb ₂ Te ₅ thin films at laser-induced phase transitions. <i>Optics and Laser Technology</i> , 2022, 147, 107701.	2.2	9
290	Tailoring the Structural and Optical Properties of Germanium Telluride Phase-Change Materials by Indium Incorporation. <i>Nanomaterials</i> , 2021, 11, 3029.	1.9	9
291	A scheme for simulating multi-level phase change photonics materials. <i>Npj Computational Materials</i> , 2021, 7, .	3.5	27
292	Nano-composite phase-change antimony thin film for fast and persistent memory operations. <i>Materials Today Physics</i> , 2022, 22, 100584.	2.9	6

#	ARTICLE	IF	CITATIONS
293	Tailoring Crystallization Kinetics of Chalcogenides for Photonic Applications. <i>Advanced Electronic Materials</i> , 2022, 8, 2100974.	2.6	10
294	Genetic architecture of protein expression and its regulation in the mouse brain. <i>BMC Genomics</i> , 2021, 22, 875.	1.2	3
295	Memristor modeling: challenges in theories, simulations, and device variability. <i>Journal of Materials Chemistry C</i> , 2021, 9, 16859-16884.	2.7	89
296	Dynamic electric-field-induced magnetic effects in cobalt oxide thin films: towards magneto-ionic synapses. <i>Nanoscale</i> , 2022, 14, 842-852.	2.8	9
297	Temperature-Dependent Thermal Conductivity and Interfacial Resistance of Ge ₂ Sb ₂ Te ₅ Films and Multilayers. <i>Physica Status Solidi - Rapid Research Letters</i> , 2022, 16, 2100507.	1.2	6
298	GSST phase change materials and its utilization in optoelectronic devices: A review. <i>Materials Research Bulletin</i> , 2022, 148, 111679.	2.7	31
299	Comparison and analysis of phase change materials-based reconfigurable silicon photonic directional couplers. <i>Optical Materials Express</i> , 2022, 12, 606.	1.6	36
300	Highly Stable Artificial Synapses Based on Ferroelectric Tunnel Junctions for Neuromorphic Computing Applications. <i>Advanced Materials Technologies</i> , 2022, 7, .	3.0	22
301	Enhanced performance of phase change memory by grain size reduction. <i>Journal of Materials Chemistry C</i> , 2022, 10, 3585-3592.	2.7	10
302	Ge [~] Sb Thin Films Patterned by Heat-Mode Lithography. <i>Physica Status Solidi - Rapid Research Letters</i> , 2022, 16, .	1.2	2
303	An engineering model for high-speed switching in GeSbTe phase-change memory. <i>Applied Physics Express</i> , 2022, 15, 025505.	1.1	0
304	Monatomic phase-change switch. <i>Science Bulletin</i> , 2022, 67, 888-890.	4.3	7
305	Correlation between fragility and free volume void size at glass transition temperature. <i>AIP Advances</i> , 2022, 12, .	0.6	4
306	Designing Conductive-Bridge Phase-Change Memory to Enable Ultralow Programming Power. <i>Advanced Science</i> , 2022, 9, e2103478.	5.6	26
307	Volatile and Nonvolatile Switching of Phase Change Material Ge ₂ Sb ₂ Te ₅ Revealed by Time-Resolved Terahertz Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 947-953.	2.1	9
308	Bonding Nature and Optical Properties of As ₂ Te ₃ Phase-Change Material. <i>Physica Status Solidi - Rapid Research Letters</i> , 2022, 16, .	1.2	5
309	Unraveling Crystallization Mechanisms and Electronic Structure of Phase-Change Materials by Large-Scale Ab Initio Simulations. <i>Advanced Materials</i> , 2022, 34, e2109139.	11.1	21
310	Epitaxial growth and optical band gap variation of ultrathin ZnTe films. <i>Materials Letters</i> , 2022, 313, 131725.	1.3	3

