

Matthew Brahlek

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/8569755/publications.pdf>

Version: 2024-02-01

70
papers

3,604
citations

186265

28
h-index

133252

59
g-index

71
all docs

71
docs citations

71
times ranked

4696
citing authors

#	ARTICLE	IF	CITATIONS
1	Thickness-Independent Transport Channels in Topological Insulator Bi_2Se_3 Thin Films. Physical Review Letters, 2012, 109, 116804.	7.8	306
2	Correlated metals as transparent conductors. Nature Materials, 2016, 15, 204-210.	27.5	291
3	Thickness-dependent bulk properties and weak anti-localization effect in topological insulator Bi_2Se_3 Thin Films. Physical Review Letters, 2012, 109, 116804.	3.2	270
4	Topological Surface States Originated Spin-Orbit Torques in Bi_2Se_3 Thin Films. Physical Review Letters, 2015, 114, 257202.	7.8	269
5	Topological-Metal to Band-Insulator Transition in Bi_2Se_3 Thin Films. Physical Review Letters, 2012, 109, 186403.	7.8	269
6	Epitaxial growth of topological insulator Bi ₂ Se ₃ film on Si(111) with atomically sharp interface. Thin Solid Films, 2011, 520, 224-229.	1.8	180
7	Observation of inverse spin Hall effect in bismuth selenide. Physical Review B, 2014, 90, .	3.2	158
8	Strong nonlinear terahertz response induced by Dirac surface states in Bi ₂ Se ₃ topological insulator. Nature Communications, 2016, 7, 11421.	12.8	124
9	Record Surface State Mobility and Quantum Hall Effect in Topological Insulator Thin Films via Interface Engineering. Nano Letters, 2015, 15, 8245-8249.	9.1	119
10	Transport properties of topological insulators: Band bending, bulk metal-to-insulator transition, and weak anti-localization. Solid State Communications, 2015, 215-216, 54-62.	1.9	115
11	Emergence of Decoupled Surface Transport Channels in Bulk Insulating Bi_2Se_3 Thin Films. Physical Review Letters, 2014, 113, 026801.	7.8	101
12	Ultrafast terahertz dynamics of hot Dirac-electron surface scattering in the topological insulator Bi_2Se_3 Thin Films. Physical Review B, 2014, 89, .	7.8	101
13	Frontiers in the Growth of Complex Oxide Thin Films: Past, Present, and Future of Hybrid MBE. Advanced Functional Materials, 2018, 28, 1702772.	14.9	78
14	Opportunities in vanadium-based strongly correlated electron systems. MRS Communications, 2017, 7, 27-52.	1.8	77
15	Ultra-high modulation depth exceeding 2,400% in optically controlled topological surface plasmons. Nature Communications, 2015, 6, 8814.	12.8	76
16	Surface versus bulk state in topological insulator Bi ₂ Se ₃ under environmental disorder. Applied Physics Letters, 2011, 99, .	3.3	73
17	Plasmon-Phonon Interactions in Topological Insulator Microrings. Advanced Optical Materials, 2015, 3, 1257-1263.	7.3	72
18	Interfacial tuning of chiral magnetic interactions for large topological Hall effects in LaMnO ₃ /SrIrO ₃ heterostructures. Science Advances, 2020, 6, eaaz3902.	10.3	50

#	ARTICLE	IF	CITATIONS
19	Accessing a growth window for SrVO ₃ thin films. Applied Physics Letters, 2015, 107, .	3.3	48
20	Observation of Magnetoplasmons in Bi ₂ Se ₃ Topological Insulator. ACS Photonics, 2015, 2, 1231-1235.	6.6	48
21	A novel artificial condensed matter lattice and a new platform for one-dimensional topological phases. Science Advances, 2017, 3, e1501692.	10.3	48
22	Continuously Tuning Epitaxial Strains by Thermal Mismatch. ACS Nano, 2018, 12, 1306-1312. Magnetic anisotropy in single-crystal high-entropy perovskite oxide	14.6	44
23			

