

# Shun-Li Shang

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

254  
papers

7,188  
citations

46  
h-index

72  
g-index

265  
ext. papers

8,354  
ext. citations

4.9  
avg, IF

6.01  
L-index

#	Paper	IF	Citations
254	Atomic control of active-site ensembles in ordered alloys to enhance hydrogenation selectivity.. <i>Nature Chemistry</i> , <b>2022</b> ,	17.6	6
253	Predictive Crystal Plasticity Modeling of Single Crystal Nickel Based on First-Principles Calculations. <i>Jom</i> , <b>2022</b> , 74, 1423-1434	2.1	0
252	Thermodynamic re-modelling of the Cu-Nb-Bi system: Integrating the nausite phase. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , <b>2022</b> , 77, 102409	1.9	0
251	Microstructure-dependent rate theory model of defect segregation and phase stability in irradiated polycrystalline LiAlO <sub>2</sub> . <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2022</b> , 30, 025005	2	
250	Atomic-scale unveiling of strengthening in interstitial solid soluted Nb-rich TiAl alloys. <i>Journal of Alloys and Compounds</i> , <b>2022</b> , 917, 165484	5.7	0
249	DFTTK: Density Functional Theory ToolKit for high-throughput lattice dynamics calculations. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , <b>2021</b> , 75, 102355	1.9	4
248	Thermodynamic properties of the Nd-Bi system via emf measurements, DFT calculations, machine learning, and CALPHAD modeling. <i>Acta Materialia</i> , <b>2021</b> , 223, 117448	8.4	3
247	Adsorption-controlled growth of Ga <sub>2</sub> O <sub>3</sub> by suboxide molecular-beam epitaxy. <i>APL Materials</i> , <b>2021</b> , 9, 031101	5.7	11
246	Stability, Elastic and Electronic Properties of Ta <sub>2</sub> N by First-Principles Calculations. <i>Crystals</i> , <b>2021</b> , 11, 445	2.3	1
245	Understanding the Effect of Oxygen on the Glass-Forming Ability of Zr <sub>55</sub> Cu <sub>55</sub> Al <sub>9</sub> Be <sub>9</sub> Bulk Metallic Glass by ab initio Molecular Dynamics Simulations. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2021</b> , 52, 2501-2511	2.3	2
244	Correlation analysis of materials properties by machine learning: illustrated with stacking fault energy from first-principles calculations in dilute fcc-based alloys. <i>Journal of Physics Condensed Matter</i> , <b>2021</b> , 33,	1.8	2
243	Site Occupation and Structural Phase Transformation of the (010) Antiphase Boundary in Boron-Modified L1 <sub>2</sub> Ni <sub>3</sub> Al. <i>Jom</i> , <b>2021</b> , 73, 2285-2292	2.1	0
242	Elastic3rd: A tool for calculating third-order elastic constants from first-principles calculations. <i>Computer Physics Communications</i> , <b>2021</b> , 261, 107777	4.2	5
241	Underpinned exploration for magnetic structure, lattice dynamics, electronic properties, and disproportionation of yttrium nickelate. <i>AIP Advances</i> , <b>2021</b> , 11, 015028	1.5	0
240	Understanding the surface adsorption and oxidation of cubic Cr <sub>0.5</sub> Al <sub>0.5</sub> N by first-principles calculations. <i>Computational Materials Science</i> , <b>2021</b> , 196, 110518	3.2	1
239	Thermodynamic properties of the Yb-Sb system predicted from first-principles calculations. <i>Acta Materialia</i> , <b>2021</b> , 217, 117169	8.4	6
238	Forming mechanism of equilibrium and non-equilibrium metallurgical phases in dissimilar aluminum/steel (Al-Fe) joints.. <i>Scientific Reports</i> , <b>2021</b> , 11, 24251	4.9	1

