

David G Mandrus

List of Publications by Year in descending order

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162
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29994

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all docs

162
docs citations

162
times ranked

16794
citing authors

#	ARTICLE	IF	CITATIONS
1	Role of the third dimension in searching for Majorana fermions in Bi_2Te_3 via phonons. <i>Physical Review Research</i> , 2022, 4, .		
2	Nanometer-Scale Lateral p-n Junctions in Graphene/ RuCl_3 Heterostructures. <i>Nano Letters</i> , 2022, 22, 1946-1953.	4.5	25
3	Magnetoelastic coupling anisotropy in the Kitaev material RuCl_3 . <i>Physical Review B</i> , 2022, 105, .		
4	Observation of Giant Surface Second-Harmonic Generation Coupled to Nematic Orders in the van der Waals Antiferromagnet FePS_3 . <i>Nano Letters</i> , 2022, 22, 3283-3288.	4.5	13
5	Ultrasharp Lateral p-n Junctions in Modulation-Doped Graphene. <i>Nano Letters</i> , 2022, 22, 4124-4130.	4.5	12
6	Extraction of interaction parameters for Bi_2Te_3 from neutron data using machine learning. <i>Physical Review Research</i> , 2022, 4, .		
7	Harnessing interpretable and unsupervised machine learning to address big data from modern X-ray diffraction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	3.3	14
8	Quantum Spin Hall Edge States and Interlayer Coupling in Twisted Bilayer WTe_2 . <i>Nano Letters</i> , 2022, 22, 5674-5680.	4.5	5
9	Metal Site Substitution and Role of the Dimer on Symmetry Breaking in FePS_3 and CrPS_4 under Pressure. <i>ACS Applied Electronic Materials</i> , 2022, 4, 3246-3255.	2.0	4
10	Effects of Au^{2+} irradiation induced damage in a high-entropy pyrochlore oxide single crystal. <i>Scripta Materialia</i> , 2022, 220, 114916.	2.6	18
11	Excitations of Intercalated Metal Monolayers in Transition Metal Dichalcogenides. <i>Nano Letters</i> , 2021, 21, 99-106.	4.5	12
12	Magneto-elastic coupling in multiferroic metal-organic framework $[(\text{CH}_3)_2\text{NH}_2]\text{Co}(\text{HCOO})_3$. <i>AIP Advances</i> , 2021, 11, .	0.6	1
13	Vapor Transport Growth of van der Waals Magnets. , 2021, , 67-81.		0
14	Intrinsic donor-bound excitons in ultraclean monolayer semiconductors. <i>Nature Communications</i> , 2021, 12, 871.	5.8	29
15	Low-Temperature 2D/2D Ohmic Contacts in WSe_2 Field-Effect Transistors as a Platform for the 2D Metal-Insulator Transition. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 10594-10602.	4.0	9
16	Synthesis method comparison of compositionally complex rare earth-based Ruddlesden-Popper type cuprates. <i>Journal of the American Ceramic Society</i> , 2021, 104, 3750-3759.	1.9	9
17	Superconductivity in type-II Weyl-semimetal WTe_2 induced by a normal metal contact. <i>Journal of Applied Physics</i> , 2021, 129, .	1.1	23
18	Exploring few and single layer CrPS_4 with near-field infrared spectroscopy. <i>2D Materials</i> , 2021, 8, 035020.	2.0	10

