Dongwon Shin

List of Publications by Year
in descending order

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72 papers	3,545 citations	218677 26 h-index	138484 58 g-index
72 all docs	72 docs citations	72 times ranked	4159 citing authors

#	Article	IF	Citations
1	Lessons Learned in Employing Data Analytics to Predict Oxidation Kinetics and Spallation Behavior of High-Temperature NiCr-Based Alloys. Oxidation of Metals, 2022, 97, 51-76.	2.1	5
2	A machine learning approach to predict thermal expansion of complex oxides. Computational Materials Science, 2022, 210, 111034.	3.0	8
3	Uncertainty Quantification of Machine Learning Predicted Creep Property of Alumina-Forming Austenitic Alloys. Jom, 2021, 73, 164-173.	1.9	6
4	Aging behavior and strengthening mechanisms of coarsening resistant metastable Î¸' precipitates in an Alâ€“Cu alloy. Materials and Design, 2021, 198, 109378.	7.0	62
5	Computational thermodynamic study of SiC chemical vapor deposition from MTSâ€H₂*. Journal of the American Ceramic Society, 2021, 104, 3726-3737.	3.8	9
6	Defect engineering of magnetic ground state in EuTiO₃ epitaxial thin films. Journal of the American Ceramic Society, 2021, 104, 4606-4613.	3.8	7
7	Correlation analysis of materials properties by machine learning: illustrated with stacking fault energy from first-principles calculations in dilute fcc-based alloys. Journal of Physics Condensed Matter, 2021, 33, 295702.	1.8	13
8	Atomic structures of interfacial solute gateways to Î¸â€² precipitates in Al-Cu alloys. Acta Materialia, 2021, 212, 116891.	7.9	18
9	Data analytics approach to predict high-temperature cyclic oxidation kinetics of NiCr-based Alloys. Npj Materials Degradation, 2021, 5, .	5.8	6
10	In situ transmission electron microscopy deformation and mechanical responses of additively manufactured Ni-based superalloy. Scripta Materialia, 2020, 186, 57-62.	5.2	2
11	Solute-vacancy clustering in aluminum. Acta Materialia, 2020, 196, 747-758.	7.9	96
12	Advanced data science toolkit for non-data scientists â€“ A user guide. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2020, 68, 101733.	1.6	15
13	The synergistic role of Mn and Zr/Ti in producing Î¸â€²/L12 co-precipitates in Al-Cu alloys. Acta Materialia, 2020, 194, 577-586.	7.9	71
14	Coupling physics in machine learning to predict properties of high-temperatures alloys. Npj Computational Materials, 2020, 6, .	8.7	37
15	Equilibrium solute segregation to matrix-Î¸â€² precipitate interfaces in Al-Cu alloys from first principles. Physical Review Materials, 2020, 4, .	2.4	4
16	ASCENDS: Advanced data SCiENce toolkit for Non-Data Scientists. Journal of Open Source Software, 2020, 5, 1656.	4.6	11
17	Elevated temperature microstructural stability in cast AlCuMnZr alloys through solute segregation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 765, 138279.	5.6	89
18	Data analytics approach for melt-pool geometries in metal additive manufacturing. Science and Technology of Advanced Materials, 2019, 20, 972-978.	6.1	59

