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	Atomate: A high-level interface to generate, execute, and analyze computational materials science workflows. Computational Materials Science, 2017, 139, 140-152.	3.0	223
2	Materials design of perovskite solid solutions for thermochemical applications. Energy and Environmental Science, 2019, 12, 1369-1384.	30.8	122
3	Segregation of In to Dislocations in InGaN. Nano Letters, 2015, 15, 923-930.	9.1	54
4	Assessing Local Structure Motifs Using Order Parameters for Motif Recognition, Interstitial Identification, and Diffusion Path Characterization. Frontiers in Materials, 2017, 4, .	2.4	54
5	Mg Doping Affects Dislocation Core Structures in GaN. Physical Review Letters, 2013, 111, 025502.	7.8	52
6	A framework for quantifying uncertainty in DFT energy corrections. Scientific Reports, 2021, 11, 15496.	3.3	51
7	OPTIMADE, an API for exchanging materials data. Scientific Data, 2021, 8, 217.	5.3	49
8	Carrier localization in the vicinity of dislocations in InGaN. Journal of Applied Physics, 2017, 121, .	2.5	44
9	High-throughput predictions of metalâ€“organic framework electronic properties: theoretical challenges, graph neural networks, and data exploration. Npj Computational Materials, 2022, 8, .	8.7	43
10	High-throughput search for magnetic and topological order in transition metal oxides. Science Advances, 2020, 6, .	10.3	35
11	An improved symmetry-based approach to reciprocal space path selection in band structure calculations. Npj Computational Materials, 2020, 6, .	8.7	33
12	Benchmarking Coordination Number Prediction Algorithms on Inorganic Crystal Structures. Inorganic Chemistry, 2021, 60, 1590-1603.	4.0	31
13	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:mn> and SCAN metaGGA density functionals for solid materials via an automated, high-throughput computational workflow. Physical Review Materials, 2022, 6, .	2.4	31
14	Dislocations in AlGaN: Core Structure, Atom Segregation, and Optical Properties. Nano Letters, 2017, 17, 4846-4852.	9.1	29
15	IrRep: Symmetry eigenvalues and irreducible representations of ab initio band structures. Computer Physics Communications, 2022, 272, 108226.	7.5	27
16	Promises and perils of computational materials databases. Nature Computational Science, 2021, 1, 3-5.	8.0	25
17	Ligand-Mediated Phase Control in Colloidal AgInSe₂ Nanocrystals. Chemistry of Materials, 2020, 32, 2935-2945.	6.7	23
18	Database of ab initio L-edge X-ray absorption near edge structure. Scientific Data, 2021, 8, 153.	5.3	21

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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	A charge-density-based general cation insertion algorithm for generating new Li-ion cathode materials. Npj Computational Materials, 2020, 6, .	8.7	18
21	From Waste-Heat Recovery to Refrigeration: Compositional Tuning of Magnetocaloric Mn_{1+x}Sb. Chemistry of Materials, 2020, 32, 1243-1249.	6.7	18
22	Dislocation core structures in (0001) InGaN. Journal of Applied Physics, 2016, 119, .	2.5	16
23	Structureâ€“Property Relationship of Low-Dimensional Layered GaSe_xTe_{1â€“x} Alloys. Chemistry of Materials, 2018, 30, 4226-4232.	6.7	16
24	Structure and electronic properties of mixed (aâ€‰+â€‰c) dislocation cores in GaN. Journal of Applied Physics, 2014, 116, .	2.5	15
25	Dislocation core structures in Si-doped GaN. Applied Physics Letters, 2015, 107, .	3.3	15
26	The Materials Project: Accelerating Materials Design Through Theory-Driven Data and Tools. , 2020, , 1751-1784.		14
27	Role of disorder in the synthesis of metastable zinc zirconium nitrides. Physical Review Materials, 2022, 6, .	2.4	14
28	The Materials Project: Accelerating Materials Design Through Theory-Driven Data and Tools. , 2018, , 1-34.		11
29	Optical and structural properties of dislocations in InGaN. Journal of Applied Physics, 2019, 125, .	2.5	11
30	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
31	Metastable Ta₂N₃ with highly tunable electrical conductivity via oxygen incorporation. Materials Horizons, 2021, 8, 1744-1755.	12.2	6
32	Snapshots of Lifeâ€”Early Career Materials Scientists Managing in the Midst of a Pandemic. Chemistry of Materials, 2020, 32, 3673-3677.	6.7	5
33	Addressing the critical need for open experimental databases in materials science. Patterns, 2021, 2, 100411.	5.9	4
34	Alloy composition fluctuations and percolation in semiconductor alloy quantum wells. Applied Physics Letters, 2017, 110, .	3.3	3
35	3D Imaging of Dislocations. Physics Magazine, 2017, 10, .	0.1	2
36	Alloy fluctuations at dislocations in III-nitrides: identification and impact on optical properties. , 2018, , .		1

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37	Atomic Resolution Imaging of Dislocations in AlGaN and the Efficiency of UV LEDs. Microscopy and Microanalysis, 2018, 24, 4-5.	0.4	0