Thomas Olsen

List of Publications by Year in descending order

60 papers	7,490 citations	159358 30 h-index	128067 60 g-index
61 all docs	61 docs citations	61 times ranked	9299 citing authors

#	Article	IF	Citations
1	The atomic simulation environmentâ€”a Python library for working with atoms. Journal of Physics Condensed Matter, 2017, 29, 273002.	0.7	1,933
2	Electronic structure calculations with GPAW: a real-space implementation of the projector augmented-wave method. Journal of Physics Condensed Matter, 2010, 22, 253202.	0.7	1,451
3	The Computational 2D Materials Database: high-throughput modeling and discovery of atomically thin crystals. 2D Materials, 2018, 5, 042002.	2.0	711
4	Computational screening of perovskite metal oxides for optimal solar light capture. Energy and Environmental Science, 2012, 5, 5814-5819.	15.6	354
5	How dielectric screening in two-dimensional crystals affects the convergence of excited-state calculations: Monolayer MoS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review B, 2013, 88, .	1.1	226
6	Recent progress of the Computational 2D Materials Database (C2DB). 2D Materials, 2021, 8, 044002.	2.0	218
7	Excitons in van der Waals heterostructures: The important role of dielectric screening. Physical Review B, 2015, 92, .	1.1	211
8	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î”</mml:mi></mml:math>self-consistent field method to obtain potential energy surfaces of excited molecules on surfaces. Physical Review B, 2008, 78, .	1.1	182
9	Interlayer Excitons and Band Alignment in MoS₂/hBN/WSe₂ van der Waals Heterostructures. Nano Letters, 2017, 17, 938-945.	4.5	174
10	Dispersive and Covalent Interactions between Graphene and Metal Surfaces from the Random Phase Approximation. Physical Review Letters, 2011, 107, 156401.	2.9	172
11	Quasiparticle GW calculations for solids, molecules, and two-dimensional materials. Physical Review B, 2013, 87, .	1.1	168
12	Simple Screened Hydrogen Model of Excitons in Two-Dimensional Materials. Physical Review Letters, 2016, 116, 056401.	2.9	167
13	Random phase approximation applied to solids, molecules, and graphene-metal interfaces: From van der Waals to covalent bonding. Physical Review B, 2013, 87, .	1.1	120
14	Defect-Tolerant Monolayer Transition Metal Dichalcogenides. Nano Letters, 2016, 16, 2234-2239.	4.5	111
15	Calculating critical temperatures for ferromagnetic order in two-dimensional materials. 2D Materials, 2019, 6, 015028.	2.0	97
16	Classifying the Electronic and Optical Properties of Janus Monolayers. ACS Nano, 2019, 13, 13354-13364.	7.3	93
17	High throughput computational screening for 2D ferromagnetic materials: the critical role of anisotropy and local correlations. 2D Materials, 2019, 6, 045018.	2.0	89
18	Density functional theory based screening of ternary alkali-transition metal borohydrides: A computational material design project. Journal of Chemical Physics, 2009, 131, 014101.	1.2	77

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19	Extending the random-phase approximation for electronic correlation energies: The renormalized adiabatic local density approximation. Physical Review B, 2012, 86, .	1.1	61
20	High-throughput computational screening for two-dimensional magnetic materials based on experimental databases of three-dimensional compounds. Npj Computational Materials, 2020, 6, .	3.5	60
21	Discovering two-dimensional topological insulators from high-throughput computations. Physical Review Materials, 2019, 3, .	0.9	60
22	Hot-electron-mediated desorption rates calculated from excited-state potential energy surfaces. Physical Review B, 2009, 79, .	1.1	59
23	Accurate Ground-State Energies of Solids and Molecules from Time-Dependent Density-Functional Theory. Physical Review Letters, 2014, 112, .	2.9	53
24	Beyond the random phase approximation: Improved description of short-range correlation by a renormalized adiabatic local density approximation. Physical Review B, 2013, 88, .	1.1	50
25	Designing in-plane heterostructures of quantum spin Hall insulators from first principles: <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>1</mml:mn><mml:msup><mml:mrow><mml:mi mathvariant="normal">T</mml:mi></mml:mrow><mml:mo>â€²</mml:mo></mml:msup><mml:mo>â^’</mml:mo><mml:msub><mml:mi with adsorbates. Physical Review B, 2016, 94, .	1.1	43
26	Origin of Power Laws for Reactions at Metal Surfaces Mediated by Hot Electrons. Physical Review Letters, 2009, 103, 238301.	2.9	41
27	Surface theorem for the Chern-Simons axion coupling. Physical Review B, 2017, 95, .	1.1	39
28	Theory and simulations of critical temperatures in CrI3 and other 2D materials: easy-axis magnetic order and easy-plane Kosterlitz-Thouless transitions. MRS Communications, 2019, 9, 1142-1150.	0.8	39
29	Magnetic anisotropy and exchange interactions of two-dimensional FePS₃, NiPS₃ and MnPS₃ from first principles calculations. Journal Physics D: Applied Physics, 2021, 54, 314001.	1.3	36
30	Beyond the RPA and GW methods with adiabatic xc-kernels for accurate ground state and quasiparticle energies. Npj Computational Materials, 2019, 5, .	3.5	33
31	Static correlation beyond the random phase approximation: Dissociating H2 with the Bethe-Salpeter equation and time-dependent GW. Journal of Chemical Physics, 2014, 140, 164116.	1.2	32
32	Visualizing atomic structure and magnetism of 2D magnetic insulators via tunneling through graphene. Nature Communications, 2021, 12, 70.	5.8	29
33	Valley Hall effect in disordered monolayer<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>MoS</mml:mi><mml:mn>2</mml:mn></mml:msub></ first principles. Physical Review B, 2015, 92, .	1.1	28
34	Geometric and nongeometric contributions to the surface anomalous Hall conductivity. Physical Review B, 2018, 98, .	1.1	21
35	Unified Treatment of Magnons and Excitons in Monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>CrI</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></ from Many-Body Perturbation Theory. Physical Review Letters, 2021, 127, 166402.	2.9	20
36	Assessing the performance of the random phase approximation for exchange and superexchange coupling constants in magnetic crystalline solids. Physical Review B, 2017, 96, .	1.1	19