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19	High-throughput thermodynamic screening of carbide/refractory metal cermets for ultra-high temperature applications. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2019, 66, 101631.	1.6	10
20	Interpreting Electrochemical and Chemical Sodiation Mechanisms and Kinetics in Tin Antimony Battery Anodes Using in Situ Transmission Electron Microscopy and Computational Methods. ACS Applied Energy Materials, 2019, 2, 3578-3586.	5.1	14
21	Mechanisms for stabilizing Î¸â€²(Al2Cu) precipitates at elevated temperatures investigated with phase field modeling. Materialia, 2019, 6, 100335.	2.7	31
22	A comprehensive study on the fabrication and characterization of Tiâ€“48Alâ€“2Crâ€“2Nb preforms manufactured using electron beam melting. Materialia, 2019, 6, 100284.	2.7	30
23	Comprehensive evaluation and parametric sensitivity of interatomic potential models for diffusion kinetics of Cr2O3 in molecular dynamics. AIP Advances, 2019, 9, .	1.3	4
24	Machine Learning for Thermal Transport Analysis of Aluminum Alloys with Precipitate Morphology. Advanced Theory and Simulations, 2019, 2, 1800196.	2.8	16
25	Modern data analytics approach to predict creep of high-temperature alloys. Acta Materialia, 2019, 168, 321-330.	7.9	69
26	Temperature-dependent stability of Î¸â€²-Al2Cu precipitates investigated with phase field simulations and experiments. Materialia, 2019, 5, 100185.	2.7	26
27	Single-step aging treatment for a precipitation-strengthened Ni-based alloy and its influence on high-temperature mechanical behavior. Scripta Materialia, 2019, 162, 416-420.	5.2	21
28	Thermal annealing and pressure effects on BaFe2â^'xCoxAs2single crystals. Journal of Physics Condensed Matter, 2018, 30, 025501.	1.8	0
29	STEM and APT characterization of scale formation on a La,Hf,Ti-doped NiCrAl model alloy. Micron, 2018, 109, 41-52.	2.2	18
30	Solid-liquid phase equilibria of Fe-Cr-Al alloys and spinels. Journal of Nuclear Materials, 2017, 492, 128-133.	2.7	21
31	NiAl Oxidation Reaction Processes Studied In Situ Using MEMS-Based Closed-Cell Gas Reaction Transmission Electron Microscopy. Oxidation of Metals, 2017, 88, 495-508.	2.1	17
32	Petascale supercomputing to accelerate the design of high-temperature alloys. Science and Technology of Advanced Materials, 2017, 18, 828-838.	6.1	17
33	Thin Films: Topotactic Metalâ€“Insulator Transition in Epitaxial SrFeO_x Thin Films (Adv. Mater. 37/2017). Advanced Materials, 2017, 29, .	21.0	0
34	Solute segregation at the Al/Î¸â€²-Al2Cu interface in Al-Cu alloys. Acta Materialia, 2017, 141, 327-340.	7.9	121
35	Rapid Diffusion and Nanosegregation of Hydrogen in Magnesium Alloys from Exposure to Water. ACS Applied Materials & Interfaces, 2017, 9, 38125-38134.	8.0	14
36	Topotactic Metalâ€“Insulator Transition in Epitaxial SrFeO_x Thin Films. Advanced Materials, 2017, 29, 1606566.	21.0	96

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37	Lattice mismatch modeling of aluminum alloys. Computational Materials Science, 2017, 138, 149-159.	3.0	25
38	Cationâ€“Eutectic Transition via Sublattice Melting in CuInP₂S₆/In_{4/3}P₂S₆ van der Waals Layered Crystals. ACS Nano, 2017, 11, 7060-7073.	14.6	54
39	Structure and cation ordering in La2UO6, Ce2UO6, LaUO4, and CeUO4 by first principles calculations. Computational Materials Science, 2016, 123, 201-213.	3.0	4
40	Theoretical assessment of bonaccordite formation in pressurized water reactors. Journal of Nuclear Materials, 2016, 474, 62-64.	2.7	5
41	Thermodynamic assessment of the Uâ€“Yâ€“O system. Journal of Nuclear Materials, 2015, 460, 5-12.	2.7	8
42	Thermodynamic assessment of the Uâ€“Laâ€“O system. Journal of Nuclear Materials, 2015, 456, 142-150.	2.7	11
43	Thermodynamic investigation of the (La1â^'xGdx)2Zr2O7 pyrochlore phase. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2014, 45, 27-32.	1.6	7
44	Degradation of TiN Coatings on Inconel 617 and Silicon Wafer Substrates Under Pulsed Laser Ablation. Journal of Materials Engineering and Performance, 2014, 23, 1651-1655.	2.5	7
45	Thermodynamic reassessment of Uâ€“Gdâ€“O system. Journal of Nuclear Materials, 2014, 452, 397-406.	2.7	24
46	Efficient stochastic generation of special quasirandom structures. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2013, 42, 13-18.	1.6	977
47	Reversible redox reactions in an epitaxially stabilized SrCoOx oxygen sponge. Nature Materials, 2013, 12, 1057-1063.	27.5	349
48	Protection of zirconium by alumina- and chromia-forming iron alloys under high-temperature steam exposure. Journal of Nuclear Materials, 2013, 438, 64-71.	2.7	114
49	Thermochemical modeling of the U1â^'yGdyO2Â±x phase. Journal of Nuclear Materials, 2013, 443, 588-595.	2.7	13
50	Phase stability of noble metal loaded WO3 for SO2 sensor applications. Sensors and Actuators B: Chemical, 2013, 176, 75-80.	7.8	11
51	Thermodynamic modeling of the (U,La)O2Â±x solid solution phase. Journal of Nuclear Materials, 2013, 433, 227-232.	2.7	21
52	In situ ceramic layer growth on coated fuel particles dispersed in a zirconium metal matrix. Journal of Nuclear Materials, 2013, 437, 171-177.	2.7	3
53	The effect of native point defect thermodynamics on off-stoichiometry in Î²-Mg17Al12. Acta Materialia, 2012, 60, 5135-5142.	7.9	18
54	Uranium nitride as LWR TRISO fuel: Thermodynamic modeling of Uâ€“Câ€“N. Journal of Nuclear Materials, 2012, 427, 162-168.	2.7	40

