Tianshu Lai

List of Publications by Year
in descending order

98 papers	1,281 citations	361413 20 h-index	477307 29 g-index
99 all docs	99 docs citations	99 times ranked	1176 citing authors

#	Article	IF	Citations
1	Quantitative Analysis of Temperature Dependence of Raman shift of monolayer WS2. Scientific Reports, 2016, 6, 32236.	3.3	77
2	Construction of Metalâ^'Organic Frameworks (M = Cd(II), Co(II), Zn(II), and Cu(II)) Based on Semirigid Oxadiazole Bridging Ligands by Solution and Hydrothermal Reactions. Crystal Growth and Design, 2007, 7, 1058-1068.	3.0	55
3	Fast phase transition process of Ge2Sb2Te5 film induced by picosecond laser pulses with identical fluences. Journal of Applied Physics, 2009, 106, .	2.5	50
4	Atomically Thin 1T-FeCl₂ Grown by Molecular-Beam Epitaxy. Journal of Physical Chemistry C, 2020, 124, 9416-9423.	3.1	50
5	Al19Sb54Se27 material for high stability and high-speed phase-change memory applications. Scripta Materialia, 2013, 69, 61-64.	5.2	48
6	Superlattice-like Ge 8 Sb 92 /Ge thin films for high speed and low power consumption phase change memory application. Scripta Materialia, 2014, 93, 4-7.	5.2	37
7	Dynamics of magnetization, reversal, and ultrafast demagnetization of TbFeCo amorphous films. Applied Physics Letters, 2008, 92, .	3.3	32
8	Spin waves and small intrinsic damping in an in-plane magnetized FePt film. Applied Physics Letters, 2012, 101, .	3.3	31
9	Superlattice-like Sb50Se50/Ga30Sb70 thin films for high-speed and high density phase change memory application. Applied Physics Letters, 2013, 103, .	3.3	31
10	Rapid crystallization of SiO2/Sb80Te20 nanocomposite multilayer films for phase-change memory applications. Scripta Materialia, 2011, 64, 645-648.	5.2	30
11	Understanding the crystallization behavior and structure of titanium addition in germanium antimony phase change thin films. Journal of Materials Chemistry C, 2018, 6, 9081-9092.	5.5	28
12	Density dependence of spin relaxation in GaAs quantum well at room temperature. Europhysics Letters, 2008, 84, 27006.	2.0	25
13	TixSb100â^'x thin films as candidates for phase-change memory application. Applied Physics Letters, 2017, 110, .	3.3	25
14	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
15	Superlattice-like SnSb4/Ge thin films for ultra-high speed phase change memory applications. CrystEngComm, 2016, 18, 1230-1234.	2.6	22
16	Multi-level storage and ultra-high speed of superlattice-like Ge₅₀Te₅₀/Ge₈Sb₉₂thin film for phase-change memory application. Nanotechnology, 2017, 28, 405206.	2.6	22
17	Elliptically polarized pump-probe spectroscopy and its application to observation of electron-spin relaxation in GaAs quantum wells. Applied Physics Letters, 2004, 85, 4040-4042.	3.3	21
18	Fast crystallization and low power of Al-doped Sn2Se3 thin films for phase change memory applications. Journal of Alloys and Compounds, 2013, 581, 515-518.	5.5	21