#	ARTICLE	IF	CITATIONS
311	Study of Er-Sb and Er-Te parental alloys used in phase change memory. Journal of Alloys and Compounds, 2022, 904, 164057.	2.8	4
312	Memory Storage Systems Utilizing Chaotic Attractor-Merging Bifurcation. IEEE Access, 2022, 10, 15699-15706.	2.6	2
313	Origin of the concentration-dependent effects of N on the stability and electrical resistivity in polycrystalline Ge ₁ Sb ₂ Te ₄ . Journal of Materials Chemistry C, 0, , .	2.7	1
314	Volatile and Nonvolatile Memristive Devices for Neuromorphic Computing. Advanced Electronic Materials, 2022, 8, .	2.6	94
315	Investigation of the Crystallization Characteristics of Intermediate States in Ge ₂ Sb ₂ Te ₅ Thin Films Induced by Nanosecond Multi-Pulsed Laser Irradiation. Nanomaterials, 2022, 12, 536.	1.9	1
316	Hints for a General Understanding of the Epitaxial Rules for van der Waals Epitaxy from Ge ₂ Sb ₂ Te Alloys. Advanced Materials Interfaces, 2022, 9, .	1.9	6
317	The Effect of Volcanic ash Pozzolan and Metakaolin on Electrochemical Corrosion Resistance of 2304 Duplex Stainless Steel Reinforcing in Concrete Subjected to Marine Environment. International Journal of Electrochemical Science, 0, , ArticleID:220348.	0.5	1
318	Density dependent local structures in InTe phase-change materials. APL Materials, 2021, 9, 121105.	2.2	3
319	Elemental electrical switch enabling phase segregation-free operation. Science, 2021, 374, 1390-1394.	6.0	73
320	First-principles mobility prediction for amorphous semiconductors. Physical Review B, 2022, 105, .	1.1	3
321	Bio-Inspired 3D Artificial Neuromorphic Circuits. Advanced Functional Materials, 2022, 32, .	7.8	45
322	A review of compact modeling for phase change memory. Journal of Semiconductors, 2022, 43, 023101.	2.0	4
323	Crystallization and Electrical Properties of Ge-Rich GeSbTe Alloys. Nanomaterials, 2022, 12, 631.	1.9	12
324	é”çç²âîé†‘Sb ₂ Te ₃ ä,ç©°ä¹²æ—â°âCE—çš,,âžŸä¹²ç”µâæ~¾¾¾®â-ç”ç©¶. Chinese Science Bulletin, 2022, , .	0.4	1
325	Extreme Multistability and Its Incremental Integral Reconstruction in a Non-Autonomous Memcapacitive Oscillator. Mathematics, 2022, 10, 754.	1.1	7
326	Crystallization kinetics and thermodynamics of an AgInSbTe phase change material using complementary in situ microscopic techniques. Journal of Materials Research, 2022, 37, 1281.	1.2	0
327	Flexible neuromorphic electronics based on low-dimensional materials. Science China Materials, 2022, 65, 2154-2159.	3.5	5
328	Laser-induced patterning for a diffraction grating using the phase change material of Ge ₂ Sb ₂ Te ₅ (GST) as a spatial light modulator in X-ray optics: a proof of concept. Optical Materials Express, 2022, 12, 1408.	1.6	2

#	ARTICLE	IF	CITATIONS
329	Phase change behavior improvement of Sb ₂ Te ₃ films by Si doping: Raman scattering evidence at elevated temperatures. <i>AIP Advances</i> , 2022, 12, .	0.6	2
330	Artificial Biphasic Synapses Based on Nonvolatile Phase-Change Photonic Memory Cells. <i>Physica Status Solidi - Rapid Research Letters</i> , 2022, 16, .	1.2	11
331	In-Plane Twinning Defects in Hexagonal GeSb ₂ Te ₄ . <i>Advanced Materials Technologies</i> , 0, , 2200214.	3.0	2
332	Cr-doped Sb ₂ Te materials promising for high performance phase-change random access memory. <i>Journal of Alloys and Compounds</i> , 2022, 908, 164593.	2.8	12
