Dong-Hwa Seo

List of Publications by Year
in descending order

84 papers	14,788 citations	41339 49 h-index	64791 79 g-index
89 all docs	89 docs citations	89 times ranked	14710 citing authors

#	Article	IF	Citations
1	Electrode Materials for Rechargeable Sodiumâ€ion Batteries: Potential Alternatives to Current Lithiumâ€ion Batteries. Advanced Energy Materials, 2012, 2, 710-721.	19.5	2,944
2	The structural and chemical origin of the oxygen redox activity in layered and cation-disordered Li-excess cathode materials. Nature Chemistry, 2016, 8, 692-697.	13.6	1,022
3	Understanding the Degradation Mechanisms of LiNi_{0.5}Co_{0.2}Mn_{0.3}O₂ Cathode Material in Lithium Ion Batteries. Advanced Energy Materials, 2014, 4, 1300787.	19.5	893
4	Recent Progress and Perspective in Electrode Materials for Kâ€ion Batteries. Advanced Energy Materials, 2018, 8, 1702384.	19.5	549
5	Flexible energy storage devices based on graphene paper. Energy and Environmental Science, 2011, 4, 1277.	30.8	536
6	Galvanic Replacement Reactions in Metal Oxide Nanocrystals. Science, 2013, 340, 964-968.	12.6	472
7	Computational understanding of Li-ion batteries. Npj Computational Materials, 2016, 2, .	8.7	411
8	New Iron-Based Mixed-Polyanion Cathodes for Lithium and Sodium Rechargeable Batteries: Combined First Principles Calculations and Experimental Study. Journal of the American Chemical Society, 2012, 134, 10369-10372.	13.7	395
9	A New High-Energy Cathode for a Na-Ion Battery with Ultrahigh Stability. Journal of the American Chemical Society, 2013, 135, 13870-13878.	13.7	393
10	Highly reversible Co3O4/graphene hybrid anode for lithium rechargeable batteries. Carbon, 2011, 49, 326-332.	10.3	357
11	Recent progress on flexible lithium rechargeable batteries. Energy and Environmental Science, 2014, 7, 538-551.	30.8	355
12	Toward a Lithiumâ€"â€œAirâ€•Battery: The Effect of CO₂ on the Chemistry of a Lithiumâ€"Oxygen Cell. Journal of the American Chemical Society, 2013, 135, 9733-9742.	13.7	307
13	A combined first principles and experimental study on Na3V2(PO4)2F3 for rechargeable Na batteries. Journal of Materials Chemistry, 2012, 22, 20535.	6.7	306
14	Unexpected discovery of low-cost maricite NaFePO₄as a high-performance electrode for Na-ion batteries. Energy and Environmental Science, 2015, 8, 540-545.	30.8	299
15	Metalâ€"oxygen decoordination stabilizes anion redox in Li-rich oxides. Nature Materials, 2019, 18, 256-265.	27.5	280
16	A Family of Highâ€Performance Cathode Materials for Naâ€ion Batteries, Na₃(VO_{1â^'<i>x</i>}PO₄)₂ F_{1+2<i>x</i>} (0 â‰) Tj ETQq0 0 0 rgBT /O 24, 4603-4614.	14.9	271
17	Fabrication of FeF₃ Nanoflowers on CNT Branches and Their Application to High Power Lithium Rechargeable Batteries. Advanced Materials, 2010, 22, 5260-5264.	21.0	270
18	Investigation of Potassium Storage in Layered P3â€Type K_{0.5}MnO₂ Cathode. Advanced Materials, 2017, 29, 1702480.	21.0	268

