

Tae Wook Heo

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55
papers

1,181
citations

17
h-index

33
g-index

62
ext. papers

1,534
ext. citations

6.9
avg, IF

4.67
L-index

#	Paper	IF	Citations
55	Nanostructured Metal Hydrides for Hydrogen Storage. <i>Chemical Reviews</i> , 2018 , 118, 10775-10839	68.1	256
54	Structural, Chemical, and Dynamical Frustration: Origins of Superionic Conductivity in closo-Borate Solid Electrolytes. <i>Chemistry of Materials</i> , 2017 , 29, 9142-9153	9.6	103
53	Microstructural control in metal laser powder bed fusion additive manufacturing using laser beam shaping strategy. <i>Acta Materialia</i> , 2020 , 184, 284-305	8.4	79
52	Understanding Ionic Conductivity Trends in Polyborane Solid Electrolytes from Ab Initio Molecular Dynamics. <i>ACS Energy Letters</i> , 2017 , 2, 250-255	20.1	64
51	Toward an integrated computational system for describing the additive manufacturing process for metallic materials. <i>Additive Manufacturing</i> , 2014 , 1-4, 52-63	6.1	54
50	Hierarchically Controlled Inside-Out Doping of Mg Nanocomposites for Moderate Temperature Hydrogen Storage. <i>Advanced Functional Materials</i> , 2017 , 27, 1704316	15.6	49
49	Phase-field modeling of displacive phase transformations in elastically anisotropic and inhomogeneous polycrystals. <i>Acta Materialia</i> , 2014 , 76, 68-81	8.4	49
48	A phase field study of strain energy effects on solute-grain boundary interactions. <i>Acta Materialia</i> , 2011 , 59, 7800-7815	8.4	45
47	A phase-field model of stress effect on grain boundary migration. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2011 , 19, 035002	2	44
46	A phase-field model for deformation twinning. <i>Philosophical Magazine Letters</i> , 2011 , 91, 110-121	1	36
45	Incorporating diffuse-interface nuclei in phase-field simulations. <i>Scripta Materialia</i> , 2010 , 63, 8-11	5.6	30
44	Phase-Field Modeling of Nucleation in Solid-State Phase Transformations. <i>Jom</i> , 2014 , 66, 1520-1528	2.1	28
43	Integrated Simulation Framework for Additively Manufactured Ti-6Al-4V: Melt Pool Dynamics, Microstructure, Solid-State Phase Transformation, and Microelastic Response. <i>Jom</i> , 2019 , 71, 3640-3655 ^{2.1}	2.1	26
42	Kinetic Pathways of Phase Transformations in Two-Phase Ti Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014 , 45, 3438-3445	2.3	21
41	Nanointerface-Driven Reversible Hydrogen Storage in the Nanoconfined LiNi _{1-x} Al _x System. <i>Advanced Materials Interfaces</i> , 2017 , 4, 1600803	4.6	20
40	A phase-field model for hydride formation in polycrystalline metals: Application to ϵ -hydride in zirconium alloys. <i>Acta Materialia</i> , 2019 , 181, 262-277	8.4	18
39	A Spectral Iterative Method for the Computation of Effective Properties Of Elastically Inhomogeneous Polycrystals. <i>Communications in Computational Physics</i> , 2012 , 11, 726-738	2.4	17

38	Elucidating the mechanism of MgB initial hydrogenation via a combined experimental-theoretical study. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 22646-22658	3.6	16
37	The Effect of the Dehydration of MgO Films on their XPS Spectra and Electrical Properties. <i>Journal of the Electrochemical Society</i> , 2007 , 154, J408	3.9	16
36	Theoretical Assessment on the Phase Transformation Kinetic Pathways of Multi-component Ti Alloys: Application to Ti-6Al-4V. <i>Journal of Phase Equilibria and Diffusion</i> , 2016 , 37, 53-64	1	14
35	Phase field model of deformation twinning in tantalum: Parameterization via molecular dynamics. <i>Scripta Materialia</i> , 2013 , 68, 451-454	5.6	14
34	A phase-field model for elastically anisotropic polycrystalline binary solid solutions. <i>Philosophical Magazine</i> , 2013 , 93, 1468-1489	1.6	14
33	Universal roles of hydrogen in electrochemical performance of graphene: high rate capacity and atomistic origins. <i>Scientific Reports</i> , 2015 , 5, 16190	4.9	13
32	A Mechanistic Analysis of Phase Evolution and Hydrogen Storage Behavior in Nanocrystalline Mg(BH) within Reduced Graphene Oxide. <i>ACS Nano</i> , 2020 , 14, 1745-1756	16.7	12
31	Exploring the relationship between solvent-assisted ball milling, particle size, and sintering temperature in garnet-type solid electrolytes. <i>Journal of Power Sources</i> , 2021 , 484, 229252	8.9	12
30	Defects, Entropy, and the Stabilization of Alternative Phase Boundary Orientations in Battery Electrode Particles. <i>Advanced Energy Materials</i> , 2016 , 6, 1501759	21.8	11
29	Phase-field modeling of diffusional phase behaviors of solid surfaces: A case study of phase-separating LiFePO ₄ electrode particles. <i>Computational Materials Science</i> , 2015 , 108, 323-332	3.2	9
28	Ground-State and Thermodynamical Properties of Uranium Mononitride from Anharmonic First-Principles Theory. <i>Applied Sciences (Switzerland)</i> , 2019 , 9, 3914	2.6	9
27	Effect of medium range order on pulsed laser crystallization of amorphous germanium thin films. <i>Applied Physics Letters</i> , 2016 , 108, 221906	3.4	9
26	Morphology-Dependent Stability of Complex Metal Hydrides and Their Intermediates Using First-Principles Calculations. <i>ChemPhysChem</i> , 2019 , 20, 1340-1347	3.2	8
25	Nanoscale MgB via Surfactant Ball Milling of MgB ₂ : Morphology, Composition, and Improved Hydrogen Storage Properties. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 21761-21771	3.8	7
24	Beyond Idealized Models of Nanoscale Metal Hydrides for Hydrogen Storage. <i>Industrial & Engineering Chemistry Research</i> , 2020 , 59, 5786-5796	3.9	6
23	A novel liquid-mediated nucleation mechanism for explosive crystallization in amorphous germanium. <i>Acta Materialia</i> , 2019 , 179, 190-200	8.4	5
22	Critical nuclei at hetero-phase interfaces. <i>Acta Materialia</i> , 2020 , 200, 510-525	8.4	5
21	Effects of O ₂ Ambient on the Properties of MgO Thin Films Deposited by E-Beam Evaporation. <i>Journal of the Electrochemical Society</i> , 2007 , 154, J352	3.9	5

