

# Matthew Brahlek

## List of Publications by Year in descending order

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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	Design and Realization of Ohmic and Schottky Interfaces for Oxide Electronics. <i>Small Science</i> , 2022, 2, 2100087.	9.9	6
2	Searching for superconductivity in high entropy oxide Ruddlesden-Popper cuprate films. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2022, 40, .	2.1	14
3	Designing Magnetism in High Entropy Oxides. <i>Advanced Science</i> , 2022, 9, e2200391.	11.2	28
4	Reversible Hydrogen-Induced Phase Transformations in $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ Thin Films Characterized by In Situ Neutron Reflectometry. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 10898-10906.	8.0	10
5	High Entropy Oxide Relaxor Ferroelectrics. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 11962-11970.	8.0	26
6	Surface-Driven Evolution of the Anomalous Hall Effect in Magnetic Topological Insulator $\text{MnBi}_2\text{Te}_4$ Thin Films. <i>Advanced Functional Materials</i> , 2022, 32, .	14.9	2
7	Magnetic Texture in Insulating Single Crystal High Entropy Oxide Spinel Films. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 17971-17977.	8.0	24
8	Layer-resolved many-electron interactions in delafossite $\text{PdCoO}_2$ from standing-wave photoemission spectroscopy. <i>Communications Physics</i> , 2021, 4, .	5.3	7
9	van der Waals Epitaxy Growth of $\text{Bi}_2\text{Se}_3$ 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
10	Hybrid Symmetry Epitaxy of the Superconducting $\text{Fe}(\text{Te},\text{Se})$ Film on a Topological Insulator. <i>Nano Letters</i> , 2021, 21, 6518-6524.	9.1	9
11	Correlating surface stoichiometry and termination in $\text{SrTiO}_3$ 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
12	Optical vortex manipulation for topological quantum computation. <i>Physical Review B</i> , 2021, 104, .	3.2	6
13	Self-regulated growth of candidate topological superconducting parkerite by molecular beam epitaxy. <i>APL Materials</i> , 2021, 9, 101110.	5.1	3
14	Magnetostriction of $\text{RuCl}_3$ Flakes in the Zigzag Phase. <i>Journal of Physical Chemistry C</i> , 2021, 125, 25687-25694.	3.1	2
15	Strong spin-dephasing in a topological insulator-paramagnet heterostructure. <i>APL Materials</i> , 2020, 8, .	5.1	4
16	Applying Configurational Complexity to the 2D Ruddlesden-Popper Crystal Structure. <i>ACS Nano</i> , 2020, 14, 13030-13037.	14.6	21
17	Topological Materials: Criteria for Realizing Room-Temperature Electrical Transport Applications of Topological Materials ( <i>Adv. Mater.</i> 50/2020). <i>Advanced Materials</i> , 2020, 32, 2070380.	21.0	1
18	Topological materials by molecular beam epitaxy. <i>Journal of Applied Physics</i> , 2020, 128, .	2.5	21

#	ARTICLE	IF	CITATIONS
19	Oxygen Annealing Driven Structural Evolution in PdCoO <sub>2</sub> Films Through Electron Microscopy. Microscopy and Microanalysis, 2020, 26, 612-613.	0.4	0
20	Criteria for Realizing Room-Temperature Electrical Transport Applications of Topological Materials. Advanced Materials, 2020, 32, 2005698.	21.0	9
21	Pulsed-laser epitaxy of metallic delafossite PdCrO <sub>2</sub> films. APL Materials, 2020, 8, .	5.1	25
22	Interfacial tuning of chiral magnetic interactions for large topological Hall effects in LaMnO <sub>3</sub> /SrIrO <sub>3</sub> heterostructures. Science Advances, 2020, 6, eaaz3902. <a href="#">Magnetic anisotropy in single-crystal high-entropy perovskite oxide <math>\text{CaMn}_2\text{O}_7</math></a>	10.3	50
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37	High-Quality LaVO <sub>3</sub> Films as Solar Energy Conversion Material. ACS Applied Materials & Interfaces, 2017, 9, 12556-12562.	8.0	26
38	Self-regulated growth of CaVO <sub>3</sub> by hybrid molecular beam epitaxy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, .	2.1	13
39	Mapping growth windows in quaternary perovskite oxide systems by hybrid molecular beam epitaxy. Applied Physics Letters, 2016, 109, .	3.3	22
40	Disorder-driven topological phase transition in $Bi_{1-x}S_x$ films.	3.2	19
41	Helicity-Dependent Photovoltaic Effect in Bi <sub>2</sub> Se <sub>3</sub> Under Normal Incident Light. Advanced Optical Materials, 2016, 4, 1642-1650.	7.3	21
42	Strong nonlinear terahertz response induced by Dirac surface states in Bi <sub>2</sub> Se <sub>3</sub> topological insulator. Nature Communications, 2016, 7, 11421.	12.8	124
43	Composition Control of Plasmon-Phonon Interaction Using Topological Quantum-Phase Transition in Photoexcited (Bi <sub>1-x</sub> In <sub>x</sub> ) <sub>2</sub> Se <sub>3</sub> . ACS Photonics, 2016, 3, 1426-1431.	6.6	12
44	Correlated metals as transparent conductors. Nature Materials, 2016, 15, 204-210.	27.5	291
45	Topologically protected Dirac plasmons and their evolution across the quantum phase transition in a (Bi <sub>1-x</sub> In <sub>x</sub> ) <sub>2</sub> Se <sub>3</sub> topological insulator. Nanoscale, 2016, 8, 4667-4671.	5.6	13
46	Tunable Far-Field Quantum-Interference Dynamics using a Topological Phase Transition in $Bi_{1-x}S_x$ Films.	3.2	37
47	Phy Accessing a growth window for SrVO <sub>3</sub> thin films. Applied Physics Letters, 2015, 107, .	3.3	48
48	Growth of SrVO <sub>3</sub> thin films by hybrid molecular beam epitaxy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, .	2.1	22
49	Stability of low-carrier-density topological-insulator Bi <sub>2</sub> Se <sub>3</sub> thin films and effect of capping layers. APL Materials, 2015, 3, 091101.	5.1	22
50	Plasmon-Phonon Interactions in Topological Insulator Microrings. Advanced Optical Materials, 2015, 3, 1257-1263.	7.3	72
51	Ultrafast mid-infrared investigations on the surface Dirac fermions with topological phase transition. , 2015, , .		0
52	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
53	Topological Surface States Originated Spin-Orbit Torques in $Bi_{1-x}S_x$ Films. Physical Review Letters, 2015, 114, 257202.	7.8	269
54	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