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19	Biologically inspired pteridine redox centres for rechargeable batteries. Nature Communications, 2014, 5, 5335.	12.8	254
20	A new class of high capacity cation-disordered oxides for rechargeable lithium batteries: Liâ€“Niâ€“Tiâ€“Mo oxides. Energy and Environmental Science, 2015, 8, 3255-3265.	30.8	224
21	Ab Initio Study of the Sodium Intercalation and Intermediate Phases in Na_{0.44}MnO₂ for Sodium-Ion Battery. Chemistry of Materials, 2012, 24, 1205-1211.	6.7	223
22	Structural evolution of layered Li1.2Ni0.2Mn0.6O2 upon electrochemical cycling in a Li rechargeable battery. Journal of Materials Chemistry, 2010, 20, 10179.	6.7	211
23	Kinetic pathways of ionic transport in fast-charging lithium titanate. Science, 2020, 367, 1030-1034.	12.6	197
24	SnO2/graphene composite with high lithium storage capability for lithium rechargeable batteries. Nano Research, 2010, 3, 813-821.	10.4	178
25	Electrochemical performance and ex situ analysis of ZnMn2O4 nanowires as anode materials for lithium rechargeable batteries. Nano Research, 2011, 4, 505-510.	10.4	170
26	Transition metal-doped Ni-rich layered cathode materials for durable Li-ion batteries. Nature Communications, 2021, 12, 6552.	12.8	167
27	Redox Cofactor from Biological Energy Transduction as Molecularly Tunable Energyâ€Storage Compound. Angewandte Chemie - International Edition, 2013, 52, 8322-8328.	13.8	147
28	A disordered rock-salt Li-excess cathode material with high capacity and substantial oxygen redox activity: Li 1.25 Nb 0.25 Mn 0.5 O 2. Electrochemistry Communications, 2015, 60, 70-73.	4.7	145
29	Multicomponent Effects on the Crystal Structures and Electrochemical Properties of Spinel-Structured M₃O₄ (M = Fe, Mn, Co) Anodes in Lithium Rechargeable Batteries. Chemistry of Materials, 2012, 24, 720-725.	6.7	138
30	Ternary metal fluorides as high-energy cathodes with low cycling hysteresis. Nature Communications, 2015, 6, 6668.	12.8	138
31	A New Strategy for Highâ€Voltage Cathodes for Kâ€Ion Batteries: Stoichiometric KVPO₄F. Advanced Energy Materials, 2018, 8, 1801591.	19.5	130
32	Calibrating transition-metal energy levels and oxygen bands in first-principles calculations: Accurate prediction of redox potentials and charge transfer in lithium transition-metal oxides. Physical Review B, 2015, 92, .	3.2	126
33	Combined Firstâ€Principle Calculations and Experimental Study on Multiâ€Component Olivine Cathode for Lithium Rechargeable Batteries. Advanced Functional Materials, 2009, 19, 3285-3292.	14.9	121
34	A Highâ€Energy NASICONâ€Type Cathode Material for Naâ€Ion Batteries. Advanced Energy Materials, 2020, 10, 1903968.	19.5	116
35	Stoichiometric Layered Potassium Transition Metal Oxide for Rechargeable Potassium Batteries. Chemistry of Materials, 2018, 30, 6532-6539.	6.7	108
36	A comparative study on Na2MnPO4F and Li2MnPO4F for rechargeable battery cathodes. Physical Chemistry Chemical Physics, 2012, 14, 3299.	2.8	98