333	Spatially inhomogeneous operation of phase-change memory. <i>Applied Surface Science</i> , 2022, 589, 153026.	3.1	1
334	Coupled Current Jumps and Domain Wall Creeps in a Defect-Engineered Ferroelectric Resistive Memory. <i>Advanced Electronic Materials</i> , 0, , 2101059.	2.6	5
335	Optically Reconfigurable Spherical Ge ₂ Sb ₂ Te Nanoparticles with Reversible Switching. <i>Laser and Photonics Reviews</i> , 2022, 16, .	4.4	10
336	Effect of off-stoichiometry on the thermal conductivity of amorphous GeTe. <i>Physica Scripta</i> , 2021, 96, 125730.	1.2	0
337	Physical based compact model of Y-Flash memristor for neuromorphic computation. <i>Applied Physics Letters</i> , 2021, 119, 263504.	1.5	8
338	Phase Change Ge-Rich Ge ₂ Sb ₂ Te/Sb ₂ Te ₃ Core-Shell Nanowires by Metal Organic Chemical Vapor Deposition. <i>Nanomaterials</i> , 2021, 11, 3358.	1.9	5
339	Photoelectroactive artificial synapse and its application to biosignal pattern recognition. <i>Npj 2D Materials and Applications</i> , 2021, 5, .	3.9	17
340	Deep machine learning unravels the structural origin of mid-gap states in chalcogenide glass for high-density memory integration. <i>Informa Mater</i> , 2022, 4, .	8.5	34
341	Pressure dependent magnetic properties on bulk CrBr ₃ single crystals. <i>Journal of Alloys and Compounds</i> , 2022, 911, 165034.	2.8	5
342	Structural Phase Transitions between Layered Indium Selenide for Integrated Photonic Memory. <i>Advanced Materials</i> , 2022, 34, e2108261.	11.1	16
343	Space and Time Modulations of Light with Metasurfaces: Recent Progress and Future Prospects. <i>ACS Photonics</i> , 2022, 9, 1458-1482.	3.2	30
344	Anomalous liquids on a new landscape: From water to phase-change materials. <i>Journal of Non-Crystalline Solids: X</i> , 2022, , 100094.	0.5	0
345	Improved multilevel storage capacity in Ge ₂ Sb ₂ Te ₅ -based phase-change memory using a high-aspect-ratio lateral structure. <i>Science China Materials</i> , 2022, 65, 2818-2825.	3.5	11
346	Phase change memory materials and their applications. <i>Russian Chemical Reviews</i> , 2022, 91, .	2.5	9

#	ARTICLE	IF	CITATIONS
347	Thermodynamic Modelling of the Te-X (X = Cu, Ga, Li, Sr) Systems. Journal of Phase Equilibria and Diffusion, 2022, 43, 193-213.	0.5	5
348	Fragile-to-Strong Transition in Phase-Change Material $\text{Ge}_{3}\text{Sb}_{6}\text{Te}_{5}$. Advanced Functional Materials, 2022, 32, .	7.8	16
349	Tunable, Nucleation-Driven Stochasticity in Nanoscale Silicon Oxide Resistive Switching Memory Devices. ACS Applied Nano Materials, 2022, 5, 6691-6698.	2.4	2
350	Photonic (computational) memories: tunable nanophotonics for data storage and computing. Nanophotonics, 2022, 11, 3823-3854.	2.9	37
351	Memristive brain-like computing. Wuli Xuebao/Acta Physica Sinica, 2022, 71, 140501.	0.2	1
352	Characterisation of physicochemical properties of $((\text{As}_2\text{Se}_3)_{0.6}(\text{AgI})_{0.4})_{100-x}(\text{GeTe})_x$ chalcogenide glasses for infrared devices: effect of GeTe addition. Journal of Materials Science: Materials in Electronics, 0, , .	1.1	0
353	Circuit and microcontroller validation of the extreme multistable dynamics of a memristive Jerk system: application to image encryption. European Physical Journal Plus, 2022, 137, .	1.2	12
354	Emerging Solid-to-Solid Phase-Change Materials for Thermal Energy Harvesting, Storage, and Utilization. Advanced Materials, 2022, 34, .	11.1	59