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19	Imaging the Néel vector switching in the monolayer antiferromagnet MnPSe ₃ with strain-controlled Ising order. Nature Nanotechnology, 2021, 16, 782-787.	15.6	70
20	Induced anomalous Hall effect of massive Dirac fermions in $ZrTe_2$ and $HfTe_2$ thin flakes. Physical Review B, 2021, 103, .	1.1	15
21	Field-induced intermediate ordered phase and anisotropic interlayer interactions in Li_xRuCl_3 . Physical Review B, 2021, 103, .	1.1	5
22	Oscillations of the thermal conductivity in the spin-liquid state of $\text{Li}_x\text{-RuCl}_3$. Nature Physics, 2021, 17, 915-919.	6.5	103
23	Accumulation-Type Ohmic van der Waals Contacts to Nearly Intrinsic WSe ₂ Nanosheet-Based Channels: Implications for Field-Effect Transistors. ACS Applied Nano Materials, 2021, 4, 5598-5610.	2.4	5
24	Revealing the Chemical Bonding in Adatom Arrays via Machine Learning of Hyperspectral Scanning Tunneling Spectroscopy Data. ACS Nano, 2021, 15, 11806-11816.	7.3	13
25	Hierarchical excitations from correlated spin tetrahedra on the breathing pyrochlore lattice. Physical Review B, 2021, 103, .	1.1	5
26	Nanoscale Trapping of Interlayer Excitons in a 2D Semiconductor Heterostructure. Nano Letters, 2021, 21, 5641-5647.	4.5	25
27	Bayesian Learning of Adatom Interactions from Atomically Resolved Imaging Data. ACS Nano, 2021, 15, 9649-9657.	7.3	8
28	Temperature dependent moiré trapping of interlayer excitons in MoSe ₂ -WSe ₂ heterostructures. Npj 2D Materials and Applications, 2021, 5, .	3.9	20
29	Moiré trions in MoSe ₂ /WSe ₂ heterobilayers. Nature Nanotechnology, 2021, 16, 1208-1213.	15.6	50
30	Direct measurement of ferroelectric polarization in a tunable semimetal. Nature Communications, 2021, 12, 5298.	5.8	42
31	Unusual Exchange Couplings and Intermediate Temperature Weyl State in Co_3S_2 . Physical Review Letters, 2021, 127, 117201.	2.9	20
32	Direct Imaging of Antiferromagnetic Domains and Anomalous Layer-Dependent Mirror Symmetry Breaking in Atomically Thin MnPS_3 . Physical Review Letters, 2021, 127, 187201.	2.9	20
33	Disentangling electronic, lattice, and spin dynamics in the chiral helimagnet Cr_2S_3 . Physical Review B, 2021, 104, .	1.1	5
34	Pressure-Induced Insulator-Metal Transition in Two-Dimensional Mott Insulator NiPS_3 . Journal of the Physical Society of Japan, 2021, 90, .	0.7	4
35	Surface superconductivity in the type II Weyl semimetal TaIrTe ₄ . National Science Review, 2020, 7, 579-587.	4.6	39
36	Cluster Frustration in the Breathing Pyrochlore Magnet LiGaCr_8 . Physical Review Letters, 2020, 125, 167201.	2.9	20

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37	Nature of Magnetic Excitations in the High-Field Phase of Ir_2Te_7 . Physical Review Letters, 2020, 125, 037202.	2.9	33
38	Unconventional Hall effect induced by Berry curvature. National Science Review, 2020, 7, 1879-1885.	4.6	19
39	Electrical Probes of the Non-Abelian Spin Liquid in Kitaev Materials. Physical Review X, 2020, 10, .	2.8	35
40	Charge-Transfer Plasmon Polaritons at Graphene/ Ir_2Te_7 Interfaces. Nano Letters, 2020, 20, 8438-8445.	4.5	53
41	Modulation Doping via a Two-Dimensional Atomic Crystalline Acceptor. Nano Letters, 2020, 20, 8446-8452.	4.5	44
42	Symmetry crossover in layered MnPS_3 complexes. Physical Review B, 2020, 102, .	1.1	16
43	Robust nature of the chiral spin helix in CrNb_6S_8 nanostructures studied by off-axis electron holography. Physical Review B, 2020, 102, .	1.1	8
44	Piezochromism in the magnetic chalcogenide MnPS_3 . Npj Quantum Materials, 2020, 5, .	1.8	26
45	Tunable discrete scale invariance in transition-metal pentatelluride flakes. Npj Quantum Materials, 2020, 5, .	1.8	7
46	One-Dimensional Edge Transport in Few-Layer WTe_2 . Nano Letters, 2020, 20, 4228-4233.	4.5	56
47	Optomechanical Effects Occurring in a Hybrid Metal-Halide Perovskite Single Crystal Based on Photoinduced Resonant Ultrasound Spectroscopy. Journal of Physical Chemistry Letters, 2020, 11, 5407-5411.	2.1	0
48	Monolayer Semiconductor Auger Detector. Nano Letters, 2020, 20, 5538-5543.	4.5	5
49	Proximity-induced superconducting gap in the quantum spin Hall edge state of monolayer WTe_2 . Nature Physics, 2020, 16, 526-530.	6.5	76
50	Crystal structure reconstruction in the surface monolayer of the quantum spin liquid candidate Ir_2RuCl_3 . 2D Materials, 2020, 7, 035004.	2.0	11
51	Field-induced transitions in the Kitaev material Ir_2RuCl_3 probed by thermal expansion and magnetostriction. Physical Review B, 2020, 101, .	1.1	24
52	Anisotropic Phonon Response of Few-Layer PdSe_2 under Uniaxial Strain. Advanced Functional Materials, 2020, 30, 2003215.	7.8	26
53	Atomically Precise PdSe_2 Pentagonal Nanoribbons. ACS Nano, 2020, 14, 1951-1957.	7.3	21
54	Valley phonons and exciton complexes in a monolayer semiconductor. Nature Communications, 2020, 11, 618.	5.8	128