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37	Multicomponent Olivine Cathode for Lithium Rechargeable Batteries: A First-Principles Study. Chemistry of Materials, 2010, 22, 518-523.	6.7	91
38	First-Principles Study of the Reaction Mechanism in Sodiumâ€“Oxygen Batteries. Chemistry of Materials, 2014, 26, 1048-1055.	6.7	91
39	Tailoring a fluorophosphate as a novel 4 V cathode for lithium-ion batteries. Scientific Reports, 2012, 2, 704.	3.3	90
40	Tailored Oxygen Framework of Li₄Ti₅O₁₂ Nanorods for High-Power Li Ion Battery. Journal of Physical Chemistry Letters, 2014, 5, 1368-1373.	4.6	86
41	Scalable Functionalized Graphene Nano-platelets as Tunable Cathodes for High-performance Lithium Rechargeable Batteries. Scientific Reports, 2013, 3, 1506.	3.3	84
42	Mn based olivine electrode material with high power and energy. Chemical Communications, 2010, 46, 1305.	4.1	81
43	The Reaction Mechanism and Capacity Degradation Model in Lithium Insertion Organic Cathodes, Li₂C₆O₆, Using Combined Experimental and First Principle Studies. Journal of Physical Chemistry Letters, 2014, 5, 3086-3092.	4.6	81
44	First-principles study on lithium metal borate cathodes for lithium rechargeable batteries. Physical Review B, 2011, 83, .	3.2	69
45	Simple Preparation of Highâ€Quality Graphene Flakes without Oxidation Using Potassium Salts. Small, 2011, 7, 864-868.	10.0	69
46	Synthesis of Multicomponent Olivine by a Novel Mixed Transition Metal Oxalate Coprecipitation Method and Electrochemical Characterization. Chemistry of Materials, 2010, 22, 2573-2581.	6.7	66
47	Factors Affecting the Exfoliation of Graphite Intercalation Compounds for Graphene Synthesis. Chemistry of Materials, 2015, 27, 2067-2073.	6.7	65
48	Electrochemical properties and structural evolution of O3-type layered sodium mixed transition metal oxides with trivalent nickel. Journal of Materials Chemistry A, 2017, 5, 4596-4606.	10.3	63
49	Mg and Fe Co-doped Mn Based Olivine Cathode Material for High Power Capability. Journal of the Electrochemical Society, 2011, 158, A250.	2.9	52
50	Energy storage in composites of a redox couple host and a lithium ion host. Nano Today, 2012, 7, 168-173.	11.9	44
51	The predicted crystal structure of Li4C6O6, an organic cathode material for Li-ion batteries, from first-principles multi-level computational methods. Energy and Environmental Science, 2011, 4, 4938.	30.8	41
52	Direct Observation of Alternating Octahedral and Prismatic Sodium Layers in O3â€Type Transition Metal Oxides. Advanced Energy Materials, 2020, 10, 2001151.	19.5	39
53	Toward high-energy Mn-based disordered-rocksalt Li-ion cathodes. Joule, 2022, 6, 53-91.	24.0	38
54	Polymorphism and phase transformations of Li2âˆ’xFeSiO4(0â©½xâ©½2) from first principles. Physical Review B, 2011, 84, .	3.2	35

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55	Mixed Ionicâ€“Electronic Conductor of Perovskite Li<i>_x</i>La<i>_y</i>MO_{3â^’}<i>_{Î´}</i> toward Carbonâ€Free Cathode for Reversible Lithiumâ€“Air Batteries. Advanced Energy Materials, 2020, 10, 2001767.	19.5	32
56	Latticeâ€Oxygenâ€Stabilized Liâ€•and Mnâ€Rich Cathodes with Subâ€Micrometer Particles by Modifying the Excessâ€Li Distribution. Advanced Materials, 2021, 33, e2100352.	21.0	32
57	Determining the Criticality of Liâ€Excess for Disorderedâ€Rocksalt Liâ€Ion Battery Cathodes. Advanced Energy Materials, 2021, 11, 2100204.	19.5	31
58	The Effect of Antisite Disorder and Particle Size on Li Intercalation Kinetics in Monoclinic LiMnBO₃. Advanced Energy Materials, 2015, 5, 1401916.	19.5	30
59	Theoretical capacity achieved in a LiMn_{0.5}Fe_{0.4}Mg_{0.1}BO₃ cathode by using topological disorder. Energy and Environmental Science, 2015, 8, 1790-1798.	30.8	27
60	First-Principles Design of Hydrogen Dissociation Catalysts Based on Isoelectronic Metal Solid Solutions. Journal of Physical Chemistry Letters, 2014, 5, 1819-1824.	4.6	26
61	Molecular Dynamics Simulation of the Diffusion of Au and Pt Nanoclusters on Carbon Nanotubes. Journal of Physical Chemistry C, 2009, 113, 10416-10421.	3.1	18
62	The Effect of Particle Size on Phase Stability of the Delithiated Li_{<i>x</i>}MnPO₄. Journal of the Electrochemical Society, 2011, 159, A55-A59.	2.9	18
63	Ni-stabilizing additives for completion of Ni-rich layered cathode systems in lithium-ion batteries: An Ab initio study. Journal of Power Sources, 2019, 418, 74-83.	7.8	18
64	Revealing the structural degradation mechanism of the Ni-rich cathode surface: How thick is the surface?. Journal of Power Sources, 2021, 490, 229542.	7.8	17
65	Factors that Affect the Phase Behavior of Multi-Component Olivine (LiFe<i>_x</i>Mn<i>_y</i>Co_{1-<i>x</i>-<i>y</i>}PO₄; 0) Tj ETQq1 1 0.784314 rgBT /C Reaction. Journal of the Electrochemical Society, 2013, 160, A444-A448.	2.9	16
66	Intrinsic Nanodomains in Triplite LiFeSO₄F and Its Implication in Lithiumâ€Ion Diffusion. Advanced Energy Materials, 2018, 8, 1701408.	19.5	16
67	Carbon-free high-performance cathode for solid-state Li-O ₂ battery. Science Advances, 2022, 8, eabm8584.	10.3	15
68	Immobilization of Au Nanoclusters Supported on Graphite: Molecular Dynamics Simulations. Journal of Physical Chemistry C, 2010, 114, 2022-2026.	3.1	13
69	Molecular dynamics simulations of the diffusion and rotation of Pt nanoclusters supported on graphite. Physical Chemistry Chemical Physics, 2009, 11, 503-507.	2.8	11
70	Invited paper: Preparation and electrochemical characterization of doped spinel LiMn1.88Ge0.1Li0.02O4 cathode material. Electronic Materials Letters, 2011, 7, 105-108.	2.2	9
71	Abnormally Highâ€Lithium Storage in Pure Crystalline C₆₀ Nanoparticles. Advanced Materials, 2021, 33, e2104763.	21.0	7
72	Bonding dependent lithium storage behavior of molybdenum oxides for next-generation Li-ion batteries. Journal of Materials Chemistry A, 2022, 10, 7718-7727.	10.3	7