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19	Study of crystallization and thermal stability of superlattice-like SnSb 4 -GeTe thin films. Thin Solid Films, 2017, 625, 11-16.	1.8	21
20	Multilayer SnSb₄â€“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
21	Temperature dependence of electron-spin coherence in intrinsic bulk GaAs. Applied Physics Letters, 2006, 88, 192106.	3.3	20
22	Origin of anomalous hysteresis loops induced by femtosecond laser pulses in GdFeCo amorphous films. Applied Physics Letters, 2010, 96, 092514.	3.3	20
23	Superlattice-like SnSb4/Ga3Sb7 thin films for ultrafast switching phase-change memory application. Applied Physics A: Materials Science and Processing, 2015, 121, 1125-1131.	2.3	20
24	Femtosecond laser excitation of multiple spin waves and composition dependence of Gilbert damping in full-Heusler Co2Fe1â^'xMnxAl films. Applied Physics Letters, 2013, 103, .	3.3	19
25	Single laser pulse induced dynamic magnetization reversal mechanism of perpendicularly magnetized L10 FePt films. Journal of Applied Physics, 2009, 106, 053907.	2.5	18
26	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
27	Non-destructive measurement of photoexcited carrier transport in graphene with ultrafast grating imaging technique. Carbon, 2016, 107, 233-239.	10.3	18
28	Femtosecond laser-induced crystallization of amorphous N-doped Ge8Sb92 films and in situ characterization by coherent phonon spectroscopy. Journal of Applied Physics, 2015, 117, .	2.5	17
29	Effects of SiO2 interlayers on the phase change behavior in the multilayer Zn15Sb85/SiO2 materials. Journal of Alloys and Compounds, 2019, 798, 342-349.	5.5	17
30	Ultrafast dynamics of 4f electron spins in TbFeCo film driven by inter-atomic 3dâ€“5dâ€“4f exchange coupling. New Journal of Physics, 2019, 21, 123007.	2.9	17
31	Bulk vortices and half-vortex surface modes in parity-time-symmetric media. Physical Review A, 2014, 89, .	2.5	16
32	Elliptically polarized absorption spectroscopy and observation of spin coherence in intrinsic GaAs. Applied Physics Letters, 2005, 87, 262110.	3.3	15
33	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
34	High speed and high reliability in Ge8Sb92/Ga30Sb70 stacked thin films for phase change memory applications. Journal of Alloys and Compounds, 2015, 653, 334-337.	5.5	15
35	Ultrafast crystallization in nanoscale phase change film of monobasic antimony. Applied Surface Science, 2020, 505, 144337.	6.1	15
36	Femtosecond laser-induced crystallization of amorphous Sb2Te3 film and coherent phonon spectroscopy characterization and optical injection of electron spins. Journal of Applied Physics, 2011, 110, 053523.	2.5	14

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37	Ge 2 Sb 2 Te 5 /SnSe 2 nanocomposite multilayer thin films for phase change memory application. Applied Surface Science, 2014, 316, 286-291.	6.1	14
38	Diversity of ultrafast hot-carrier-induced dynamics and striking sub-femtosecond hot-carrier scattering times in graphene. Carbon, 2014, 72, 402-409.	10.3	14
39	Photoinduced magnetic softening of perpendicularly magnetized L10-FePt granular films. Applied Physics Letters, 2008, 93, 162509.	3.3	13
40	Simultaneous laser excitation of backward volume and perpendicular standing spin waves in full-Heusler Co2FeAl0.5Si0.5 films. Scientific Reports, 2017, 7, 42513.	3.3	13
41	A transmission-grating-modulated pump-probe absorption spectroscopy and demonstration of diffusion dynamics of photoexcited carriers in bulk intrinsic GaAs film. Optics Express, 2012, 20, 3580.	3.4	12
42	Improvement of phase change properties of stacked Ge2Sb2Te5/ZnSb thin films for phase change memory application. Materials Letters, 2016, 185, 399-402.	2.6	12
43	Opticalâ€“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
44	Simultaneously Good Stability and High Speed Based on Oxygen-Doped Zn₁₅Sb₈₅Material. ECS Journal of Solid State Science and Technology, 2018, 7, P452-P455.	1.8	11
45	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
46	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. Physica B: Condensed Matter, 2013, 424, 1-7.	2.7	10
47	Regulating phase change behavior and surface characteristics of Sn₁₅Sb₈₅ thin film by oxygen doping. Journal Physics D: Applied Physics, 2019, 52, 415104.	2.8	10
48	Characterization of Femtosecond laser-irradiation crystallization and structure of multiple periodic Si/Sb_80Te_20 nanocomposite films by coherent phonon spectroscopy. Optics Express, 2011, 19, 22684.	3.4	9
49	Shot-noise-limited optical Faraday polarimetry with enhanced laser noise cancelling. Journal of Applied Physics, 2014, 115, 103101.	2.5	9
50	Simultaneously high thermal stability and low power based on Cu-doped GeTe phase change material. Materials Research Express, 2019, 6, 025907.	1.6	9
51	Investigation of Sb65Se35/Sb multilayer thin films for high speed and high thermal stability application in phase change memory. Journal of Materials Science: Materials in Electronics, 2018, 29, 16172-16177.	2.2	8
52	Effect of Mg35Sb65 interlayer on the thermal stability and scaling of Ge2Sb2Te5 phase change thin film. Journal of Materials Science: Materials in Electronics, 2021, 32, 6408-6413.	2.2	8
53	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
54	Localized surface modes in parityâ€“time-symmetric potentials. Optics Letters, 2014, 39, 5154.	3.3	7