#	ARTICLE	IF	CITATIONS
37	Growth of SrVO ₃ thin films by hybrid molecular beam epitaxy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, .	2.1	22
38	Stability of low-carrier-density topological-insulator Bi ₂ Se ₃ thin films and effect of capping layers. APL Materials, 2015, 3, 091101.	5.1	22
39	Mapping growth windows in quaternary perovskite oxide systems by hybrid molecular beam epitaxy. Applied Physics Letters, 2016, 109, .	3.3	22
40	Helicity-Dependent Photovoltaic Effect in Bi ₂ Se ₃ Under Normal Incident Light. Advanced Optical Materials, 2016, 4, 1642-1650.	7.3	21
41	Applying Configurational Complexity to the 2D Ruddlesden-Popper Crystal Structure. ACS Nano, 2020, 14, 13030-13037.	14.6	21
42	Topological materials by molecular beam epitaxy. Journal of Applied Physics, 2020, 128, .	2.5	21
43	Disorder-driven topological phase transition in Bi ₂ Se ₃ thin films.	3.2	19
44	Terahertz plasmonic excitations in Bi ₂ Se ₃ topological insulator. Journal of Physics Condensed Matter, 2017, 29, 183002.	1.8	19
45	Scaling growth rates for perovskite oxide virtual substrates on silicon. Nature Communications, 2019, 10, 2464. Unexpected crystalline homogeneity from the disordered bond network in Bi ₂ Se ₃	12.8	19

46

#	ARTICLE	IF	CITATIONS
55	Criteria for Realizing Room-Temperature Electrical Transport Applications of Topological Materials. <i>Advanced Materials</i> , 2020, 32, 2005698.	21.0	9
56	Hybrid Symmetry Epitaxy of the Superconducting Fe(Te,Se) Film on a Topological Insulator. <i>Nano Letters</i> , 2021, 21, 6518-6524.	9.1	9
57	Temperature-dependent growth window of CaTiO ₃ films grown by hybrid molecular beam epitaxy. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2018, 36, .	2.1	8
58	Correlating surface stoichiometry and termination in SrTiO ₃ films grown by hybrid molecular beam epitaxy. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2021, 39, .	2.1	8
59	Layer-resolved many-electron interactions in delafossite PdCoO ₂ from standing-wave photoemission spectroscopy. <i>Communications Physics</i> , 2021, 4, .	5.3	7
60	Optical vortex manipulation for topological quantum computation. <i>Physical Review B</i> , 2021, 104, .	3.2	6
61	Design and Realization of Ohmic and Schottky Interfaces for Oxide Electronics. <i>Small Science</i> , 2022, 2, 2100087.	9.9	6
62	Strong spin-dephasing in a topological insulator-paramagnet heterostructure. <i>APL Materials</i> , 2020, 8, .	5.1	4
63	Structural dynamics of LaVO ₃ on the nanosecond time scale. <i>Structural Dynamics</i> , 2019, 6, 014502.	2.3	3
64	Self-regulated growth of candidate topological superconducting parkerite by molecular beam epitaxy. <i>APL Materials</i> , 2021, 9, 101110.	5.1	3
65	Magnetostriction of $\hat{\Gamma}_\pm$ -RuCl ₃ Flakes in the Zigzag Phase. <i>Journal of Physical Chemistry C</i> , 2021, 125, 25687-25694.	3.1	2
66	Surface-Driven Evolution of the Anomalous Hall Effect in Magnetic Topological Insulator MnBi ₂ Te ₄ Thin Films. <i>Advanced Functional Materials</i> , 2022, 32, .	14.9	2
67	Topological Materials: Criteria for Realizing Room-Temperature Electrical Transport Applications of Topological Materials (Adv. Mater. 50/2020). <i>Advanced Materials</i> , 2020, 32, 2070380.	21.0	1
68	Ultrafast mid-infrared investigations on the surface Dirac fermions with topological phase transition. , 2015, , .		0
69	Oxygen Annealing Driven Structural Evolution in PdCoO ₂ Films Through Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2020, 26, 612-613.	0.4	0
70	van der Waals Epitaxy Growth of Bi ₂ Se ₃ on a Freestanding Monolayer Graphene Membrane: Implications for Layered Materials and Heterostructures. <i>ACS Applied Nano Materials</i> , 2021, 4, 7607-7613.	5.0	0