

# Huck Beng Chew

## List of Publications by Year in descending order

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41  
papers

753  
citations

516710

16  
h-index

552781

26  
g-index

41  
all docs

41  
docs citations

41  
times ranked

916  
citing authors

#	ARTICLE	IF	CITATIONS
1	High damage tolerance of electrochemically lithiated silicon. Nature Communications, 2015, 6, 8417.	12.8	96
2	Cracking mechanisms in lithiated silicon thin film electrodes. International Journal of Solids and Structures, 2014, 51, 4176-4187.	2.7	58
3	Ablative thermal protection systems: Pyrolysis modeling by scale-bridging molecular dynamics. Carbon, 2018, 130, 315-324.	10.3	42
4	Direct nanomechanical characterization of carbon nanotubes - titanium interfaces. Carbon, 2018, 132, 548-555.	10.3	34
5	Cohesive-zone laws for void growth " I. Experimental field projection of crack-tip crazing in glassy polymers. Journal of the Mechanics and Physics of Solids, 2009, 57, 1357-1373.	4.8	33
6	Molecular dynamics simulations of plasticity and cracking in lithiated silicon electrodes. Extreme Mechanics Letters, 2016, 9, 503-513.	4.1	32
7	Characterizing the tensile behavior of additively manufactured Ti-6Al-4V using multiscale digital image correlation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 724, 536-546.	5.6	32
8	Plasma-graphene interaction and its effects on nanoscale patterning. Physical Review B, 2016, 93, .	3.2	28
9	Grain boundary traction signatures: Quantifying the asymmetrical dislocation emission processes under tension and compression. Journal of the Mechanics and Physics of Solids, 2017, 103, 142-154.	4.8	27
10	Bending and interlayer shear moduli of ultrathin boron nitride nanosheet. Journal Physics D: Applied Physics, 2019, 52, 465301.	2.8	26
11	Nanoscale Mechanics of the Solid Electrolyte Interphase on Lithiated-Silicon Electrodes. ACS Applied Materials & Interfaces, 2017, 9, 25662-25667.	8.0	21
12	Microstructure effects on fatigue crack growth in additively manufactured Ti-6Al-4V. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 795, 139993.	5.6	20
13	Cohesive zone laws for fatigue crack growth: Numerical field projection of the micromechanical damage process in an elasto-plastic medium. International Journal of Solids and Structures, 2014, 51, 1410-1420.	2.7	19
14	Cohesive zone laws for void growth " II. Numerical field projection of elasto-plastic fracture processes with vapor pressure. Journal of the Mechanics and Physics of Solids, 2009, 57, 1374-1390.	4.8	18
15	Brittle-to-ductile transition of lithiated silicon electrodes: Crazing to stable nanopore growth. Journal of Chemical Physics, 2015, 143, 104703.	3.0	18
16	Inverse extraction of cohesive zone laws by field projection method using numerical auxiliary fields. International Journal for Numerical Methods in Engineering, 2012, 91, 516-530.	2.8	17
17	Closed and open-ended stacking fault tetrahedra formation along the interfaces of Cu-Al nanolayered metals. Philosophical Magazine, 2015, 95, 2747-2763.	1.6	16
18	Oxidation effect on the shear strength of graphene on aluminum and titanium surfaces. Physical Review B, 2018, 98, .	3.2	16

#	ARTICLE	IF	CITATIONS
19	Direct nanomechanical measurements of boron nitride nanotube-ceramic interfaces. <i>Nanotechnology</i> , 2019, 30, 025706.	2.6	16
20	Atomic-Scale Mechanisms of Sliding along an Interdiffused Li-Cu Interface. <i>Nano Letters</i> , 2015, 15, 1716-1721.	9.1	15
21	Hydrogen-plasma patterning of multilayer graphene: Mechanisms and modeling. <i>Carbon</i> , 2017, 117, 82-91.	10.3	15
22	Micromechanical origin of the enhanced ductility in twinless duplex Mg-Li alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 815, 141305.	5.6	15
23	Communication: Surface-to-bulk diffusion of isolated versus interacting C atoms in Ni(111) and Cu(111) substrates: A first principle investigation. <i>Journal of Chemical Physics</i> , 2015, 142, 061101.	3.0	13
24	Grain Boundary Traction Signatures: Quantitative Predictors of Dislocation Emission. <i>Physical Review Letters</i> , 2016, 117, 085502.	7.8	13
25	Multi-scale thermal response modeling of an AVCOAT-like thermal protection material. <i>International Journal of Heat and Mass Transfer</i> , 2019, 133, 1176-1195.	4.8	13
26	Nanoscale mechanisms of surface stress and morphology evolution in FCC metals under noble-gas ion bombardments. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2012, 468, 2550-2573.	2.1	12
27	Planar-to-wavy transition of Cu-Ag nanolayered metals: a precursor mechanism to twinning. <i>Philosophical Magazine</i> , 2015, 95, 1029-1048.	1.6	12
28	In situ monitoring of dislocation, twinning, and detwinning modes in an extruded magnesium alloy under cyclic loading conditions. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 806, 140860.	5.6	11
29	Deformation twinning and plastic recovery in Cu/Ag nanolayers under uniaxial tensile straining. <i>Philosophical Magazine Letters</i> , 2014, 94, 260-268.	1.2	10
30	Inverse extraction of interfacial tractions from elastic and elasto-plastic far-fields by nonlinear field projection. <i>Journal of the Mechanics and Physics of Solids</i> , 2013, 61, 131-144.	4.8	9
31	A review of the multiscale mechanics of silicon electrodes in high-capacity lithium-ion batteries. <i>Journal Physics D: Applied Physics</i> , 2022, 55, 063001.	2.8	9
32	Interfacial load transfer mechanisms in carbon nanotube-polymer nanocomposites. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2018, 474, 20170705.	2.1	7
33	Local stress analysis of partial dislocation interactions with symmetrical-tilt grain boundaries containing E-structural units. <i>Philosophical Magazine</i> , 2018, 98, 2345-2366.	1.6	6
34	A simple numerical approach for reconstructing the atomic stresses at grain boundaries from quantum-mechanical calculations. <i>Journal of Chemical Physics</i> , 2019, 150, 144702.	3.0	5
35	Sliding energy landscape governs interfacial failure of nanotube-reinforced ceramic nanocomposites. <i>Scripta Materialia</i> , 2022, 210, 114413.	5.2	5
36	Micro-scale thermal response modeling of Avcoat-like TPS. , 2018, , .		3

#	ARTICLE	IF	CITATIONS
37	Nanofibrillar Si Helices for Low-Stress, High-Capacity Li <sup>+</sup> Anodes with Large Affine Deformations. ACS Applied Materials & Interfaces, 2019, 11, 11715-11721.	8.0	3
38	Strain-Controlled Dynamic Rotation of Twisted 2D Atomic Layers for Tunable Nanomechanical Systems. ACS Applied Nano Materials, 2020, 3, 10878-10884.	5.0	3
39	Negative stiffness induced by shear along wavy interfaces. Journal of the Mechanics and Physics of Solids, 2014, 63, 285-297.	4.8	2
40	High fidelity and multi-scale thermal response modeling of an Avcoat-like TPS. , 2017, , .		2
41	Nanometer Scale Mechanical Behavior of Grain Boundaries. Materials Research Society Symposia Proceedings, 2011, 1297, 1.	0.1	1