355	Ga doping induced structural and optical modification in $\text{Ge}_{2}\text{Sb}_{2}\text{Te}_{5}$ thin films. Journal of Materials Science: Materials in Electronics, 0, , .	1.1	0
356	Crystallization properties and structural evolution of amorphous Ti-doped $\text{Sn}_{20}\text{Sb}_{80}$ thin layers induced by heating and irradiating. Journal of Applied Physics, 2022, 131, .	1.1	3
357	Thermal Field Effect in Resistive Random Access Memory With Sidewall Structures of Different Thermal Conductivity. IEEE Transactions on Electron Devices, 2022, 69, 3147-3150.	1.6	2
358	How arsenic makes amorphous GeSe a robust chalcogenide glass for advanced memory integration. Scripta Materialia, 2022, 218, 114834.	2.6	17
359	Unraveling the optical bandgap and local structural change during phase transition in In_3SbTe_2 material through UV-Vis-NIR and XPS studies. Journal of Applied Physics, 2022, 131, .	1.1	4
360	First-principles investigation of amorphous Ge-Sb-Se-Te optical phase-change materials. Optical Materials Express, 2022, 12, 2497.	1.6	12
361	Toward flexible memory application: high-performance phase-change magnetic material Fe:GeTe films realized <i>via</i> quasi-van der Waals epitaxy. Journal of Materials Chemistry C, 2022, 10, 9891-9901.	2.7	4
362	Silicon Photonics for Neuromorphic Computing and Artificial Intelligence: Applications and Roadmap. , 2022, , .		3
364	Resonant multilevel optical switching with phase change material GST. Nanophotonics, 2022, 11, 3437-3446.	2.9	16
365	Pt Modified Sb_2Te_3 Alloy Ensuring High Performance Phase Change Memory. Nanomaterials, 2022, 12, 1996.	1.9	2

#	ARTICLE	IF	CITATIONS
366	Multitasking Memristor for High Performance and Ultralow Power Artificial Synaptic Device Application. ACS Applied Electronic Materials, 2022, 4, 3154-3165.	2.0	9
367	Optical properties of as-deposited, annealed and laser-treated Ge ₂ Sb ₂ Te ₅ thin films. Optical Materials Express, 2022, 12, 2927.	1.6	2
368	Neuromorphic Photonic Memory Devices Using Ultrafast, Non-Volatile Phase-Change Materials. Advanced Materials, 2023, 35, .	11.1	33
369	Neuro-inspired electronic skin for robots. Science Robotics, 2022, 7, .	9.9	80
370	Emerging Memristive Devices for Brain-Inspired Computing and Artificial Perception. Frontiers in Nanotechnology, 0, 4, .	2.4	6
371	A State of the Art Review on Sensible and Latent Heat Thermal Energy Storage Processes in Porous Media: Mesoscopic Simulation. Applied Sciences (Switzerland), 2022, 12, 6995.	1.3	11
372	Room-temperature logic-in-memory operations in single-metallofullerene devices. Nature Materials, 2022, 21, 917-923.	13.3	47
373	Introducing Spontaneously Phase-Separated Heterogeneous Interfaces Enables Low Power Consumption and High Reliability for Phase Change Memory. Advanced Electronic Materials, 2022, 8, .	2.6	2
374	Physical properties™ temperature dynamics of GeTe, Ge ₂ Sb ₂ Te ₅ and Ge ₂ Sb ₂ Se ₄ Te ₁ phase change materials. Materials Science in Semiconductor Processing, 2022, 150, 106907.	1.9	11
375	Quantum materials for energy-efficient neuromorphic computing: Opportunities and challenges. APL Materials, 2022, 10, .	2.2	19
377	Enabling Active Nanotechnologies by Phase Transition: From Electronics, Photonics to Thermotics. Chemical Reviews, 2022, 122, 15450-15500.	23.0	14
