

# Tianshu Lai

## List of Publications by Year in descending order

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98  
papers

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361413

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99  
docs citations

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times ranked

1176  
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#	ARTICLE	IF	CITATIONS
1	Ultrafast dynamics of photoexcited carriers and coherent phonons in ultrathin Bi <sub>2</sub> Te <sub>3</sub> thermoelectric films. <i>Science China: Physics, Mechanics and Astronomy</i> , 2022, 65, 1.	5.1	2
2	Changes in Resistance and Bandgap of V <sub>2</sub> O <sub>5</sub> and Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> during Phase Transition. <i>Journal of Electronic Materials</i> , 2021, 50, 491-496.	2.2	4
3	Effect of Mg <sub>35</sub> Sb <sub>65</sub> interlayer on the thermal stability and scaling of Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> phase change thin film. <i>Journal of Materials Science: Materials in Electronics</i> , 2021, 32, 6408-6413.	2.2	8
4	Mechanism of Nano-Structuring Manipulation of the Crystallization Temperature of Superlattice-like [Ge <sub>8</sub> Sb <sub>92</sub> /Ge] <sub>3</sub> Phase-Change Films. <i>Nanomaterials</i> , 2021, 11, 20.	4.1	4
5	Excitation-density and excess-energy dependence of ultrafast dynamics of photoexcited carriers in intrinsic bulk CdTe. <i>Results in Physics</i> , 2021, 31, 105047.	4.1	1
6	Crystallization and Resistance Behavior of MgSb/Sb Multilayer Thin Films for Memory Application. <i>Journal of Electronic Materials</i> , 2020, 49, 980-984.	2.2	4
7	Ultrafast crystallization in nanoscale phase change film of monobasic antimony. <i>Applied Surface Science</i> , 2020, 505, 144337.	6.1	15
8	Individual contribution of electrons and holes to photocarrier-induced bandgap renormalization in intrinsic bulk GaAs. <i>Journal of Applied Physics</i> , 2020, 128, .	2.5	3
9	Effect of V <sub>2</sub> O <sub>5</sub> interlayers in V <sub>2</sub> O <sub>5</sub> /Ge <sub>8</sub> Sb <sub>92</sub> superlattice-like film on thermal stability and size scaling. <i>Solid-State Electronics</i> , 2020, 172, 107887.	1.4	0
10	A Simple Time-Resolved Optical Measurement of Diffusion Transport Dynamics of Photoexcited Carriers and Its Demonstration in Intrinsic GaAs Films. <i>Chinese Physics Letters</i> , 2020, 37, 087803.	3.3	1
11	Investigation of V <sub>2</sub> O <sub>5</sub> /Ge <sub>8</sub> Sb <sub>92</sub> 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.	2.3	3
12	Study on the crystallization of Mg <sub>35</sub> Sb <sub>65</sub> /Sn <sub>15</sub> Sb <sub>85</sub> superlattice-like films for phase change memory application. <i>Journal of Materials Science: Materials in Electronics</i> , 2020, 31, 12476-12481.	2.2	1
13	Atomically Thin 1T-FeCl <sub>2</sub> Grown by Molecular-Beam Epitaxy. <i>Journal of Physical Chemistry C</i> , 2020, 124, 9416-9423.	3.1	50
14	Improved thermal stability and contact of antimony film by the interlayer HfO <sub>2</sub> . <i>Journal of Materials Science: Materials in Electronics</i> , 2020, 31, 8052-8058.	2.2	5
15	Control of the ultrafast photo-electronic dynamics of a chemical-vapor-deposited-grown graphene by ozone oxidation. <i>Photonics Research</i> , 2020, 8, 17.	7.0	3
16	Phase Change Behavior and Multi-Level Storage for V <sub>2</sub> O <sub>5</sub> Thin Film in Phase-Change Memory Application. <i>ECS Journal of Solid State Science and Technology</i> , 2020, 9, 073001.	1.8	5
17	SbSe/ZnSb stacked thin films with multi-level phase transition for high density phase change memory applications. <i>Journal of Materials Science: Materials in Electronics</i> , 2019, 30, 15024-15030.	2.2	4
18	Regulating phase change behavior and surface characteristics of Sn <sub>15</sub> Sb <sub>85</sub> thin film by oxygen doping. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 415104.	2.8	10