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109	Chiral anomaly and ultrahigh mobility in crystalline HfTe_5 . Physical Review B, 2016, 93, .	1.1	53
110	Trion formation dynamics in monolayer transition metal dichalcogenides. Physical Review B, 2016, 93, .	1.1	159
111	Ionic Liquid Activation of Amorphous Metal-Oxide Semiconductors for Flexible Transparent Electronic Devices. Advanced Functional Materials, 2016, 26, 2820-2825.	7.8	46
112	Valley-polarized exciton dynamics in a 2D semiconductor heterostructure. Science, 2016, 351, 688-691.	6.0	606
113	Low-Resistance 2D/2D Ohmic Contacts: A Universal Approach to High-Performance WSe_2 , MoS_2 , and MoSe_2 Transistors. Nano Letters, 2016, 16, 1896-1902.	4.5	334
114	Excitonic luminescence upconversion in a two-dimensional semiconductor. Nature Physics, 2016, 12, 323-327.	6.5	187
115	Ultrathin nanosheets of CrSiTe_3 : a semiconducting two-dimensional ferromagnetic material. Journal of Materials Chemistry C, 2016, 4, 315-322.	2.7	235
116	Structural and magnetic phase transitions in EuTi_2 . Physical Review B, 2015, 92, .	1.1	23
117	High antiferromagnetic transition temperature of the honeycomb compound SrRu_2O_6 . Physical Review B, 2015, 92, .	1.1	37
118	Anisotropic magnetotransport and exotic longitudinal linear magnetoresistance in WTe_2 crystals. Physical Review B, 2015, 92, .	1.1	156
119	Fragile structural transition in Mo_3B . Physical Review B, 2015, 92, .	1.1	18
120	High pressure floating zone growth and structural properties of ferrimagnetic quantum paraelectric $\text{BaFe}_{12}\text{O}_{19}$. APL Materials, 2015, 3, 062512.	2.2	48
121	Atomic Resolution STEM-EELS Study of Transition Electronic Localization State Induced by Strain. Microscopy and Microanalysis, 2015, 21, 617-618.	0.2	0
122	Magnetic and structural transitions in La_2O_3 crystals. Physical Review B, 2015, 91, .	1.1	18
123	Magnetic control of valley pseudospin in monolayer WSe_2 . Nature Physics, 2015, 11, 148-152.	6.5	720
124	Observation of long-lived interlayer excitons in monolayer MoSe_2 - WSe_2 heterostructures. Nature Communications, 2015, 6, 6242.	5.8	1,252
125	Population Pulsation Resonances of Excitons in Monolayer MoSe_2 . Physical Review Letters, 2015, 114, 137402.	2.9	25
126	Electrical control of second-harmonic generation in a WSe_2 monolayer transistor. Nature Nanotechnology, 2015, 10, 407-411.	15.6	406

