James A Dawson

List of Publications by Year
in descending order

61 papers	3,841 citations	172207 29 h-index	128067 60 g-index
78 all docs	78 docs citations	78 times ranked	4730 citing authors

#	Article	IF	Citations
1	Fundamentals of inorganic solid-state electrolytes for batteries. Nature Materials, 2019, 18, 1278-1291.	13.3	1,341
2	Atomic-Scale Influence of Grain Boundaries on Li-Ion Conduction in Solid Electrolytes for All-Solid-State Batteries. Journal of the American Chemical Society, 2018, 140, 362-368.	6.6	226
3	Effects of cationic substitution on structural defects in layered cathode materials LiNiO2. Journal of Materials Chemistry A, 2014, 2, 7988.	5.2	132
4	Mechanisms of Lithium Intercalation and Conversion Processes in Organicâ€“Inorganic Halide Perovskites. ACS Energy Letters, 2017, 2, 1818-1824.	8.8	111
5	Elucidating lithium-ion and proton dynamics in anti-perovskite solid electrolytes. Energy and Environmental Science, 2018, 11, 2993-3002.	15.6	95
6	Toward Understanding the Different Influences of Grain Boundaries on Ion Transport in Sulfide and Oxide Solid Electrolytes. Chemistry of Materials, 2019, 31, 5296-5304.	3.2	89
7	Putting the Squeeze on Lead Iodide Perovskites: Pressure-Induced Effects To Tune Their Structural and Optoelectronic Behavior. Chemistry of Materials, 2019, 31, 4063-4071.	3.2	87
8	A new potential model for barium titanate and its implications for rare-earth doping. Journal of Materials Chemistry, 2011, 21, 4861.	6.7	81
9	Particle Morphology and Lithium Segregation to Surfaces of the Li₇La₃Zr₂O₁₂ Solid Electrolyte. Chemistry of Materials, 2018, 30, 3019-3027.	3.2	80
10	State of charge estimation of a Liâ€ion battery based on extended Kalman filtering and sensor bias. International Journal of Energy Research, 2021, 45, 6708-6726.	2.2	73
11	Crystal structure, defect chemistry and oxygen ion transport of the ferroelectric perovskite, Na_{0.5}Bi_{0.5}TiO₃: insights from first-principles calculations. Journal of Materials Chemistry A, 2015, 3, 16574-16582.	5.2	72
12	Energetics of Donorâ€Doping, Metal Vacancies, and Oxygenâ€Loss in Aâ€Site Rareâ€Earthâ€Doped BaTiO₃. Advanced Functional Materials, 2013, 23, 3925-3928.	7.8	70
13	Improved Calculation of Li and Na Intercalation Properties in Anatase, Rutile, and TiO₂(B). Journal of Physical Chemistry C, 2016, 120, 22910-22917.	1.5	69
14	Anti-perovskites for solid-state batteries: recent developments, current challenges and future prospects. Journal of Materials Chemistry A, 2021, 9, 18746-18772.	5.2	68
15	First-Principles Insight into the Hydration Ability and Proton Conduction of the Solid State Proton Conductor, Y and Sn Co-Doped BaZrO₃. Chemistry of Materials, 2015, 27, 901-908.	3.2	67
16	Composition Screening of Lithium- and Sodium-Rich Anti-Perovskites for Fast-Conducting Solid Electrolytes. Journal of Physical Chemistry C, 2018, 122, 23978-23984.	1.5	59
17	Under Pressure: Mechanochemical Effects on Structure and Ion Conduction in the Sodium-Ion Solid Electrolyte Na₃PS₄. Journal of the American Chemical Society, 2020, 142, 18422-18436.	6.6	58
18	The Influence of Aâ€Site Rare Earth Ion Size in Controlling the Curie Temperature of Ba_{1 â^' x}RE_xTi_{1 â^' x/4}O₃. Advanced Functional Materials, 2013, 23, 491-495.	7.8	51