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19	Ultrafast dynamics of pure many-body effect and its competition with bandgap widening via electron-phonon coupling in PbTe thin films. <i>Semiconductor Science and Technology</i> , 2019, 34, 105011.	2.0	5
20	Improvement of phase change speed and thermal stability in Ge <sub>5</sub> Sb <sub>95</sub> /ZnSb multilayer thin films for phase change memory application. <i>Semiconductor Science and Technology</i> , 2019, 34, 105022.	2.0	4
21	Crystallization Properties of Mg <sub>35</sub> Sb <sub>65</sub> /Sb Nanocomposite Multilayer Films for Phase Change Memory Application. <i>ECS Journal of Solid State Science and Technology</i> , 2019, 8, P522-P526.	1.8	2
22	Insulator-metal transition and ultrafast crystallization of Ga <sub>40</sub> Sb <sub>60</sub> /Sn <sub>15</sub> Sb <sub>85</sub> multiple interfacial nanocomposite films. <i>Journal of Materials Science: Materials in Electronics</i> , 2019, 30, 19302-19308.	2.2	7
23	Effects of SiO <sub>2</sub> interlayers on the phase change behavior in the multilayer Zn <sub>15</sub> Sb <sub>85</sub> /SiO <sub>2</sub> materials. <i>Journal of Alloys and Compounds</i> , 2019, 798, 342-349.	5.5	17
24	Ultrafast dynamics of 4f electron spins in TbFeCo film driven by inter-atomic 3d-5d-4f exchange coupling. <i>New Journal of Physics</i> , 2019, 21, 123007.	2.9	17
25	Simultaneously high thermal stability and low power based on Cu-doped GeTe phase change material. <i>Materials Research Express</i> , 2019, 6, 025907.	1.6	9
26	Effect of substrate on phase-change characteristics of GeSb thin films and its potential application in three-level electrical storage. <i>AIP Advances</i> , 2019, 9, .	1.3	3
27	Superlattice-like Zn <sub>15</sub> Sb <sub>85</sub> /Ga <sub>30</sub> Sb <sub>70</sub> thin films for low power and ultrafast phase change memory application. <i>Micro and Nano Letters</i> , 2019, 14, 379-383.	1.3	5
28	Spin-polarization dependent carrier recombination dynamics and spin relaxation mechanism in asymmetrically doped (110) n-GaAs quantum wells. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2018, 382, 1181-1184.	2.1	3
29	Phase Change Behavior of Sn <sub>20</sub> Sb <sub>80</sub> /Si Nano-Composite Multilayer Thin Films. <i>ECS Journal of Solid State Science and Technology</i> , 2018, 7, P647-P650.	1.8	2
30	Simultaneously Good Stability and High Speed Based on Oxygen-Doped Zn <sub>15</sub> Sb <sub>85</sub> Material. <i>ECS Journal of Solid State Science and Technology</i> , 2018, 7, P452-P455.	1.8	11
31	High thermal stability and low power dissipation PCM with nanoscale oxygen-doped SS thin film. <i>IET Nanobiotechnology</i> , 2018, 12, 1080-1083.	3.8	4
32	Understanding the crystallization behavior and structure of titanium addition in germanium antimony phase change thin films. <i>Journal of Materials Chemistry C</i> , 2018, 6, 9081-9092.	5.5	28
33	Investigation of Sb <sub>65</sub> Se <sub>35</sub> /Sb multilayer thin films for high speed and high thermal stability application in phase change memory. <i>Journal of Materials Science: Materials in Electronics</i> , 2018, 29, 16172-16177.	2.2	8
34	Simultaneous laser excitation of backward volume and perpendicular standing spin waves in full-Heusler Co <sub>2</sub> FeAl <sub>0.5</sub> Si <sub>0.5</sub> films. <i>Scientific Reports</i> , 2017, 7, 42513.	3.3	13
35	Study of crystallization and thermal stability of superlattice-like SnSb <sub>4</sub> -GeTe thin films. <i>Thin Solid Films</i> , 2017, 625, 11-16.	1.8	21
36	Ti <sub>x</sub> Sb <sub>100-x</sub> thin films as candidates for phase-change memory application. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	25