20	Semi-Automated Creation of Density Functional Tight Binding Models through Leveraging Chebyshev Polynomial-Based Force Fields. <i>Journal of Chemical Theory and Computation</i> , 2021 , 17, 4435-4448	6.4	5
19	Understanding Charge Transfer at Mg/MgH ₂ Interfaces for Hydrogen Storage. <i>ECS Transactions</i> , 2017 , 77, 81-90	1	4
18	Formation of high purity uranium via laser induced thermal decomposition of uranium nitride. <i>Materials and Design</i> , 2020 , 192, 108706	8.1	4
17	Molecular dynamics studies of fundamental bulk properties of palladium hydrides for hydrogen storage. <i>Journal of Applied Physics</i> , 2018 , 123, 225105	2.5	4
16	Spinodal twinning of a deformed crystal. <i>Philosophical Magazine</i> , 2014 , 94, 888-897	1.6	4
15	Phase-field model of deformation twin-grain boundary interactions in hexagonal systems. <i>Acta Materialia</i> , 2020 , 200, 821-834	8.4	4
14	Microstructural impacts on ionic conductivity of oxide solid electrolytes from a combined atomistic-mesoscale approach. <i>Npj Computational Materials</i> , 2021 , 7,	10.9	4
13	A mesoscopic digital twin that bridges length and time scales for control of additively manufactured metal microstructures. <i>JPhys Materials</i> , 2021 , 4, 034012	4.2	3
12	Towards understanding particle rigid-body motion during solid-state sintering. <i>Journal of the European Ceramic Society</i> , 2021 , 41, 211-211	6	3
11	Thermodynamics of Uranium Tri-Iodide from Density-Functional Theory. <i>Applied Sciences (Switzerland)</i> , 2020 , 10, 3914	2.6	2
10	Finite-Temperature Behavior of PdH _x Elastic Constants Computed by Direct Molecular Dynamics. <i>MRS Advances</i> , 2017 , 2, 3341-3346	0.7	2
9	Semiempirical method for calculation of secondary electron emission coefficients of insulating materials using their spectra of x-ray photoelectron spectroscopy. <i>Journal of Materials Research</i> , 2007 , 22, 3178-3185	2.5	2
8	On Thermodynamic and Kinetic Mechanisms for Stabilizing Surface Solid Solutions. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 48487-48496	9.5	2
7	An Analytical Bond Order Potential for Mg-H Systems. <i>ChemPhysChem</i> , 2019 , 20, 1404-1411	3.2	2
6	Phase-field Model for Diffusional Phase Transformations in Elastically Inhomogeneous Polycrystals. <i>Solid State Phenomena</i> , 2011 , 172-174, 1084-1089	0.4	1
5	Laser-induced thermal decomposition of uranium triiodide and ammonium uranium fluoride. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2021 , 329, 1427-1437	1.5	1
4	Chemomechanical effect of reduced graphene oxide encapsulation on hydrogen storage performance of Pd nanoparticles. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 11641-11650	13	1
3	Enhancement of effective thermal conductivity of rGO/Mg nanocomposite packed beds. <i>International Journal of Heat and Mass Transfer</i> , 2022 , 192, 122891	4.9	1

- 2 Modeling the thermodynamics of the FeTi hydrogenation under para-equilibrium: An ab-initio and experimental study. *Calphad: Computer Coupling of Phase Diagrams and Thermochemistry*, **2022**, 77, 102428^{1,9} ○
- 1 The effects of (Ba,Sr,Ca)CO₃ or LaB₆ addition on the x-ray photoelectron spectroscopy spectra and electrical properties of the MgO thin films in alternating current plasma display panels. *Journal of Materials Research*, **2008**, 23, 444-451 2.5