378	Electrical bistability based on metal-organic frameworks. Chemical Communications, 2022, 58, 9971-9978.	2.2	6
379	Origin of the unusual property contrast in K ₂ Bi ₈ Se ₁₃ phase-change material. Applied Physics Letters, 2022, 121, 061901.	1.5	0
380	2D materials and van der Waals heterojunctions for neuromorphic computing. Neuromorphic Computing and Engineering, 2022, 2, 032004.	2.8	14
381	Low-Power-Consumption, Reversible 3D Optical Storage Based on Selectively Laser-Induced Photoluminescence Degradation in CsPbBr ₃ Quantum Dots Doped Glass. Advanced Materials Technologies, 2022, 7, .	3.0	3
382	The study of phase change properties of Sb ₇₀ Se ₃₀ thin film with scandium and aluminum doping. Journal Physics D: Applied Physics, 2022, 55, 425105.	1.3	2
383	Dynamic analysis of a slow-fast oscillator based on a coupled Duffing memristive system. International Journal of Dynamics and Control, 0, , .	1.5	0
384	Crystallization Kinetics in a Glass-Forming Hybrid Metal Halide Perovskite. , 2022, 4, 1840-1847.		10

#	ARTICLE	IF	CITATIONS
385	Anomalous crystallization kinetics of ultrafast ScSbTe phase-change memory materials induced by nitrogen doping. <i>Acta Materialia</i> , 2022, 238, 118211.	3.8	4
386	Emerging phase change memory devices using non-oxide semiconducting glasses. <i>Journal of Non-Crystalline Solids</i> , 2022, 597, 121874.	1.5	13
387	Minimizing the Programming Power of Phase Change Memory by Using Graphene Nanoribbon Edge-Contact. <i>Advanced Science</i> , 2022, 9, .	5.6	12
388	Low Energy Switching of Phase Change Materials Using a 2D Thermal Boundary Layer. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 41225-41234.	4.0	4
389	Anomalous electrical conductivity change in MoS ₂ during the transition from the amorphous to crystalline phase. <i>Ceramics International</i> , 2023, 49, 2619-2625.	2.3	8
390	Photoinduced Ultrafast Transition of the Local Correlated Structure in Chalcogenide Phase-Change Materials. <i>Physical Review Letters</i> , 2022, 129, .	2.9	7
391	Ultra-Stable, Endurable, and Flexible Sb ₂ Te ₃ Phase Change Devices for Memory Application and Wearable Electronics. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 45600-45610.	4.0	4
392	In situ characterization of vacancy ordering in Ge-Sb-Te phase-change memory alloys. <i>Fundamental Research</i> , 2022, , .	1.6	4
393	Ultrafast Dynamics of Different Phase States Ge ₂ Sb ₂ Te ₅ Film Induced by a Femtosecond Laser Pulse Irradiation. <i>Materials</i> , 2022, 15, 6760.	1.3	5
394	Opportunities and Challenges for Large-Scale Phase-Change Material Integrated Electro-Photonics. <i>ACS Photonics</i> , 2022, 9, 3181-3195.	3.2	23
395	New phase change materials for active photonics. , 2022, , .		0
396	Frequency-dependent stimulated and post-stimulated voltage control of magnetism in transition metal nitrides: towards brain-inspired magneto-ionics. <i>Materials Horizons</i> , 2023, 10, 88-96.	6.4	8
397	New two-dimensional GeSbTe semiconductors with high photovoltaic performance for solar energy conversion. <i>Journal of Materials Chemistry C</i> , 2022, 10, 16813-16821.	2.7	2
398	Impact of process-induced ellipticity on the RESET process of cylindrical phase change memory devices. <i>Physica Scripta</i> , 0, , .	1.2	0