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55	Cycle number manipulating effect on crystallization temperature of superlattice-like [Ge/Ge8Sb92]n phase-change films. Journal of Alloys and Compounds, 2017, 723, 936-941.	5.5	7
56	Insulatorâ€“metal transition and ultrafast crystallization of Ga40Sb60/Sn15Sb85 multiple interfacial nanocomposite films. Journal of Materials Science: Materials in Electronics, 2019, 30, 19302-19308.	2.2	7
57	Effect of periodic number of [Si/Sb80Te20]x multilayer film on its laser-induced crystallization studied by coherent phonon spectroscopy. Nanoscale Research Letters, 2012, 7, 638.	5.7	6
58	Defect solitons in parity-time symmetric superlattices with focusing saturable nonlinearity. Optics Communications, 2015, 349, 171-179.	2.1	6
59	Fast switching and low power of superlattice-like SnSe₂/Sb thin films for phase change memory application. Journal of Applied Physics, 2016, 120, 165106.	2.5	6
60	Vector solitons in parity-time symmetric lattices with nonlocal nonlinearity. Journal of Optics (United Kingdom), 2016, 18, 095501.	2.2	6
61	Coercivity dynamics and origin of time-delayed magneto-optical hysteresis loops in pump-probe Kerr spectroscopy. Journal of Applied Physics, 2013, 113, 053913.	2.5	5
62	Study on the Crystallization Process of GaSbâ€“Sb₂Te₃ Pseudobinary Films for Phase-Change Random Access Memory. Journal of Nanoscience and Nanotechnology, 2013, 13, 976-979.	0.9	5
63	Ultrafast linear dichroism-like absorption dynamics in graphene grown by chemical vapor deposition. Journal of Applied Physics, 2014, 115, .	2.5	5
64	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
65	Simultaneously High Thermal Stability and Low Power Based on Ti-Doped Ge₂Sb₂Te₅Thin Films. ECS Journal of Solid State Science and Technology, 2017, 6, P866-P869.	1.8	5
66	Ultrafast dynamics of pure many-body effect and its competition with bandgap widening via electronâ€“phonon coupling in PbTe thin films. Semiconductor Science and Technology, 2019, 34, 105011.	2.0	5
67	Improved thermal stability and contact of antimony film by the interlayer HfO2. Journal of Materials Science: Materials in Electronics, 2020, 31, 8052-8058.	2.2	5
68	Superlatticeâ€like Zn ₁₅ Sb ₈₅ /Ga ₃₀ Sb ₇₀ thin films for low power and ultrafast phase change memory application. Micro and Nano Letters, 2019, 14, 379-383.	1.3	5
69	Phase Change Behavior and Multi-Level Storage for V2O5 Thin Film in Phase-Change Memory Application. ECS Journal of Solid State Science and Technology, 2020, 9, 073001.	1.8	5
70	Resonators for self-mode-locking Ti:sapphire lasers without apertures. Optics Letters, 1996, 21, 1469.	3.3	4
71	High thermal stability and low power dissipation PCM with nanoscale oxygenâ€doped SS thin film. IET Nanobiotechnology, 2018, 12, 1080-1083.	3.8	4
72	SbSe/ZnSb stacked thin films with multi-level phase transition for high density phase change memory applications. Journal of Materials Science: Materials in Electronics, 2019, 30, 15024-15030.	2.2	4

