Leslie M Schoop

List of Publications by Year
in descending order

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Version: 2024-02-01

114 papers	6,108 citations	126708 33 h-index	71532 76 g-index
123 all docs	123 docs citations	123 times ranked	7181 citing authors

#	Article	IF	Citations
1	Large, non-saturating magnetoresistance in WTe2. Nature, 2014, 514, 205-208.	13.7	1,329
2	Dirac cone protected by non-symmorphic symmetry and three-dimensional Dirac line node in ZrSiS. Nature Communications, 2016, 7, 11696.	5.8	591
3	A new form of Ca3P2 with a ring of Dirac nodes. APL Materials, 2015, 3, .	2.2	287
4	Three-dimensional Dirac semimetals: Design principles and predictions of new materials. Physical Review B, 2015, 91, .	1.1	203
5	Butterfly magnetoresistance, quasi-2D Dirac Fermi surface and topological phase transition in ZrSiS. Science Advances, 2016, 2, e1601742.	4.7	182
6	Chemical Principles of Topological Semimetals. Chemistry of Materials, 2018, 30, 3155-3176.	3.2	166
7	Strong and fragile topological Dirac semimetals with higher-order Fermi arcs. Nature Communications, 2020, 11, 627.	5.8	152
8	Ruthenium Oxide Nanosheets for Enhanced Oxygen Evolution Catalysis in Acidic Medium. Advanced Energy Materials, 2019, 9, 1803795.	10.2	147
9	A ferromagnetic insulating substrate for the epitaxial growth of topological insulators. Journal of Applied Physics, 2013, 114, 114907.	1.1	138
10	Dirac line nodes and effect of spin-orbit coupling in the nonsymmorphic critical semimetals <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>M</mml:mi><mml:mi>SiS</mml:mi><mml:mspace width="0.16em" /><mml:mo>(</mml:mo><mml:mi>M</mml:mi><mml:mo>=</mml:mo><mml:mi>Hf</mml:mi><mml:mo>,</mml:mo><mml:mspace) Tj E	1.1	131
11	Revie Unconventional mass enhancement around the Dirac nodal loop in ZrSiS. Nature Physics, 2018, 14, 178-183.	6.5	129
12	Tunable Weyl and Dirac states in the nonsymmorphic compound CeSbTe. Science Advances, 2018, 4, eaar2317.	4.7	110
13	Topological Semimetals in Square-Net Materials. Annual Review of Materials Research, 2019, 49, 185-206.	4.3	98
14	Correlation of crystal quality and extreme magnetoresistance of WTe ₂. Europhysics Letters, 2015, 110, 67002.	0.7	96
15	Magnetic Properties of Restacked 2D Spin 1/2 honeycomb RuCl₃ Nanosheets. Nano Letters, 2016, 16, 3578-3584.	4.5	89
16	Non-symmorphic band degeneracy at the Fermi level in ZrSiTe. New Journal of Physics, 2016, 18, 125014.	1.2	88
17	High mobility in a van der Waals layered antiferromagnetic metal. Science Advances, 2020, 6, eaay6407.	4.7	85
18	Interaction Driven Subgap Spin Exciton in the Kondo Insulator<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>SmB</mml:mi></mml:mrow><mml:mrow><mml:mn>6</mml:mn></ Physical Review Letters, 2015, 114, 036401.	2.9	83