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37	Periodic cycle number modulating effect on crystallization temperature in superlattice-like [Ge/Ge <sub>8</sub> Sb <sub>92</sub> ] <sub>n</sub> phase-change films and exploration of mechanism. AIP Advances, 2017, 7, 065209.	1.3	0
38	Spin relaxation dynamics of holes in intrinsic GaAs quantum wells studied by transient circular dichromatic absorption spectroscopy at room temperature. Scientific Reports, 2017, 7, 287.	3.3	5
39	Multi-level storage and ultra-high speed of superlattice-like Ge <sub>50</sub> Te <sub>50</sub> /Ge <sub>8</sub> Sb <sub>92</sub> thin film for phase-change memory application. Nanotechnology, 2017, 28, 405206.	2.6	22
40	Multilayer SnSb <sub>4</sub> –SbSe Thin Films for Phase Change Materials Possessing Ultrafast Phase Change Speed and Enhanced Stability. ACS Applied Materials & Interfaces, 2017, 9, 27004-27013.	8.0	21
41	Simultaneously High Thermal Stability and Low Power Based on Ti-Doped Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> Thin Films. ECS Journal of Solid State Science and Technology, 2017, 6, P866-P869.	1.8	5
42	Cycle number manipulating effect on crystallization temperature of superlattice-like [Ge/Ge <sub>8</sub> Sb <sub>92</sub> ] <sub>n</sub> phase-change films. Journal of Alloys and Compounds, 2017, 723, 936-941.	5.5	7
43	Exploring mechanism on nano-structuring manipulation of crystallization temperature of superlattice-like [GeSb/Ge] <sub>3</sub> phase-change films. Proceedings of SPIE, 2016, , .	0.8	3
44	Fast switching and low power of superlattice-like SnSe <sub>2</sub> /Sb thin films for phase change memory application. Journal of Applied Physics, 2016, 120, 165106.	2.5	6
45	Vector solitons in parity-time symmetric lattices with nonlocal nonlinearity. Journal of Optics (United Kingdom), 2016, 18, 095501.	2.2	6
46	A voice-coil actuator based motorized optical mount for high-performance laser beam routing. Instruments and Experimental Techniques, 2016, 59, 768-771.	0.5	0
47	Improvement of phase change properties of stacked Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> /ZnSb thin films for phase change memory application. Materials Letters, 2016, 185, 399-402.	2.6	12
48	Non-destructive measurement of photoexcited carrier transport in graphene with ultrafast grating imaging technique. Carbon, 2016, 107, 233-239.	10.3	18
49	Quantitative Analysis of Temperature Dependence of Raman shift of monolayer WS <sub>2</sub> . Scientific Reports, 2016, 6, 32236.	3.3	77
50	Superlattice-like SnSb <sub>4</sub> /Ge thin films for ultra-high speed phase change memory applications. CrystEngComm, 2016, 18, 1230-1234.	2.6	22
51	Superlattice-like SnSb <sub>4</sub> /Ga <sub>3</sub> Sb <sub>7</sub> thin films for ultrafast switching phase-change memory application. Applied Physics A: Materials Science and Processing, 2015, 121, 1125-1131.	2.3	20
52	Defect solitons in parity-time symmetric superlattices with focusing saturable nonlinearity. Optics Communications, 2015, 349, 171-179.	2.1	6
53	Femtosecond laser-induced crystallization of amorphous N-doped Ge <sub>8</sub> Sb <sub>92</sub> films and <i>in situ</i> characterization by coherent phonon spectroscopy. Journal of Applied Physics, 2015, 117, .	2.5	17
54	High speed and high reliability in Ge <sub>8</sub> Sb <sub>92</sub> /Ga <sub>30</sub> Sb <sub>70</sub> stacked thin films for phase change memory applications. Journal of Alloys and Compounds, 2015, 653, 334-337.	5.5	15

