Taylor D Sparks

List of Publications by Year
in descending order

81	3,302	218677	149698
papers	citations	26 h-index	56 g-index

97	97	97	4199
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Comparing transfer learning to feature optimization in microstructure classification. IScience, 2022, 25, 103774.	4.1	2
2	DiSCoVeR: a materials discovery screening tool for high performance, unique chemical compositions. , 2022, 1, 226-240.		11
3	Trends in Bulk Compressibility of Mo_{2â€“x}W_xBC Solid Solutions. Chemistry of Materials, 2022, 34, 2569-2575.	6.7	0
4	Real-space visualization of short-range antiferromagnetic correlations in a magnetically enhanced thermoelectric. Matter, 2022, 5, 1853-1864.	10.0	11
5	High-dimensional Bayesian optimization of 23 hyperparameters over 100 iterations for an attention-based network to predict materials property: A case study on CrabNet using Ax platform and SAASBO. Computational Materials Science, 2022, 211, 111505.	3.0	8
6	A data science approach for advanced solid polymer electrolyte design. Computational Materials Science, 2021, 187, 110108.	3.0	4
7	Lifetime of electrochromic optical transition cycling of ethyl viologen diperchlorate-based electrochromic devices. SN Applied Sciences, 2021, 3, 1.	2.9	2
8	Materials informatics and polymer science: Pushing the frontiers of our understanding. Matter, 2021, 4, 1454-1456.	10.0	0
9	Compositionally restricted attention-based network for materials property predictions. Npj Computational Materials, 2021, 7, .	8.7	68
10	Benchmark datasets incorporating diverse tasks, sample sizes, material systems, and data heterogeneity for materials informatics. Data in Brief, 2021, 37, 107262.	1.0	7
11	Sequential Machine Learning Applications of Particle Packing with Large Size Variations. Integrating Materials and Manufacturing Innovation, 2021, 10, 559-567.	2.6	3
12	Environmentally friendly thermoelectric sulphide Cu₂ZnSnS₄ single crystals achieving a 1.6 dimensionless figure of merit ZT. Journal of Materials Chemistry A, 2021, 9, 15595-15604.	10.3	17
13	Optimizing Fractional Compositions to Achieve Extraordinary Properties. Integrating Materials and Manufacturing Innovation, 2021, 10, 689-695.	2.6	5
14	Can machine learning find extraordinary materials?. Computational Materials Science, 2020, 174, 109498.	3.0	58
15	Landau Levels of Topologically-Protected Surface States Probed by Dual-Gated Quantum Capacitance. ACS Nano, 2020, 14, 1158-1165.	14.6	14
16	Commercial Marine-Degradable Polymers for Flexible Packaging. IScience, 2020, 23, 101353.	4.1	30
17	Extracting Knowledge from DFT: Experimental Band Gap Predictions Through Ensemble Learning. Integrating Materials and Manufacturing Innovation, 2020, 9, 213-220.	2.6	22
18	Is Domain Knowledge Necessary for Machine Learning Materials Properties?. Integrating Materials and Manufacturing Innovation, 2020, 9, 221-227.	2.6	34

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19	Machine Learning for Structural Materials. Annual Review of Materials Research, 2020, 50, 27-48.	9.3	29
20	Machine Learning for Materials Scientists: An Introductory Guide toward Best Practices. Chemistry of Materials, 2020, 32, 4954-4965.	6.7	224
21	The Materialism Podcast: Exploring New Avenues for Materials Science Education. Matter, 2020, 2, 276-278.	10.0	1
22	Benchmark AFLOW Data Sets for Machine Learning. Integrating Materials and Manufacturing Innovation, 2020, 9, 153-156.	2.6	19
23	From streetlights to phosphors: A review on the visibility of roadway markings. Progress in Organic Coatings, 2020, 148, 105749.	3.9	31
24	Materials Abundance, Price, and Availability Data from the Years 1998 to 2015. Integrating Materials and Manufacturing Innovation, 2020, 9, 144-150.	2.6	4
25	Comparison of coatings for SrAl2O4:Eu2+,Dy3+ powder in waterborne road striping paint under wet conditions. Progress in Organic Coatings, 2020, 144, 105637.	3.9	28
26	Atomic Substitution to Balance Hardness, Ductility, and Sustainability in Molybdenum Tungsten Borocarbide. Chemistry of Materials, 2019, 31, 7696-7703.	6.7	11
27	Three and Four-Electrode Electrochemical Impedance Spectroscopy Studies Using Embedded Composite Thin Film Pseudo-Reference Electrodes in Proton Exchange Membrane Fuel Cells. Journal of the Electrochemical Society, 2019, 166, F784-F795.	2.9	6
28	Tunable Coupling between Surface States of a Three-Dimensional Topological Insulator in the Quantum Hall Regime. Physical Review Letters, 2019, 123, 036804.	7.8	26
29	Pore-graded and conductor- and binder-free FeS₂films deposited by spray pyrolysis for high-performance lithium-ion batteries. Journal of Materials Research, 2019, 34, 2456-2471.	2.6	16
30	Electrochemical Studies on Na-Î²â€•Alumina + Yttria-Stabilized Zirconia (YSZ) Composite Mixed Na+-Ion-O2â¯-Ion Conductors. Journal of the Electrochemical Society, 2019, 166, F679-F686.	2.9	0
31	Viewpoint: Atomic-Scale Design Protocols toward Energy, Electronic, Catalysis, and Sensing Applications. Inorganic Chemistry, 2019, 58, 14939-14980.	4.0	23
32	Measurement of Polarization Resistance of LSM + YSZ Electrodes on YSZ Using AC and DC Methods. ECS Transactions, 2019, 91, 1363-1369.	0.5	2
33	Lattice strain and texture analysis of superhard Mo_{0.9}W_{1.1}BC and ReWC_{0.8}via diamond anvil cell deformation. Journal of Materials Chemistry A, 2019, 7, 24012-24018.	10.3	2
34	Data-Driven Studies of Li-Ion-Battery Materials. Crystals, 2019, 9, 54.	2.2	40
35	High-temperature structure of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Co</mml:mi><mml:mn>3</mml:mn></mml:mathvariant="normal">O</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:mrow></mml:math> : Understanding spinel inversion using in situ and ex situ measurements. Physical Review B, 2019, 99, .	3.2	11
36	Comparison of fatigue in fiber-backed PVDF and PFA fluoropolymer linings. Polymer Degradation and Stability, 2019, 162, 122-128.	5.8	7

