Matthew Horton

List of Publications by Year
in descending order

37 papers	**1,149** citations	394421 **19** h-index	395702 **33** g-index
39 all docs	**39** docs citations	**39** times ranked	**1597** citing authors

#	Article	IF	Citations
1	IrRep: Symmetry eigenvalues and irreducible representations of ab initio band structures. Computer Physics Communications, 2022, 272, 108226.	7.5	27
2	Performance comparison of `<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msup><mml:mrow><mml:mi>r</mml:mi></mml:mrow><mml:mn>2</mml:` and SCAN metaGGA density functionals for solid materials via an automated, high-throughput computational workflow. Physical Review Materials, 2022, 6, .	2.4	31
3	Role of disorder in the synthesis of metastable zinc zirconium nitrides. Physical Review Materials, 2022, 6, .	2.4	14
4	High-throughput predictions of metal–organic framework electronic properties: theoretical challenges, graph neural networks, and data exploration. Npj Computational Materials, 2022, 8, .	8.7	43
5	Benchmarking Coordination Number Prediction Algorithms on Inorganic Crystal Structures. Inorganic Chemistry, 2021, 60, 1590-1603.	4.0	31
6	Metastable Ta_2N_3 with highly tunable electrical conductivity *via* oxygen incorporation. Materials Horizons, 2021, 8, 1744-1755.	12.2	6
7	Database of ab initio L-edge X-ray absorption near edge structure. Scientific Data, 2021, 8, 153.	5.3	21
8	Automated Adsorption Workflow for Semiconductor Surfaces and the Application to Zinc Telluride. Journal of Chemical Information and Modeling, 2021, 61, 3908-3916.	5.4	11
9	A framework for quantifying uncertainty in DFT energy corrections. Scientific Reports, 2021, 11, 15496.	3.3	51
10	OPTIMADE, an API for exchanging materials data. Scientific Data, 2021, 8, 217.	5.3	49
11	Promises and perils of computational materials databases. Nature Computational Science, 2021, 1, 3-5.	8.0	25
12	Addressing the critical need for open experimental databases in materials science. Patterns, 2021, 2, 100411.	5.9	4
13	An improved symmetry-based approach to reciprocal space path selection in band structure calculations. Npj Computational Materials, 2020, 6, .	8.7	33
14	A charge-density-based general cation insertion algorithm for generating new Li-ion cathode materials. Npj Computational Materials, 2020, 6, .	8.7	18
15	High-throughput search for magnetic and topological order in transition metal oxides. Science Advances, 2020, 6, .	10.3	35
16	Ligand-Mediated Phase Control in Colloidal $AgInSe_2$ Nanocrystals. Chemistry of Materials, 2020, 32, 2935-2945.	6.7	23
17	From Waste-Heat Recovery to Refrigeration: Compositional Tuning of Magnetocaloric $Mn_{1+x}Sb$. Chemistry of Materials, 2020, 32, 1243-1249.	6.7	18
18	Snapshots of Life—Early Career Materials Scientists Managing in the Midst of a Pandemic. Chemistry of Materials, 2020, 32, 3673-3677.	6.7	5

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19	*ChemEnv*: a fast and robust coordination environment identification tool. Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2020, 76, 683-695.	1.1	21
20	The Materials Project: Accelerating Materials Design Through Theory-Driven Data and Tools. , 2020, , 1751-1784.		14
21	Optical and structural properties of dislocations in InGaN. Journal of Applied Physics, 2019, 125, .	2.5	11
22	Materials design of perovskite solid solutions for thermochemical applications. Energy and Environmental Science, 2019, 12, 1369-1384.	30.8	122
23	The Materials Project: Accelerating Materials Design Through Theory-Driven Data and Tools. , 2018, , 1-34.		11
24	Atomic Resolution Imaging of Dislocations in AlGaN and the Efficiency of UV LEDs. Microscopy and Microanalysis, 2018, 24, 4-5.	0.4	0
25	Structure–Property Relationship of Low-Dimensional Layered GaSe$_x$Te$_{1-x}$ Alloys. Chemistry of Materials, 2018, 30, 4226-4232.	6.7	16
26	Alloy fluctuations at dislocations in III-nitrides: identification and impact on optical properties. , 2018, , .		1
27	Carrier localization in the vicinity of dislocations in InGaN. Journal of Applied Physics, 2017, 121, .	2.5	44
28	Alloy composition fluctuations and percolation in semiconductor alloy quantum wells. Applied Physics Letters, 2017, 110, .	3.3	3
29	Dislocations in AlGaN: Core Structure, Atom Segregation, and Optical Properties. Nano Letters, 2017, 17, 4846-4852.	9.1	29
30	Atomate: A high-level interface to generate, execute, and analyze computational materials science workflows. Computational Materials Science, 2017, 139, 140-152.	3.0	223
31	3D Imaging of Dislocations. Physics Magazine, 2017, 10, .	0.1	2
32	Assessing Local Structure Motifs Using Order Parameters for Motif Recognition, Interstitial Identification, and Diffusion Path Characterization. Frontiers in Materials, 2017, 4, .	2.4	54
33	Dislocation core structures in (0001) InGaN. Journal of Applied Physics, 2016, 119, .	2.5	16
34	Dislocation core structures in Si-doped GaN. Applied Physics Letters, 2015, 107, .	3.3	15
35	Segregation of In to Dislocations in InGaN. Nano Letters, 2015, 15, 923-930.	9.1	54
36	Structure and electronic properties of mixed ($a+c$) dislocation cores in GaN. Journal of Applied Physics, 2014, 116, .	2.5	15

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37	Mg Doping Affects Dislocation Core Structures in GaN. Physical Review Letters, 2013, 111, 025502.	7.8	52