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127	Ferromagnetism and Nonmetallic Transport of Thin-Film FeSi A Stabilized Metastable Material. <i>Physical Review Letters</i> , 2015, 114, 147202.	2.9	26
128	Monolayer semiconductor nanocavity lasers with ultralow thresholds. <i>Nature</i> , 2015, 520, 69-72.	13.7	713
129	Zero-field ^{14}SR search for a time-reversal-symmetry-breaking mixed pairing state in superconducting $\text{Ba}_{1-x}\text{K}_x\text{Fe}_2\text{As}_2$. <i>Physical Review B</i> , 2014, 89, .	1.1	15
130	Growth of skyrmionic MnSi nanowires on Si: Critical importance of the SiO_2 layer. <i>Nano Research</i> , 2014, 7, 1788-1796.	5.8	11
131	Spin-layer locking effects in optical orientation of exciton spin in bilayer WSe_2 . <i>Nature Physics</i> , 2014, 10, 130-134.	6.5	297
132	Flexible metallic nanowires with self-adaptive contacts to semiconducting transition-metal dichalcogenide monolayers. <i>Nature Nanotechnology</i> , 2014, 9, 436-442.	15.6	228
133	Electrically tunable excitonic light-emitting diodes based on monolayer WSe_2 p-n junctions. <i>Nature Nanotechnology</i> , 2014, 9, 268-272.	15.6	1,434
134	Coherent Electronic Coupling in Atomically Thin MoSe_2 . <i>Physical Review Letters</i> , 2014, 112, .	2.9	108
135	Bond competition and phase evolution on the IrTe_2 surface. <i>Nature Communications</i> , 2014, 5, 5358.	5.8	37
136	Mobility Improvement and Temperature Dependence in MoSe_2 Field-Effect Transistors on Parylene-C Substrate. <i>ACS Nano</i> , 2014, 8, 5079-5088.	7.3	170
137	High Mobility WSe_2 p- and n-Type Field-Effect Transistors Contacted by Highly Doped Graphene for Low-Resistance Contacts. <i>Nano Letters</i> , 2014, 14, 3594-3601.	4.5	399
138	Research Update: Magnetic phase diagram of $\text{EuTi}_2\text{B}_2\text{O}_7$ ($\text{B} = \text{Zr, Nb}$). <i>APL Materials</i> , 2014, 2, .	2.2	24
139	Probing excitonic states in suspended two-dimensional semiconductors by photocurrent spectroscopy. <i>Scientific Reports</i> , 2014, 4, 6608.	1.6	351
140	Magnetism and electronic structure of LaZn_2O and La_6 . <i>Physical Review B</i> , 2013, 88, .	1.1	80
141	Flux growth and physical properties of MoSb_3 single crystals. <i>Physical Review B</i> , 2013, 87, .	1.1	13
142	Origin of the phase transition in IrTe_2 : Structural modulation and local bonding instability. <i>Physical Review B</i> , 2013, 88, .	1.1	62
143	Flux growth and physical properties of MoSb_3 single crystals. <i>Physical Review B</i> , 2013, 87, .	1.1	13
144	Flux growth and physical properties of MoSb_3 single crystals. <i>Physical Review B</i> , 2013, 87, .	1.1	13

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145	Transport, thermal, and magnetic properties of the narrow-gap semiconductor CrSb $\langle \mathcal{M} \rangle$. Physical Review B, 2012, 86, .	1.1	43
146	Coupled structural and magnetic antiphase domain walls on BaFe ₂ As ₂ $\langle \mathcal{M} \rangle$. Physical Review B, 2012, 86, .	1.1	12
147	Elastic properties of the zinc iron selenide MnSb $\langle \mathcal{M} \rangle$. Physical Review B, 2012, 86, .	1.1	4
148	Intrinsic electronic, local moments, and magnetic correlations in the pnictide superconductors $\langle \mathcal{M} \rangle$. Physical Review B, 2012, 86, .		