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37	Freezeâ€Casting of Surfaceâ€Magnetized Iron(II,III) Oxide Particles in a Uniform Static Magnetic Field Generated by a Helmholtz Coil. Advanced Engineering Materials, 2019, 21, 1801092.	3.5	29
38	Spray pyrolysis of conductor- and binder-free porous FeS2 films for high-performance lithium ion batteries. Journal of Materials Science, 2019, 54, 4089-4104.	3.7	23
39	Cold temperature performance of phase change material based battery thermal management systems. Energy Reports, 2018, 4, 303-307.	5.1	59
40	Anisotropic properties of Na-Î²â€³-alumina + YSZ composite synthesized by vapor phase method. Journal of Materials Research, 2018, 33, 81-89.	2.6	10
41	Stable, Heat-Conducting Phosphor Composites for High-Power Laser Lighting. ACS Applied Materials & Interfaces, 2018, 10, 5673-5681.	8.0	121
42	Potential application of developed methanogenic microbial consortia for coal biogasification. International Journal of Coal Geology, 2018, 188, 165-180.	5.0	23
43	Synthesis and microstructural evolution in iron oxide kaolinite based proppant as a function of reducing atmosphere, sintering conditions, and composition. Ceramics International, 2018, 44, 9976-9983.	4.8	11
44	Topological Insulator-Based van der Waals Heterostructures for Effective Control of Massless and Massive Dirac Fermions. Nano Letters, 2018, 18, 8047-8053.	9.1	25
45	Enhancement in surface mobility and quantum transport of Bi2â^'xSbxTe3â^'ySey topological insulator by controlling the crystal growth conditions. Scientific Reports, 2018, 8, 17290.	3.3	17
46	Not Just Par for the Course: 73 Quaternary Germanides RE4M2XGe4 (RE = Laâ€“Nd, Sm, Gdâ€“Tm, Lu; M =) Tj ETQq0 0 0 rgBT /Overlock Chemistry, 2018, 57, 14249-14259.	4.0	9
47	Machine Learning and Energy Minimization Approaches for Crystal Structure Predictions: A Review and New Horizons. Chemistry of Materials, 2018, 30, 3601-3612.	6.7	136
48	Machine Learning Prediction of Heat Capacity for Solid Inorganics. Integrating Materials and Manufacturing Innovation, 2018, 7, 43-51.	2.6	60
49	A practical field guide to thermoelectrics: Fundamentals, synthesis, and characterization. Applied Physics Reviews, 2018, 5, 021303.	11.3	223
50	Revised model for thermopower and site inversion in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Co</mml:mi><mml:mn>3</mml:mn></mml: mathvariant="normal">O</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:mrow></mml:math> spinel. Physical Review B, 2018, 98, .	3.2	8
51	Machine Learning Directed Search for Ultraincompressible, Superhard Materials. Journal of the American Chemical Society, 2018, 140, 9844-9853.	13.7	215
52	Growth and characterization of Arsenic doped CdTe single crystals grown by Cd-solvent traveling-heater method. Journal of Crystal Growth, 2017, 467, 6-11.	1.5	20
53	Balancing Mechanical Properties and Sustainability in the Search for Superhard Materials. Integrating Materials and Manufacturing Innovation, 2017, 6, 1-8.	2.6	25
54	Optimization of biogenic methane production from coal. International Journal of Coal Geology, 2017, 183, 14-24.	5.0	18