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37	Hot-electron-assisted femtochemistry at surfaces: A time-dependent density functional theory approach. Physical Review B, 2009, 79, .	1.1	18
38	Conductance of quantum spin Hall edge states from first principles: The critical role of magnetic impurities and inter-edge scattering. Physical Review B, 2020, 101, .	1.1	18
39	Improved description of metal oxide stability: Beyond the random phase approximation with renormalized kernels. Physical Review B, 2015, 92, .	1.1	17
40	Oxygen Vacancies Nucleate Charged Domain Walls in Ferroelectrics. Physical Review Letters, 2021, 127, 117601.	2.9	17
41	Anisotropic properties of monolayer 2D materials: An overview from the C2DB database. Journal of Applied Physics, 2020, 128, .	1.1	16
42	Dynamic transverse magnetic susceptibility in the projector augmented-wave method: Application to Fe, Ni, and Co. Physical Review B, 2021, 103, .	1.1	14
43	First principles Heisenberg models of 2D magnetic materials: the importance of quantum corrections to the exchange coupling. Journal of Physics Condensed Matter, 2020, 32, 335802.	0.7	14
44	Defect Chemistry and Electrical Conductivity of Sm-Doped La_{1â€“x}Sr_xCoO_{3â^'Î´} for Solid Oxide Fuel Cells. Journal of Physical Chemistry C, 2017, 121, 15017-15027.	1.5	13
45	Towards photoferroic materials by design: recent progress and perspectives. JPhys Energy, 2020, 2, 011001.	2.3	13
46	Reply to comment on â€˜The Computational 2D Materials Database: high-throughput modeling and discovery of atomically thin crystalsâ€™. 2D Materials, 2019, 6, 048002.	2.0	12
47	Inelastic scattering in a local polaron model with quadratic coupling to bosons. Physical Review B, 2009, 79, .	1.1	8
48	Spontaneous breaking of time-reversal symmetry at the edges of 1Tâ€² monolayer transition metal dichalcogenides. Physical Review B, 2019, 99, .	1.1	8
49	Site Specificity in Femtosecond Laser Desorption of Neutral H Atoms from Graphite(0001). Physical Review Letters, 2010, 104, 256102.	2.9	7
50	Gapless hinge states from adiabatic pumping of axion coupling. Physical Review B, 2020, 102, .	1.1	7
51	Desorption of H atoms from graphite (0001) using XUV free electron laser pulses. Chemical Physics Letters, 2010, 500, 291-294.	1.2	6
52	Memory effects in nonadiabatic molecular dynamics at metal surfaces. Journal of Chemical Physics, 2010, 133, 134109.	1.2	5
53	Metal-insulator transition in disordered systems from the one-body density matrix. Physical Review B, 2017, 95, .	1.1	5
54	Influence of static correlation on the magnon dynamics of an itinerant ferromagnet with competing exchange interactions: First-principles study of MnBi. Physical Review Materials, 2022, 6, .	0.9	4

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55	Quantum corrected Langevin dynamics for adsorbates on metal surfaces interacting with hot electrons. Journal of Chemical Physics, 2010, 133, 034115.	1.2	3
56	Spread-balanced Wannier functions: Robust and automatable orbital localization. Physical Review B, 2021, 104, .	1.1	3
57	Vibrationally mediated control of single-electron transmission in weakly coupled molecule-metal junctions. Physical Review B, 2010, 81, .	1.1	2
58	Bulk heterogeneity in barium titanate above the Curie temperature. Applied Physics Letters, 2021, 119, .	1.5	2
59	Mirror Chern numbers in the hybrid Wannier representation. Physical Review B, 2021, 103, .	1.1	1
60	MÃ¥ling av energiforbruk ved hjelp av helroms indirekte kalorimetri â€“ En introduksjon og referat fra workshop ved Avdeling for ErnÃ¦ringsvitenskap, Universitetet i Oslo. , 2022, 20, 33-37.		0