399	Recent Advances in Synaptic Nonvolatile Memory Devices and Compensating Architectural and Algorithmic Methods Toward Fully Integrated Neuromorphic Chips. <i>Advanced Materials Technologies</i> , 2023, 8, .	3.0	15
400	Two-stage conductivity switching of GST thin films induced by femtosecond laser radiation. <i>Optics and Laser Technology</i> , 2023, 157, 108773.	2.2	4
401	Physics-Based Modeling Strategies of Phase-Change Random Access Memory. <i>IEEE Transactions on Electron Devices</i> , 2022, 69, 6510-6522.	1.6	4
402	Effect of temperature on structural, dynamical, and electronic properties of Sc ₂ Te ₃ from first-principles calculations. <i>RSC Advances</i> , 2022, 12, 32796-32802.	1.7	1

#	ARTICLE	IF	CITATIONS
403	Phase-Change Memories. Springer Handbooks, 2023, , 1093-1121.	0.3	0
404	Toward Large Scale All-Optical Spiking Neural Networks. , 2022, , .		0
405	Transient Mesoscopic Immiscibility, Viscosity Anomaly, and High Internal Pressure at the Semiconductorâ€“Metal Transition in Liquid Ga ₂ Te ₃ . Journal of Physical Chemistry Letters, 2022, 13, 10843-10850.	2.1	4
406	Tailoring the oxygen concentration in Ge-Sb-O alloys to enable femtojoule-level phase-change memory operations. Materials Futures, 2022, 1, 045302.	3.1	9
407	Redox memristors with volatile threshold switching behavior for neuromorphic computing. Journal of Electronic Science and Technology, 2022, 20, 100177.	2.0	4
408	Nano-LED driven phase change evolution of layered chalcogenides for Raman spectroscopy investigations. FlatChem, 2022, 36, 100447.	2.8	4
409	Joule heating induced non-melting phase transition and multi-level conductance in MoTe ₂ based phase change memory. Applied Physics Letters, 2022, 121, .	1.5	5
410	Ultrafast Nearâ€“Ideal Phaseâ€“Change Memristive Physical Unclonable Functions Driven by Amorphous State Variations. Advanced Science, 2022, 9, .	5.6	5
411	Plasmonâ€“Assisted Selfâ€“Encrypted Allâ€“Optical Memory. Advanced Functional Materials, 2023, 33, .	7.8	3
412	Highly tunable Î² ² -relaxation enables the tailoring of crystallization in phase-change materials. Nature Communications, 2022, 13, .	5.8	9
413	Dynamic polarization rotation and vector field steering based on phase change metasurface. Frontiers of Physics, 2023, 18, .	2.4	4
414	Designing Glass and Crystalline Phases of Metalâ€“Bis(acetamide) Networks to Promote High Optical Contrast. Journal of the American Chemical Society, 2022, 144, 22262-22271.	6.6	10
415	Dielectric functions evolution and electronic bandgap manipulation by silicon doping for Sb ₂ Te ₃ phase change films: Temperature dependent spectroscopic ellipsometry study. Journal of Applied Physics, 2022, 132, 205109.	1.1	0
416	Crystal Growth in Seâ€“Te Chalcogenides: Overview of the Growth/Relaxation/Viscosity Interplay for Bulk Glasses and Thin Films. Crystal Growth and Design, 2023, 23, 216-228.	1.4	4
417	Some novel perspectives of iso-conversional analysis in the study of Meyerâ€“Neldel energy for thermally governed crystallization by using Johnsonâ€“Mehlâ€“Avrami (JMA) theory. Journal of Thermal Analysis and Calorimetry, 0, , .	2.0	0
418	Enhanced stretchability towards a flexible and wearable reflective display coating using chalcogenide phase change materials. Optics Express, 2023, 31, 75.	1.7	2
419	Physical deep learning with biologically inspired training method:Âˆgradient-free approach for physical hardware. Nature Communications, 2022, 13, .	5.8	23