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19	Toward Fluorinated Spacers for MAPI-Derived Hybrid Perovskites: Synthesis, Characterization, and Phase Transitions of (FC₂H₄NH₃)₂PbCl₄. Chemistry of Materials, 2016, 28, 6560-6566.	3.2	74
20	IrOOH nanosheets as acid stable electrocatalysts for the oxygen evolution reaction. Journal of Materials Chemistry A, 2018, 6, 21558-21566.	5.2	72
21	Evidence for a monolayer excitonic insulator. Nature Physics, 2022, 18, 87-93.	6.5	70
22	Flat Optical Conductivity in ZrSiS due to Two-Dimensional Dirac Bands. Physical Review Letters, 2017, 119, 187401.	2.9	68
23	Catalogue of flat-band stoichiometric materials. Nature, 2022, 603, 824-828.	13.7	65
24	Topological semimetal in a Bi-Bi2Se3infinitely adaptive superlattice phase. Physical Review B, 2012, 86, .	1.1	59
25	Dirac metal to topological metal transition at a structural phase change in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi mathvariant="normal">Au</mml:mi></mml:mrow><mml:mn>2</mml:mn></mml:msub><mml:mi mathvariant="normal">Pb</mml:mi></mml:math>and prediction of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi mathvariant="double-struck">Z</mml:mi></mml:mrow><mml:mn>2</mml:mn></mml:msub></mml:math>topology	1.1	55
26	The Role of Delocalized Chemical Bonding in Square-Net-Based Topological Semimetals. Journal of the American Chemical Society, 2020, 142, 6350-6359.	6.6	55
27	Landau quantization and highly mobile fermions in an insulator. Nature, 2021, 589, 225-229.	13.7	54
28	Termination-dependent topological surface states of the natural superlattice phase Bi4Se3. Physical Review B, 2013, 88, .	1.1	52
29	Surface Floating 2D Bands in Layered Nonsymmorphic Semimetals: ZrSiS and Related Compounds. Physical Review X, 2017, 7, .	2.8	48
30	Li_{0.6}[Li_{0.2}Sn_{0.8}S₂] â€“ a layered lithium superionic conductor. Energy and Environmental Science, 2016, 9, 2578-2585.	15.6	46
31	One-dimensional Luttinger liquids in a two-dimensional moirÃ© lattice. Nature, 2022, 605, 57-62.	13.7	44
32	Breakdown of three-dimensional Dirac semimetal state in pressurized<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">C</mml:mi><mml:msub><mml:mi mathvariant="normal">d</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:mi mathvariant="normal">A</mml:mi><mml:msub><mml:mi mathvariant="normal">s</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>. Physi	1.1	41
33	Lone Pair Effect, Structural Distortions, and Potential for Superconductivity in Tl Perovskites. Inorganic Chemistry, 2013, 52, 5479-5483.	1.9	38
34	Trivalent Iridium Oxides: Layered Triangular Lattice Iridate K_{0.75}Na_{0.25}IrO₂ and Oxyhydroxide IrOOH. Chemistry of Materials, 2017, 29, 8338-8345.	3.2	35
35	Topological band crossings in hexagonal materials. Physical Review Materials, 2018, 2, .	0.9	35
36	Structural Stability Diagram of ALnP₂S₆ Compounds (A = Na, K, Rb, Cs; Ln =) Tj ETQq0 0 0 rgBT /Overlock 10	1.9	33