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55	Localized surface modes in parity-time-symmetric potentials. <i>Optics Letters</i> , 2014, 39, 5154.	3.3	7
56	Ultrafast linear dichroism-like absorption dynamics in graphene grown by chemical vapor deposition. <i>Journal of Applied Physics</i> , 2014, 115, .	2.5	5
57	Superlattice-like Ge <sub>8</sub> Sb <sub>92</sub> /Ge thin films for high speed and low power consumption phase change memory application. <i>Scripta Materialia</i> , 2014, 93, 4-7.	5.2	37
58	Measurement of electron-spin transports in GaAs quantum wells using a transmission-grating-sampled circular dichroism absorption spectroscopy. <i>Journal of Applied Physics</i> , 2014, 116, .	2.5	3
59	Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> /SnSe <sub>2</sub> nanocomposite multilayer thin films for phase change memory application. <i>Applied Surface Science</i> , 2014, 316, 286-291.	6.1	14
60	Bulk vortices and half-vortex surface modes in parity-time-symmetric media. <i>Physical Review A</i> , 2014, 89, .	2.5	16
61	Diversity of ultrafast hot-carrier-induced dynamics and striking sub-femtosecond hot-carrier scattering times in graphene. <i>Carbon</i> , 2014, 72, 402-409.	10.3	14
62	Shot-noise-limited optical Faraday polarimetry with enhanced laser noise cancelling. <i>Journal of Applied Physics</i> , 2014, 115, 103101.	2.5	9
63	Real-time measurement of electrical and optical transients of as-deposited amorphous AgInSbTe thin films during crystallization induced by single-shot picosecond laser pulses. , 2013, , .		0
64	Coercivity dynamics and origin of time-delayed magneto-optical hysteresis loops in pump-probe Kerr spectroscopy. <i>Journal of Applied Physics</i> , 2013, 113, 053913.	2.5	5
65	Fast crystallization and low power of Al-doped Sn <sub>2</sub> Se <sub>3</sub> thin films for phase change memory applications. <i>Journal of Alloys and Compounds</i> , 2013, 581, 515-518.	5.5	21
66	Al <sub>19</sub> Sb <sub>54</sub> Se <sub>27</sub> material for high stability and high-speed phase-change memory applications. <i>Scripta Materialia</i> , 2013, 69, 61-64.	5.2	48
67	Comparison of optical transients during the picosecond laser pulse-induced crystallization of GeSbTe and AgInSbTe phase-change thin films: Nucleation-driven versus growth-driven processes. <i>Physica B: Condensed Matter</i> , 2013, 424, 1-7.	2.7	10
68	Superlattice-like Sb <sub>50</sub> Se <sub>50</sub> /Ga <sub>30</sub> Sb <sub>70</sub> thin films for high-speed and high density phase change memory application. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	31
69	Femtosecond laser excitation of multiple spin waves and composition dependence of Gilbert damping in full-Heusler Co <sub>2</sub> Fe <sub>1-x</sub> Mn <sub>x</sub> Al films. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	19
70	Intrinsic subpicosecond magnetization reversal driven by femtosecond laser pulses in GdFeCo amorphous films. <i>Applied Physics Letters</i> , 2013, 103, 242411.	3.3	2
71	Study on the Crystallization Process of GaSb<sub>2</sub>/Te<sub>3</sub> Pseudobinary Films for Phase-Change Random Access Memory. <i>Journal of Nanoscience and Nanotechnology</i> , 2013, 13, 976-979.	0.9	5
72	A transmission-grating-modulated pump-probe absorption spectroscopy and demonstration of diffusion dynamics of photoexcited carriers in bulk intrinsic GaAs film. <i>Optics Express</i> , 2012, 20, 3580.	3.4	12