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73	Improvement of phase change speed and thermal stability in Ge5Sb95/ZnSb multilayer thin films for phase change memory application. Semiconductor Science and Technology, 2019, 34, 105022.	2.0	4
74	Crystallization and Resistance Behavior of MgSb/Sb Multilayer Thin Films for Memory Application. Journal of Electronic Materials, 2020, 49, 980-984.	2.2	4
75	Changes in Resistance and Bandgap of V2O5 and Ge2Sb2Te5 during Phase Transition. Journal of Electronic Materials, 2021, 50, 491-496.	2.2	4
76	Mechanism of Nano-Structuring Manipulation of the Crystallization Temperature of Superlattice-like [Ge8Sb92/Ge]3 Phase-Change Films. Nanomaterials, 2021, 11, 20.	4.1	4
77	Ultrafast dephasing of interband transitions in semiconductors. Science in China Series A: Mathematics, 2001, 44, 1340-1348.	0.5	3
78	Measurement of electron-spin transports in GaAs quantum wells using a transmission-grating-sampled circular dichroism absorption spectroscopy. Journal of Applied Physics, 2014, 116, .	2.5	3
79	Exploring mechanism on nano-structuring manipulation of crystallization temperature of superlattice-like [GeSb/Ge]₃ phase-change films. Proceedings of SPIE, 2016, , .	0.8	3
80	Spin-polarization dependent carrier recombination dynamics and spin relaxation mechanism in asymmetrically doped (110) n-GaAs quantum wells. Physics Letters, Section A: General, Atomic and Solid State Physics, 2018, 382, 1181-1184.	2.1	3
81	Effect of substrate on phase-change characteristics of GeSb thin films and its potential application in three-level electrical storage. AIP Advances, 2019, 9, .	1.3	3
82	Individual contribution of electrons and holes to photocarrier-induced bandgap renormalization in intrinsic bulk GaAs. Journal of Applied Physics, 2020, 128, .	2.5	3
83	Investigation of V2O5/Ge8Sb92 multilayer thin film for high-data-retention and high-speed phase change memory applications. Applied Physics A: Materials Science and Processing, 2020, 126, 1.	2.3	3
84	Control of the ultrafast photo-electronic dynamics of a chemical-vapor-deposited-grown graphene by ozone oxidation. Photonics Research, 2020, 8, 17.	7.0	3
85	Sub-10-fs pulse generation directly from a KLM Ti: sapphire laser. Science Bulletin, 2002, 47, 1050-1052.	1.7	2
86	Intrinsic subpicosecond magnetization reversal driven by femtosecond laser pulses in GdFeCo amorphous films. Applied Physics Letters, 2013, 103, 242411.	3.3	2
87	Phase Change Behavior of Sn₂₀Sb₈₀/SiÂNano-Composite MultilayerÂThinÂFilms. ECS Journal of Solid State Science and Technology, 2018, 7, P647-P650.	1.8	2
88	Crystallization Properties of Mg₃₅Sb₆₅/Sb Nanocomposite Multilayer Films for Phase Change Memory Application. ECS Journal of Solid State Science and Technology, 2019, 8, P522-P526.	1.8	2
89	Ultrafast dynamics of photoexcited carriers and coherent phonons in ultrathin Bi2Te3 thermoelectric films. Science China: Physics, Mechanics and Astronomy, 2022, 65, 1.	5.1	2
90	Effects of cavity-dispersion noncoaxiality on the generation of ultrabroadband femtosecond pulses. Science Bulletin, 2008, 53, 659-663.	1.7	1

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91	A Simple Time-Resolved Optical Measurement of Diffusion Transport Dynamics of Photoexcited Carriers and Its Demonstration in Intrinsic GaAs Films. Chinese Physics Letters, 2020, 37, 087803.	3.3	1
92	Study on the crystallization of Mg35Sb65/Sn15Sb85 superlattice-like films for phase change memory application. Journal of Materials Science: Materials in Electronics, 2020, 31, 12476-12481.	2.2	1
93	Excitation-density and excess-energy dependence of ultrafast dynamics of photoexcited carriers in intrinsic bulk CdTe. Results in Physics, 2021, 31, 105047.	4.1	1
94	Elliptically polarized absorption quantum beats and temperature dependence of electron-spin coherence lifetime in intrinsic GaAs. , 2006, , .		0
95	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
96	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
97	Periodic cycle number modulating effect on crystallization temperature in superlattice-like [Ge/Ge8Sb92]n phase-change films and exploration of mechanism. AIP Advances, 2017, 7, 065209.	1.3	0
98	Effect of V2O5 interlayers in V2O5/Ge8Sb92 superlattice-like film on thermal stability and size scaling. Solid-State Electronics, 2020, 172, 107887.	1.4	0