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19	Energetics of intrinsic defects in NiO and the consequences for its resistive random access memory performance. Applied Physics Letters, 2015, 107, .	1.5	51
20	First-Principles Calculations of Oxygen Vacancy Formation and Metallic Behavior at a Î²-MnO₂ Grain Boundary. ACS Applied Materials & Interfaces, 2015, 7, 1726-1734.	4.0	50
21	A New Superionic Plastic Polymorph of the Na⁺ Conductor Na₃PS₄. , 2019, 1, 641-646.		50
22	The application of a new potential model to the rare-earth doping of SrTiO3 and CaTiO3. Journal of Materials Chemistry C, 2013, 1, 1574.	2.7	48
23	Mechanochemical synthesis and ion transport properties of Na3OX (X = Cl, Br, I and BH4) antiperovskite solid electrolytes. Journal of Power Sources, 2020, 471, 228489.	4.0	47
24	A-Site Strain and Displacement in Ba1â€“xCaxTiO3 and Ba1â€“xSrxTiO3 and the Consequences for the Curie Temperature. Chemistry of Materials, 2014, 26, 6104-6112.	3.2	45
25	Elucidating the nature of grain boundary resistance in lithium lanthanum titanate. Journal of Materials Chemistry A, 2021, 9, 6487-6498.	5.2	44
26	Oxygen Vacancy Formation and Reduction Properties of Î²-MnO₂ Grain Boundaries and the Potential for High Electrochemical Performance. ACS Applied Materials & Interfaces, 2014, 6, 17776-17784.	4.0	39
27	Computational Study of NaVOPO₄ Polymorphs as Cathode Materials for Na-Ion Batteries: Diffusion, Electronic Properties, and Cation-Doping Behavior. Journal of Physical Chemistry C, 2018, 122, 25829-25836.	1.5	36
28	Defect Clustering in Rare-Earth-Doped BaTiO₃ and SrTiO₃ and Its Influence on Dopant Incorporation. Journal of Physical Chemistry C, 2017, 121, 23642-23648.	1.5	35
29	Proton trapping in Y and Sn Co-doped BaZrO₃. Journal of Materials Chemistry A, 2015, 3, 10045-10051.	5.2	32
30	Nature of Nitrogen-Doped Anatase TiO₂ and the Origin of Its Visible-Light Activity. Journal of Physical Chemistry C, 2015, 119, 15890-15895.	1.5	32
31	An atomistic study into the defect chemistry of hexagonal barium titanate. Journal of Applied Physics, 2011, 109, 084102.	1.1	29
32	Hydration and Ionic Conduction Mechanisms of Hexagonal Perovskite Derivatives. Chemistry of Materials, 2021, 33, 4651-4660.	3.2	28
33	Reliable and Robust Observer for Simultaneously Estimating State-of-Charge and State-of-Health of LiFePO4 Batteries. Applied Sciences (Switzerland), 2021, 11, 3609.	1.3	27
34	Phase stabilisation of hexagonal barium titanate doped with transition metals: A computational study. Journal of Solid State Chemistry, 2013, 200, 310-316.	1.4	24
35	Atomistic Insights into the Effects of Doping and Vacancy Clustering on Li-Ion Conduction in the Li₃OCl Antiperovskite Solid Electrolyte. ACS Applied Energy Materials, 2021, 4, 5094-5100.	2.5	24
36	Li-ion conductivity in Li₂OHCl_{1â^'x}Br_x solid electrolytes: grains, grain boundaries and interfaces. Journal of Materials Chemistry A, 2022, 10, 11574-11586.	5.2	24