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37	Similar ultrafast dynamics of several dissimilar Dirac and Weyl semimetals. Journal of Applied Physics, 2017, 122, .	1.1	33
38	Electron-Hole Tunneling Revealed by Quantum Oscillations in the Nodal-Line Semimetal HfSiS. Physical Review Letters, 2018, 121, 256602.	2.9	33
39	Band Engineering of Dirac Semimetals Using Charge Density Waves. Advanced Materials, 2021, 33, e2101591.	11.1	32
40	Soft Chemical Synthesis of H_xCrS₂: An Antiferromagnetic Material with Alternating Amorphous and Crystalline Layers. Journal of the American Chemical Society, 2019, 141, 15634-15640.	6.6	31
41	Goldâ€“Gold Bonding: The Key to Stabilizing the 19-Electron Ternary Phases LnAuSb (Ln =) Tj ETQq1 1 0.784314 rgBT /Ov	6.6	30
42	Electrical Transport Signature of the Magnetic Fluctuation-Structure Relation in Î±-RuCl₃ Nanoflakes. Nano Letters, 2018, 18, 3203-3208.	4.5	28
43	Superconductivity and magnetism in Rb0.8Fe1.6Se2under pressure. Physical Review B, 2012, 85, .	1.1	27
44	Charge Density Waves and Magnetism in Topological Semimetal Candidates GdSb_xTe_{2â^'}_x_{â^'}_{Î´}. Advanced Quantum Technologies, 2019, 2, 1900045.	1.8	27
45	A New Three-Dimensional Subsulfide Ir₂In₈S with Dirac Semimetal Behavior. Journal of the American Chemical Society, 2019, 141, 19130-19137.	6.6	26
46	Systematic study of stacked square nets: From Dirac fermions to material realizations. Physical Review B, 2020, 101, .	1.1	26
47	Spontaneous Formation of Zigzag Chains at the Metal-Insulator Transition in the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î²</mml:mi></mml:math>-Pyrochlore<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>CsW</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="bold">O</mml:mi><mml:mn>6</mml:mn></mml:msub></mml:math>. Physical Review Lette	2.9	25
48	Superconducting order parameter of the nodal-line semimetal NaAlSi. APL Materials, 2019, 7, 121103.	2.2	25
49	Change in Magnetic Properties upon Chemical Exfoliation of FeOCl. Inorganic Chemistry, 2020, 59, 1176-1182.	1.9	25
50	Pressure-induced structural phase transition in the half-Heusler compound CaAuBi. Solid State Sciences, 2014, 30, 6-10.	1.5	24
51	Tuning the magnetoresistance of ultrathin WTe₂sheets by electrostatic gating. Nanoscale, 2016, 8, 18703-18709.	2.8	24
52	Characterization of the heavy metal pyrochlore lattice superconductor CaIr₂. Journal of Physics Condensed Matter, 2015, 27, 185701.	0.7	23
53	Superconductivity in the Cu(I)<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML") Tj ETQq1 1 0.784314 rgBT /Overlock 1	1.1	21
54	<mml:msub><mml:mrow /><mml: Modular Arithmetic with Nodal Lines: Drumhead Surface States in ZrSiTe. Physical Review X, 2020, 10, .	2.8	21

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55	Paramagnetic to ferromagnetic phase transition in lightly Fe-doped<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">Cr</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi mathvariant="normal">B</mml:mi></mml:math>. Physical Review B, 2014, 89, .	1.1	20
56	Weyl fermions, Fermi arcs, and minority-spin carriers in ferromagnetic CoS ₂. Science Advances, 2020, 6, .	4.7	20
57	Symmetry-enforced band crossings in trigonal materials: Accordion states and Weyl nodal lines. Physical Review Materials, 2019, 3, .	0.9	20
58	Simple Chemical Rules for Predicting Band Structures of Kagome Materials. Journal of the American Chemical Society, 2022, 144, 10978-10991.	6.6	20
59	Pressure-restored superconductivity in Cu-substituted FeSe. Physical Review B, 2011, 84, .	1.1	19
60	Robustness of Yu-Shiba-Rusinov resonances in the presence of a complex superconducting order parameter. Physical Review B, 2019, 100, .	1.1	17
61	The properties and prospects of chemically exfoliated nanosheets for quantum materials in two dimensions. Applied Physics Reviews, 2021, 8, .	5.5	17
62	Effect of pressure on superconductivity in NaAlSi. Physical Review B, 2012, 86, .	1.1	16
63	Toward Tunable Photonic Nanosheet Sensors: Strong Influence of the Interlayer Cation on the Sensing Characteristics. Advanced Materials, 2017, 29, 1604884.	11.1	16
64	Dirac fermions and possible weak antilocalization in LaCuSb2. APL Materials, 2019, 7, .	2.2	16
65	The effect of spin-orbit coupling on nonsymmorphic square-net compounds. Journal of Physics and Chemistry of Solids, 2019, 128, 296-300.	1.9	16
66	Complex magnetic phases enriched by charge density waves in the topological semimetals <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>GdSb</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:mi></mml Physical Review B, 2021, 103, .	1.1	15
67	Chemical bonds in topological materials. Trends in Chemistry, 2021, 3, 700-715.	4.4	15
68	Determination of the Fermi surface and field-induced quasiparticle tunneling around the Dirac nodal loop in ZrSiS. Physical Review Research, 2020, 2, .	1.3	15
69	The First Quinary Rare Earth Thiophosphates: Cs5Ln3X3(P2S6)2(PS4) (Ln= La, Ce,X= Br, Cl) and the Quasi-Quaternary Cs10Y4Cl10(P2S6)3. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2017, 643, 1818-1823.	0.6	14
70	Evolving Devil's Staircase Magnetization from Tunable Charge Density Waves in Nonsymmorphic Dirac Semimetals. Advanced Materials, 2021, 33, e2103476.	11.1	14
71	Axial Higgs mode detected by quantum pathway interference in RTe3. Nature, 2022, 606, 896-901.	13.7	14
72	Directly photoexcited Dirac and Weyl fermions in ZrSiS and NbAs. Applied Physics Letters, 2018, 113, .	1.5	13