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73	Alkali-Metal-Mediated Reversible Chemical Hydrogen Storage Using Seawater. Jacs Au, 2021, 1, 2339-2348.	7.9	6
74	Investigation of Ordering on Oxygenâ€Deficient LiNi _{0.5} Mn _{1.5} O _{4â€Î´} Thin Films for Boosting Electrochemical Performance in Allâ€Solidâ€State Thinâ€Film Batteries. Small, 2022, , 2201134.	10.0	3
75	Titelbild: Redox Cofactor from Biological Energy Transduction as Molecularly Tunable Energy-Storage Compound (Angew. Chem. 32/2013). Angewandte Chemie, 2013, 125, 8329-8329.	2.0	1
76	Abnormally Highâ€Lithium Storage in Pure Crystalline C₆₀ Nanoparticles (Adv. Mater.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	21.0	1
77	Multiscale Multiparadigm in Silico Design of New Materials for Li-ion Batteries. ECS Meeting Abstracts, 2012, , .	0.0	0
78	The Origin of the Oxygen Redox Activity in Layered and Cation-Disordered Li-Excess Cathode Materials. ECS Meeting Abstracts, 2016, , .	0.0	0
79	Understanding Cation-Disordered Cathode Materials Based on Percolation Theory and Ligand Field Theory. ECS Meeting Abstracts, 2016, , .	0.0	0
80	(Battery Division Postdoctoral Associate Research Award Address, sponsored by MTI Corporation and) Tj ETQq0 0 0 rgBT /Overlock 10 T Abstracts, 2017, , .	0.0	0
81	Design of Stoichiometric Layered Potassium Transition Metal Oxide for K-Ion Batteries. ECS Meeting Abstracts, 2018, , .	0.0	0
82	Design of New Cathode Materials for K-Ion Batteries. ECS Meeting Abstracts, 2018, , .	0.0	0
83	Design of Layered Potassium Transition Metal Oxide Cathodes for K-Ion Batteries. ECS Meeting Abstracts, 2019, , .	0.0	0
84	High Energy Polyanion Cathode for K-Ion Batteries: KVPO4F. ECS Meeting Abstracts, 2020, MA2020-01, 210-210.	0.0	0