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55	First-Principles Calculations, Electrochemical and X-ray Absorption Studies of Li-Ni-PO4Surface-TreatedxLi2MnO3Â·(1â^'x)LiMO2(M = Mn, Ni, Co) Electrodes for Li-Ion Batteries. Journal of the Electrochemical Society, 2011, 159, A121-A127.	2.9	38
56	First-principles density functional calculations for Mg alloys: A tool to aid in alloy development. Scripta Materialia, 2010, 63, 680-685.	5.2	48
57	First-principles study of soluteâ€"vacancy binding in magnesium. Acta Materialia, 2010, 58, 531-540.	7.9	113
58	Firstâ€Principles Thermochemistry and Thermodynamic Modeling of the Al₂O₃â€"Nd₂O₃â€"SiO₂â€"Y₂O₃ Pseudoquaternary System. Journal of the American Ceramic Society, 2010, 93, 4158-4167.	3.8	12
59	First-principles molecular dynamics study of the structure and dynamic behavior of liquid<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>Li</mml:mtext></mml:mrow><mml:mn>4</mml:mn></mml:ms Physical Review B, 2009, 80, .	3.2	15
60	Studies of LaSn[sub 3] as a Negative Electrode for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2009, 156, A536.	2.9	17
61	First-Principles Calculations and Thermodynamic Modeling of the Al2O3-Nd2O3System. Journal of the American Ceramic Society, 2008, 91, 3355-3361.	3.8	12
62	First-principles study of Alâ€"Niâ€"Y ternary compounds for crystal structure validation. Journal of Alloys and Compounds, 2008, 462, 262-266.	5.5	15
63	Enthalpy of mixing for ternary fcc solid solutions from special quasirandom structures. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2008, 32, 74-81.	1.6	22
64	Thermodynamic modeling of the Cuâ€"Si system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2008, 32, 520-526.	1.6	35
65	First-principles study of ternary fcc solution phases from special quasirandom structures. Physical Review B, 2007, 76, .	3.2	72
66	Phase stability of hafnium oxide and zirconium oxide on silicon substrate. Scripta Materialia, 2007, 57, 201-204.	5.2	19
67	Thermodynamic properties of binary hcp solution phases from special quasirandom structures. Physical Review B, 2006, 74, .	3.2	122
68	Thermodynamic modeling of the Hfâ€"Siâ€"O system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2006, 30, 375-386.	1.6	98
69	Finite-temperature thermodynamic and vibrational properties of Alâ€"Niâ€"Y compounds via first-principles calculations. Acta Materialia, 2006, 54, 2291-2304.	7.9	34
70	Ab initio thermodynamic properties of stoichiometric phases in the Niâ€"Al system. Acta Materialia, 2005, 53, 1809-1819.	7.9	96
71	Modification of the thermodynamic model for the Mgâ€"Zr system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2005, 29, 230-238.	1.6	33
72	Thermodynamic modeling of the Caâ€"Liâ€"Na system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2003, 27, 235-241.	1.6	10