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73	Transmission-grating-photomasked transient spin grating and its application to measurement of electron-spin ambipolar diffusion in (110) GaAs quantum wells. Optics Express, 2012, 20, 8192.	3.4	10
74	Effect of periodic number of [Si/Sb80Te20] <sub>x</sub> multilayer film on its laser-induced crystallization studied by coherent phonon spectroscopy. Nanoscale Research Letters, 2012, 7, 638.	5.7	6
75	Spin waves and small intrinsic damping in an in-plane magnetized FePt film. Applied Physics Letters, 2012, 101, .	3.3	31
76	Characterization of Femtosecond laser-irradiation crystallization and structure of multiple periodic Si/Sb <sub>80</sub> Te <sub>20</sub> nanocomposite films by coherent phonon spectroscopy. Optics Express, 2011, 19, 22684.	3.4	9
77	Rapid crystallization of SiO <sub>2</sub> /Sb <sub>80</sub> Te <sub>20</sub> nanocomposite multilayer films for phase-change memory applications. Scripta Materialia, 2011, 64, 645-648.	5.2	30
78	Femtosecond laser-induced crystallization of amorphous Sb <sub>2</sub> Te <sub>3</sub> film and coherent phonon spectroscopy characterization and optical injection of electron spins. Journal of Applied Physics, 2011, 110, 053523.	2.5	14
79	Field-dependent ultrafast dynamics and mechanism of magnetization reversal across ferrimagnetic compensation points in GdFeCo amorphous alloy films. Journal of Applied Physics, 2010, 108, .	2.5	18
80	Origin of anomalous hysteresis loops induced by femtosecond laser pulses in GdFeCo amorphous films. Applied Physics Letters, 2010, 96, 092514.	3.3	20
81	Optical electrical properties of AgInSbTe phase change thin films under single picosecond laser pulse irradiation. Journal of Non-Crystalline Solids, 2010, 356, 889-892.	3.1	11
82	Fast phase transition process of Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> film induced by picosecond laser pulses with identical fluences. Journal of Applied Physics, 2009, 106, .	2.5	50
83	Measuring spin diffusion of electrons in bulk n-GaAs using circularly dichromatic absorption difference spectroscopy of spin gratings. Applied Physics Letters, 2009, 94, .	3.3	7
84	Density dependence of electron-spin polarization and relaxation in intrinsic GaAs at room temperature. Journal Physics D: Applied Physics, 2009, 42, 135111.	2.8	15
85	Single laser pulse induced dynamic magnetization reversal mechanism of perpendicularly magnetized L10 FePt films. Journal of Applied Physics, 2009, 106, 053907.	2.5	18
86	Effects of cavity-dispersion noncoaxiality on the generation of ultrabroadband femtosecond pulses. Science Bulletin, 2008, 53, 659-663.	1.7	1
87	Density dependence of spin relaxation in GaAs quantum well at room temperature. Europhysics Letters, 2008, 84, 27006.	2.0	25
88	Photoinduced magnetic softening of perpendicularly magnetized L10-FePt granular films. Applied Physics Letters, 2008, 93, 162509.	3.3	13
89	Dynamics of magnetization, reversal, and ultrafast demagnetization of TbFeCo amorphous films. Applied Physics Letters, 2008, 92, .	3.3	32
90	Evolution of spin coherence dynamics and g factor with electron excess energy in bulk intrinsic GaAs. Applied Physics Letters, 2007, 91, 062110.	3.3	23

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91	Construction of Metal-Organic Frameworks (M = Cd(II), Co(II), Zn(II), and Cu(II)) Based on Semirigid Oxadiazole Bridging Ligands by Solution and Hydrothermal Reactions. <i>Crystal Growth and Design</i> , 2007, 7, 1058-1068.	3.0	55
92	Temperature dependence of electron-spin coherence in intrinsic bulk GaAs. <i>Applied Physics Letters</i> , 2006, 88, 192106.	3.3	20
93	Elliptically polarized absorption quantum beats and temperature dependence of electron-spin coherence lifetime in intrinsic GaAs. , 2006, ,		0
94	Elliptically polarized absorption spectroscopy and observation of spin coherence in intrinsic GaAs. <i>Applied Physics Letters</i> , 2005, 87, 262110.	3.3	15
95	Elliptically polarized pump-probe spectroscopy and its application to observation of electron-spin relaxation in GaAs quantum wells. <i>Applied Physics Letters</i> , 2004, 85, 4040-4042.	3.3	21
96	Sub-10-fs pulse generation directly from a KLM Ti: sapphire laser. <i>Science Bulletin</i> , 2002, 47, 1050-1052.	1.7	2
97	Ultrafast dephasing of interband transitions in semiconductors. <i>Science in China Series A: Mathematics</i> , 2001, 44, 1340-1348.	0.5	3
98	Resonators for self-mode-locking Ti:sapphire lasers without apertures. <i>Optics Letters</i> , 1996, 21, 1469.	3.3	4