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37	Insights into the Rich Polymorphism of the Na⁺ Ion Conductor Na₃PS₄ from the Perspective of Variable-Temperature Diffraction and Spectroscopy. Chemistry of Materials, 2021, 33, 5652-5667.	3.2	23
38	A Nanoscale Design Approach for Enhancing the Li-Ion Conductivity of the Li₁₀GeP₂S₁₂ Solid Electrolyte. , 2022, 4, 424-431.		23
39	Atomic-scale investigation of cation doping and defect clustering in the anti-perovskite Na₃OCl sodium-ion conductor. Journal of Materials Chemistry A, 2022, 10, 2249-2255.	5.2	21
40	Proton incorporation and trapping in ZrO₂grain boundaries. Journal of Materials Chemistry A, 2014, 2, 1400-1408.	5.2	20
41	Local Structure and Energetics of Pr- and La-Doped SrTiO3 Grain Boundaries and the Influence on Coreâ€“Shell Structure Formation. Journal of Physical Chemistry C, 2014, 118, 25765-25778.	1.5	19
42	Combined Ab Initio and Interatomic Potentials Based Assessment of the Defect Structure of Mn-Doped SrTiO₃. Journal of Physical Chemistry C, 2014, 118, 14485-14494.	1.5	19
43	Li Intercalation into a Î²-MnO₂ Grain Boundary. ACS Applied Materials & Interfaces, 2015, 7, 8125-8131.	4.0	19
44	First-principles study of intrinsic point defects in hexagonal barium titanate. Journal of Applied Physics, 2012, 111, 094108.	1.1	18
45	Dynamical Insights into Oxygen Diffusion in BaTiO₃ and SrTiO₃. Physica Status Solidi (B): Basic Research, 2020, 257, 1900422.	0.7	18
46	Influence of titanium and oxygen vacancies on the transport and conducting properties of barium titanate. Physica Status Solidi (B): Basic Research, 2016, 253, 345-350.	0.7	17
47	Protonic defects in yttria stabilized zirconia: incorporation, trapping and migration. Physical Chemistry Chemical Physics, 2014, 16, 4814.	1.3	15
48	Boosting Li-Ion Transport in Transition-Metal-Doped Li₂SnO₃. Inorganic Chemistry, 2020, 59, 11841-11846.	1.9	15
49	Anisotropic Nature of Anatase <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>TiO</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn> and Its Intrinsic (001) Surface Electronic States. Physical Review Applied, 2015, 4, .	1.5	14
50	Nature of Cu Interstitials in Al₂O₃ and the Implications for Filament Formation in Conductive Bridge Random Access Memory Devices. Journal of Physical Chemistry C, 2016, 120, 14474-14483.	1.5	13
51	Na- and K-Doped Li₂SiO₃ as an Alternative Solid Electrolyte for Solid-State Lithium Batteries. Journal of Physical Chemistry C, 2020, 124, 4982-4988.	1.5	12
52	Oxygen vacancy generation in rareâ€earthâ€doped SrTiO₃. Physica Status Solidi (B): Basic Research, 2016, 253, 2197-2203.	0.7	11
53	The potential existence of mixed defect incorporation modes for rare-earth doped cubic BaTiO₃. Physica Status Solidi (B): Basic Research, 2016, 253, 733-737.	0.7	10
54	Computer modelling of Bi12TiO20: Intrinsic defects, ion migration and rare earth ion incorporation. Optical Materials, 2010, 32, 1375-1376.	1.7	9

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55	Significant Reduction in Hydration Energy for Yttria Stabilized Zirconia Grain Boundaries and the Consequences for Proton Conduction. Langmuir, 2014, 30, 10456-10464.	1.6	9
56	Strontium Stannate as an Alternative Anode Material for Li-Ion Batteries. Journal of Physical Chemistry C, 2021, 125, 14947-14956.	1.5	9
57	Consequences of Ca multisite occupation for the conducting properties of BaTiO3. Journal of Solid State Chemistry, 2016, 243, 77-82.	1.4	8
58	Molecular Oxygen as Charge-Compensating and Magnetic Centers in Anatase<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Ti</mml:mi><mml:msub><mml:mrow><mml:mi mathvariant="normal">O</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:mrow></mml: Physical Review Applied, 2015, 3, .	1.5	7
59	Structural properties and mechanical stability of monoclinic lithium disilicate. Physica Status Solidi (B): Basic Research, 2017, 254, 1700108.	0.7	6
60	A convenient and accurate wide-range parameter relationship between Buckingham and Morse potential energy functions. Molecular Physics, 2018, 116, 1127-1132.	0.8	3
61	Enhanced Li-Ion Transport in Nanosized Li10GeP2S12. ECS Meeting Abstracts, 2020, MA2020-02, 871-871.	0.0	0