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55	Ultra-high modulation depth exceeding 2,400% in optically controlled topological surface plasmons. Nature Communications, 2015, 6, 8814.	12.8	76
56	Observation of Magnetoplasmons in Bi <sub>2</sub> Se <sub>3</sub> Topological Insulator. ACS Photonics, 2015, 2, 1231-1235.	6.6	48
57	Restoring pristine Bi <sub>2</sub> Se <sub>3</sub> surfaces with an effective Se decapping process. Nano Research, 2015, 8, 1222-1228.	10.4	32
58	Robust topological surface states of Bi <sub>2</sub> Se <sub>3</sub> thin films on amorphous SiO <sub>2</sub> /Si substrate and a large ambipolar gating effect. Applied Physics Letters, 2014, 104, .	3.3	28
59	Observation of inverse spin Hall effect in bismuth selenide. Physical Review B, 2014, 90, .	3.2	158
60	Indium and bismuth interdiffusion and its influence on the mobility in In <sub>2</sub> Se <sub>3</sub> /Bi <sub>2</sub> Se <sub>3</sub> . Thin Solid Films, 2014, 556, 322-324.	1.8	22
61	Ultrast fast terahertz dynamics of hot Dirac-electron surface scattering in the topological insulator $\text{Bi}_2\text{Se}_3$ . Physical Review B, 2014, 89, .	3.2	85
62	Transferring MBE-Grown Topological Insulator Films to Arbitrary Substrates and Metal-Insulator Transition via Dirac Gap. Nano Letters, 2014, 14, 1343-1348.	9.1	29
63	Emergence of Decoupled Surface Transport Channels in Bulk Insulating $\text{Bi}_2\text{Se}_3$ Thin Films. Physical Review Letters, 2014, 113, 026801.	7.8	101
64	Conductance modulation in topological insulator Bi <sub>2</sub> Se <sub>3</sub> thin films with ionic liquid gating. Applied Physics Letters, 2013, 103, .	3.3	32
65	Topological-Metal to Band-Insulator Transition in $\text{Bi}_2\text{Se}_3$ Thin Films. Physical Review Letters, 2013, 111, 086801.	7.8	104
66	Giant plateau in the terahertz Faraday angle in gated Bi <sub>2</sub> Se <sub>3</sub> thin films. Physical Review B, 2012, 86, .	3.2	15
67	Thickness-Independent Transport Channels in Topological Insulator $\text{Bi}_2\text{Se}_3$ Thin Films. Physical Review Letters, 2012, 109, 116804.	7.8	306
68	Surface versus bulk state in topological insulator Bi <sub>2</sub> Se <sub>3</sub> under environmental disorder. Applied Physics Letters, 2011, 99, .	3.3	73
69	Epitaxial growth of topological insulator Bi <sub>2</sub> Se <sub>3</sub> film on Si(111) with atomically sharp interface. Thin Solid Films, 2011, 520, 224-229.	1.8	180
70	Thickness-dependent bulk properties and weak antilocalization effect in topological insulator $\text{Bi}_2\text{Se}_3$ . Physical Review B, 2011, 84, .	3.2	270