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55	Developing methanogenic microbial consortia from diverse coal sources and environments. Journal of Natural Gas Science and Engineering, 2017, 46, 637-650.	4.4	16
56	Measurement of Ionic Conductivity and Electrode Polarization at Low Temperatures on 8YSZ by a DC Technique. Journal of the Electrochemical Society, 2017, 164, F1543-F1550.	2.9	4
57	A Functionally Graded Carbide in the Taâ€“C System. Journal of the American Ceramic Society, 2016, 99, 392-394.	3.8	13
58	Synthesis of Ion Conducting Sodium Zirconium Gallate + Yttria-Stabilized Zirconia by a Vapor Phase Process. Journal of the Electrochemical Society, 2016, 163, A1560-A1565.	2.9	6
59	Perspective: Interactive material property databases through aggregation of literature data. APL Materials, 2016, 4, .	5.1	35
60	Enhancement of thermoelectric properties in the Nbâ€“Coâ€“Sn half-Heusler/Heusler system through spontaneous inclusion of a coherent second phase. Journal of Applied Physics, 2016, 120, .	2.5	29
61	Perspective: Web-based machine learning models for real-time screening of thermoelectric materials properties. APL Materials, 2016, 4, .	5.1	150
62	Use of Yttria-Stabilized Zirconia for Potentiometric Measurements at Low Temperatures. Journal of the Electrochemical Society, 2016, 163, F416-F420.	2.9	1
63	Synthesis of iron-doped Na-Î²â€•alumina + yttria-stabilized zirconia composite electrolytes by a vapor phase process. Solid State Ionics, 2016, 290, 77-82.	2.7	14
64	High Thermopower with Metallic Conductivity in p-Type Li-Substituted PbPdO₂. Chemistry of Materials, 2016, 28, 3367-3373.	6.7	25
65	High-Throughput Machine-Learning-Driven Synthesis of Full-Heusler Compounds. Chemistry of Materials, 2016, 28, 7324-7331.	6.7	256
66	Exploration of Polytetrafluoroethylene as a Potential Material Replacement for Hemodialysis Applications. MRS Advances, 2016, 1, 2147-2153.	0.9	0
67	Gd₁₂Co_{5.3}Bi and Gd₁₂Co₅Bi, Crystalline DoppelgÃnger with Low Thermal Conductivities. Inorganic Chemistry, 2016, 55, 6625-6633.	4.0	18
68	Data mining our way to the next generation of thermoelectrics. Scripta Materialia, 2016, 111, 10-15.	5.2	106
69	Molecular Imprinted Hydrogels in Drug Delivery Applications. Materials Research Society Symposia Proceedings, 2015, 1797, 1.	0.1	2
70	Single-step preparation and consolidation of reduced early-transition-metal oxide/metal n-type thermoelectric composites. AIP Advances, 2015, 5, 097144.	1.3	9
71	Data-mining approach for battery materials. , 2015, , .		6
72	Performance and resource considerations of Li-ion battery electrode materials. Energy and Environmental Science, 2015, 8, 1640-1650.	30.8	97

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73	How much improvement in thermoelectric performance can come from reducing thermal conductivity?. Applied Physics Letters, 2014, 104, .	3.3	21
74	Magnetocapacitance as a sensitive probe of magnetostructural changes in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mtext>NiCr</mml:mtext><mml:mn>2</mml:mn></mml:msub Physical Review B, 2014, 89, .	3.2	17
75	Data-Driven Review of Thermoelectric Materials: Performance and Resource Considerations. Chemistry of Materials, 2013, 25, 2911-2920.	6.7	366
76	YMnO3-ZnO Thermoelectrics. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2012, 638, 1630-1630.	1.2	0
77	Enhanced n-type thermopower in distortion-free LiMn2O4. Journal of Materials Chemistry, 2012, 22, 4631.	6.7	15
78	Thermal conductivity of the gadolinium calcium silicate apatites: Effect of different point defect types. Acta Materialia, 2011, 59, 3841-3850.	7.9	94
79	Ceria (Sm3+, Nd3+)/carbonates composite electrolytes with high electrical conductivity at low temperature. Composites Science and Technology, 2010, 70, 181-185.	7.8	55
80	Anisotropic Thermal Diffusivity and Conductivity of Laâ€Doped Strontium Niobate Sr₂Nb₂O₇. Journal of the American Ceramic Society, 2010, 93, 1136-1141.	3.8	48
81	Thermal Conductivity of the Rareâ€Earth Strontium Aluminates. Journal of the American Ceramic Society, 2010, 93, 1457-1460.	3.8	20