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73	Transient Drude Response Dominates Near-Infrared Pumpâ€“Probe Reflectivity in Nodal-Line Semimetals ZrSiS and ZrSiSe. Journal of Physical Chemistry Letters, 2020, 11, 6105-6111.	2.1	13
74	A cleanroom in a glovebox. Review of Scientific Instruments, 2020, 91, 073909.	0.6	13
75	Synthesis and Characterization of Copper Hexathiometadiphosphate Cu₂P₂S₆. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2016, 642, 356-360.	0.6	12
76	Ird-band derived superconductivity in the lanthanum-iridium system LaIr₃. Journal of Physics Condensed Matter, 2017, 29, 475602.	0.7	12
77	Correlated evolution of colossal thermoelectric effect and Kondo insulating behavior. APL Materials, 2013, 1, 062102.	2.2	11
78	New Light on an Old Story: The Crystal Structure of Boron Tetrathiophosphate Revisited. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2019, 645, 267-271.	0.6	11
79	Origin of the butterfly magnetoresistance in ZrSiS. Physical Review Materials, 2019, 3, .	0.9	11
80	Kinetics and Evolution of Magnetism in Soft-Chemical Synthesis of CrSe₂ from KCrSe₂. Chemistry of Materials, 2021, 33, 8070-8078.	3.2	11
81	Anomalous Shubnikov-de Haas quantum oscillations in rare-earth tritelluride <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>NdTe</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math> Physical Review B, 2020, 102, .	1.1	10
82	TaCo₂Te₂: An Airâ€Stable, High Mobility Van der Waals Material with Probable Magnetic Order. Advanced Functional Materials, 2022, 32, .	7.8	10
83	Vapor-Phase Amine Intercalation for the Rational Design of Photonic Nanosheet Sensors. Chemistry of Materials, 2018, 30, 2557-2565.	3.2	9
84	Single-Crystal Growth and Characterization of the Chalcopyrite Semiconductor CuInTe₂ for Photoelectrochemical Solar Fuel Production. Journal of Physical Chemistry Letters, 2018, 9, 6833-6840.	2.1	9
85	Magneto-optical probe of the fully gapped Dirac band in ZrSiS. Physical Review Research, 2019, 1, .	1.3	9
86	A Class of Magnetic Topological Material Candidates with Hypervalent Bi Chains. Journal of the American Chemical Society, 2022, 144, 9785-9796.	6.6	9
87	Thermomagnetic Properties Improved by Selfâ€Organized Floweraâ€Like Phase Separation of Ferromagnetic Co₂Dy_{0.5}Mn_{0.5}Sn. Advanced Functional Materials, 2012, 22, 1822-1826.	7.8	8
88	On the possibility of magnetic Weyl fermions in non-symmorphic compound PtFeSb. European Physical Journal B, 2018, 91, 1.	0.6	8
89	The effect of Fe doping on superconductivity in ZrRuP. Solid State Communications, 2011, 151, 1504-1506.	0.9	7
90	Crystal structure and elementary electronic properties of Bi-stabilized Î±-In2Se3. Materials Research Bulletin, 2013, 48, 2517-2521.	2.7	7