420	Investigation of thermal stability and crystallization mechanism of Er _{0.03} (GeTe) _{0.97} phase change material. Semiconductor Science and Technology, 2023, 38, 015008.	1.0	0

#	ARTICLE	IF	CITATIONS
421	Conversion between Metavalent and Covalent Bond in Metastable Superlattices Composed of 2D and 3D Sublayers. ACS Nano, 2022, 16, 20758-20769.	7.3	4
422	Revisiting the Nature of Chemical Bonding in Chalcogenides to Explain and Design their Properties. Advanced Materials, 2023, 35, .	11.1	32
423	Stochastic artificial synapses based on nanoscale magnetic tunnel junction for neuromorphic applications. Applied Physics Letters, 2022, 121, .	1.5	10
424	Ultrafast Temporal-Spatial Dynamics of Phase Transition in N-Doped Ge ₂ Sb ₂ Te ₅ Film Induced by Femtosecond Laser Pulse Irradiation. Micromachines, 2022, 13, 2168.	1.4	1
425	Structure and Crystallization Kinetics of As-Deposited Films of the GeTe Phase Change Compound from Atomistic Simulations. Physica Status Solidi - Rapid Research Letters, 2023, 17, .	1.2	4
426	ÅÿãŽGe-Ga-Sbä»«è*çš,,ã...ç,ã•è,,%ã†²ç¥žç»ç½'ç»œçš,,è¾¼è®¡. Science China Materials, 2023, 66, 1551-1558. 3.5		5
427	Elemental Redistribution During the Crystallization of Ge-Cu-Te Thin Films for Phase-Change Memory. ECS Journal of Solid State Science and Technology, 2023, 12, 014003.	0.9	1
428	Recent Progress in Development of Artificial Neuromorphic Devices Based on Emerging Materials. Ceramist, 2022, 25, 454-474.	0.0	0
429	Optical excitation-induced ultrafast amorphization in the Y-Sb-Te alloy system: Insights from real-time time-dependent DFT with molecular dynamics calculations. Physical Review B, 2022, 106, .	1.1	4
430	Energy Efficient Neuro-Inspired Phase-Change Memory Based on Ge ₄ Sb ₆ Te ₇ as a Novel Epitaxial Nanocomposite. Advanced Materials, 2023, 35, .	11.1	4
431	Hardware Trojans based on two-dimensional memtransistors. Nanoscale Horizons, 2023, 8, 603-615.	4.1	2
432	Local and Global Order in Dense Packings of Semi-Flexible Polymers of Hard Spheres. Polymers, 2023, 15, 551.	2.0	4
433	The Relationship between Electron Transport and Microstructure in Ge ₂ Sb ₂ Te ₅ Alloy. Nanomaterials, 2023, 13, 582.	1.9	3
434	Interface dewetting as a source of void formation and aggregation in phase change nanoscale actuators. Applied Physics Letters, 2023, 122, .	1.5	0
435	<i>In situ</i> investigation of ion irradiation-induced amorphization of (Ge ₂ Sb ₂ Te ₅) _{1-x} Cx [0$\leq x \leq 0.12$]. Journal of Applied Physics, 2023, 133, .	1.1	1
436	Influence of molybdenum doping on the structural, electrical, and optical properties of germanium telluride thin films. Journal of Materials Research and Technology, 2023, 24, 2538-2549.	2.6	2
437	Diffusion-assisted displacive transformation in Yttrium-doped Sb ₂ Te ₃ phase change materials. Acta Materialia, 2023, 249, 118809.	3.8	3
438	Germanium monotelluride-based solid solutions as whole-visible dielectric-metallic-transition material platforms for programmable metasurfaces. Acta Materialia, 2023, 250, 118863.	3.8	1

#	ARTICLE	IF	CITATIONS
439	Effect of vacancy ordering on the grain growth of $\text{Ge}_2\text{Sb}_2\text{Te}_5$ film. <i>Nanotechnology</i> , 2023, 34, 155703.	1.3	1