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91	Pressure effect on superconductivity in FeSe_{0.5}Te_{0.5}. Physica Status Solidi (B): Basic Research, 2017, 254, 1600161.	0.7	7
92	Free-carrier dynamics in Au2Pb probed by optical conductivity measurements. Journal of Physics Condensed Matter, 2018, 30, 485403.	0.7	7
93	Fermi-level Dirac crossings in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>4</mml:mn><mml:mi>d</mml:mi></mml:mrow></mm and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>5</mml:mn><mml:mi>d</mml:mi></mml:mrow></mm cubic metal oxides: <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>NaPd</mml:mi><mml:mn>3</mml:mn></	1.1	7
94	Out-of-plane transport in ZrSiS and ZrSiSe microstructures. APL Materials, 2019, 7, 101116.	2.2	7
95	Signature of an ultrafast photoinduced Lifshitz transition in the nodal-line semimetal ZrSiTe. Physical Review B, 2021, 103, .	1.1	7
96	Structure and elementary properties of the new Ir hollandite Rb0.17IrO2. Journal of Solid State Chemistry, 2014, 209, 37-41.	1.4	6
97	Robust Narrow-Gap Semiconducting Behavior in Square-Net La₃Cd₂As₆. Chemistry of Materials, 2021, 33, 4122-4127.	3.2	6
98	Investigation of the Thermoelectric Properties of the Series TiCo_{1â€“x}Ni_xSn_xSb_{1â€“x}Â. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2010, 636, 132-136.	0.6	5
99	Special topic on topological semimetalsâ€”New directions. APL Materials, 2020, 8, .	2.2	5
100	Square-Net Topological Semimetals: How Spectroscopy Furthers Understanding and Control. Journal of Physical Chemistry Letters, 2022, 13, 838-850.	2.1	5
101	3D Analogs of Square-Net Nodal Line Semimetals: Band Topology of Cubic LaIn₃. Chemistry of Materials, 2022, 34, 4446-4455.	3.2	5
102	Superconductivity in HfCuGe 2 : A non-magnetic analog of the 1111 iron pnictides. Europhysics Letters, 2013, 101, 67001.	0.7	4
103	Copper Selenidophosphates Cu4P2Se6, Cu4P3Se4, Cu4P4Se3, and CuP2Se, Featuring Zero-, One-, and Two-Dimensional Anions. Inorganic Chemistry, 2016, 55, 8031-8040.	1.9	4
104	Layer-cake 2D superconductivity. Science, 2020, 370, 170-170.	6.0	4
105	Theoretical study of topological properties of ferromagnetic pyrite CoS₂. Journal Physics D: Applied Physics, 2022, 55, 304004.	1.3	4
106	Synthesis and Characterization of Three New Lithiumâ€“Scandium Hexathiohypodiphosphates: Li_{4â€“3x}Sc_xP₂S₆ (x = 0.358), mâ€²-LiScP₂S₆, and tâ€²-LiScP₂S₆. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2018, 644, 1854-1862.	0.6	3
107	Weyl nodes and magnetostructural instability in antiperovskite Mn3ZnC. APL Materials, 2019, 7, 121104.	2.2	3
108	Quasiparticle interference observation of the topologically nontrivial drumhead surface state in ZrSiTe. Physical Review B, 2022, 105, .	1.1	3

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109	new polymorph of HfCuGe with a novel structure type. Journal of Solid State Chemistry, 2013, 199, 66-70.	1.4	2
110	Evolution of magnetic fluctuations through the Fe-induced paramagnetic to ferromagnetic transition inCr2B. Physical Review B, 2016, 93, .	1.1	2
111	Magnetic Nanosheets via Chemical Exfoliation of K_{2x}Mn_xSn_{1â€“x}S₂. Chemistry of Materials, 2022, 34, 5084-5093.	3.2	2
112	Phase tuning of multiple Andreev reflections of Dirac fermions and the Josephson supercurrent in Alâ€“MoTe ₂ â€“Al junctions. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	2
113	Ln₃MBi₅ (Ln=Pr, Nd, Sm; M=Zr, Hf): Intermetallics with Hypervalent Bismuth Chains. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2022, 648, .	0.6	1
114	Topological Materials and Solid-State Chemistryâ€”Finding and Characterizing New Topological Materials. Springer Series in Solid-state Sciences, 2018, , 211-243.	0.3	0