440	Toward the Speed Limit of Phase-Change Memory. <i>Advanced Materials</i> , 2023, 35, .	11.1	14
441	Design of Multilevel Storage Medium through $\text{Sb}_2\text{Te}_3/\text{Ga}_2\text{Sb}_3$ Phase-Change Heterostructure. <i>ECS Journal of Solid State Science and Technology</i> , 2023, 12, 023009.	0.9	1
442	Characterization of undoped and Ti codoped $\text{Zn}_5\text{Sb}_3\text{Te}$ chalcogenides. <i>Japanese Journal of Applied Physics</i> , 2023, 62, SG1023.	0.8	0
443	Fabrication of stable multi-level resistance states in a Nb-doped $\text{Ge}_2\text{Sb}_2\text{Te}_5$ device. <i>Journal of Materials Chemistry C</i> , 2023, 11, 3770-3777.	2.7	5
444	GeTe ultrathin film based phase-change memory with extreme thermal stability, fast SET speed, and low RESET power energy. <i>AIP Advances</i> , 2023, 13, .	0.6	1
445	Highly Reliable Ovonic Threshold Switch with $\text{TiN}/\text{GeTe}/\text{TiN}$ Structure. <i>Materials</i> , 2023, 16, 2066.	1.3	3
446	A review of phase change materials in multi-designed tubes and buildings: Testing methods, applications, and heat transfer enhancement. <i>Journal of Energy Storage</i> , 2023, 63, 106990.	3.9	5
447	Comparison Study Of GRA, COPRAS And MOORA For Ranking Of Phase Change Material For Cooling System. <i>Materials Today: Proceedings</i> , 2023, , .	0.9	3
448	Nanoscale Phase Change Material Array by Sub-Resolution Assist Feature for Storage Class Memory Application. <i>Nanomaterials</i> , 2023, 13, 1050.	1.9	0
449	Spin-phonon interaction and short-range order in Mn_3Sb_7 . <i>Physical Review B</i> , 2023, 107, .		
451	Glassy and liquid Sb_2S_3 : insight into the structure and dynamics of a promising functional material. <i>Journal of Materials Chemistry C</i> , 2023, 11, 4654-4673.	2.7	5
452	Thermal performance of novel form-stable disodium hydrogen phosphate dodecahydrate-based composite phase change materials for building thermal energy storage. <i>Advanced Composites and Hybrid Materials</i> , 2023, 6, .	9.9	35
453	Colloidal Ternary Telluride Quantum Dots for Tunable Phase Change Optics in the Visible and Near-Infrared. <i>ACS Nano</i> , 2023, 17, 6985-6997.	7.3	7
454	Metavalent Bonding in Layered Phase-Change Memory Materials. <i>Advanced Science</i> , 2023, 10, .	5.6	9
455	Temperature-dependent thermal conductivity of $\text{Ge}_2\text{Sb}_2\text{Te}_5$ polymorphs from 80 to 500 K. <i>Journal of Applied Physics</i> , 2023, 133, 135105.	1.1	1
468	Emerging Memory Technologies for Data Storage and Brain-Inspired Computation: A Global View with Indian Research Insights with a Focus on Resistive Memories. <i>Proceedings of the National Academy of Sciences India Section A - Physical Sciences</i> , 0, , .	0.8	0
517	Stochastic Emerging Resistive Memories for Unconventional Computing. , 2023, , 240-269.		0

#	ARTICLE	IF	CITATIONS
532	Layered nanomaterials for renewable energy generation and storage. Materials Advances, 0, , .	2.6	0
546	Neuromorphic photonics: development of the field. , 2024, , 69-110.		0
548	Memristor and spintronics as key technologies for upcoming computing resources. , 2024, , 1-19.		0
550	New phase-change materials for photonic computing and beyond. , 2024, , 145-192.		0
551	Design and modeling methods for phase-change photonic devices. , 2024, , 119-143.		0
552	Challenges associated with phase-change material selection. , 2024, , 233-250.		0