237	An ab initio molecular dynamics exploration of associates in Ba-Bi liquid with strong ordering trends. <i>Acta Materialia</i> , <b>2020</b> , 190, 81-92	8.4	3
236	High-throughput investigations of configurational-transformation-dominated serrations in CuZr/Cu nanolaminates. <i>Journal of Materials Science and Technology</i> , <b>2020</b> , 53, 192-199	9.1	9
235	A brief review of data-driven ICME for intelligently discovering advanced structural metal materials: Insight into atomic and electronic building blocks. <i>Journal of Materials Research</i> , <b>2020</b> , 35, 872-889	2.5	8
234	Unveiling dislocation characteristics in Ni3Al from stacking fault energy and ideal strength: A first-principles study via pure alias shear deformation. <i>Physical Review B</i> , <b>2020</b> , 101,	3.3	7
233	An orthorhombic D022-like precursor to Al8Mo3 in the AlMoTi system. <i>Journal of Alloys and Compounds</i> , <b>2020</b> , 823, 153807	5.7	4
232	Microstructural characteristics and crack formation in additively manufactured bimetal material of 316L stainless steel and Inconel 625. <i>Additive Manufacturing</i> , <b>2020</b> , 32, 101037	6.1	10
231	Anomalous phonon-mode dependence in polarized Raman spectroscopy of the topological Weyl semimetal TaP. <i>Physical Review B</i> , <b>2020</b> , 101,	3.3	3
230	Anisotropic Fano resonance in the Weyl semimetal candidate LaAlSi. <i>Physical Review B</i> , <b>2020</b> , 102,	3.3	6
229	Metastable trigonal SnP: A promising anode material for potassium-ion battery. <i>Carbon</i> , <b>2020</b> , 168, 468-474	4.4	19
228	Unveiling non-equilibrium metallurgical phases in dissimilar Al-Cu joints processed by vaporizing foil actuator welding. <i>Materials and Design</i> , <b>2020</b> , 186, 108306	8.1	15
227	Realization of Epitaxial Thin Films of the Topological Crystalline Insulator Sr SnO. <i>Advanced Materials</i> , <b>2020</b> , 32, e2000809	24	8
226	Suitability of binary oxides for molecular-beam epitaxy source materials: A comprehensive thermodynamic analysis. <i>APL Materials</i> , <b>2020</b> , 8, 081110	5.7	15
225	Activation volume dominated diffusivity of Ni50Al50 melt under extreme conditions. <i>Computational Materials Science</i> , <b>2020</b> , 171, 109263	3.2	3
224	Diffusion of hydrogen isotopes in 3C-SiC in HTR-PM: A first-principles study. <i>Progress in Nuclear Energy</i> , <b>2020</b> , 119, 103181	2.3	0
223	Synergetic effects of solute and strain in biocompatible Zn-based and Mg-based alloys. <i>Acta Materialia</i> , <b>2019</b> , 181, 423-438	8.4	11
222	An alternative approach to predict Seebeck coefficients: Application to La3Te4. <i>Scripta Materialia</i> , <b>2019</b> , 169, 87-91	5.6	7
221	Thermodynamic modeling of the Si-Y system aided by first-principles and phonon calculations. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , <b>2019</b> , 65, 282-290	1.9	4
220	High Performance Anion Exchange Membrane Fuel Cells Enabled by Fluoropoly(olefin) Membranes. <i>Advanced Functional Materials</i> , <b>2019</b> , 29, 1902059	15.6	72

219	Local lattice distortion mediated formation of stacking faults in Mg alloys. <i>Acta Materialia</i> , <b>2019</b> , 170, 231-239	8.4	23
218	Experimental isothermal section of the Nb-Ni-Ru ternary system at 1100 °C. <i>Journal of Alloys and Compounds</i> , <b>2019</b> , 810, 151801	5.7	1
217	When a defect is a pathway to improve stability: a case study of the L12 Co <sub>3</sub> TM superlattice intrinsic stacking fault. <i>Journal of Materials Science</i> , <b>2019</b> , 54, 13609-13618	4.3	12
216	The stability of deformation twins in aluminum enhanced by alloying elements. <i>Journal of Materials Science and Technology</i> , <b>2019</b> , 35, 2625-2629	9.1	5
215	Effects of Hf, Y, and Zr on Alumina Scale Growth on NiAlCr and NiAlPt Alloys. <i>Oxidation of Metals</i> , <b>2019</b> , 92, 303-313	1.6	8
214	Study on impact of Cr and Mo on diffusion of H in 2.25Cr1Mo steel using first-principle calculations. <i>Journal of Nuclear Materials</i> , <b>2019</b> , 525, 152-160	3.3	2
213	Phase equilibria of TiAlV system at 1300 °C. <i>Intermetallics</i> , <b>2019</b> , 115, 106609	3.5	4
212	Achieving accurate energetics beyond (semi-)local density functional theory: Illustrated with transition metal disulfides, Cu <sub>2</sub> ZnSnS <sub>4</sub> , and Na <sub>3</sub> PS <sub>4</sub> related semiconductors. <i>Physical Review Materials</i> , <b>2019</b> , 3,	3.2	4
211	Thermodynamic properties and phase stability of the Ba-Bi system: A combined computational and experimental study. <i>Journal of Alloys and Compounds</i> , <b>2019</b> , 771, 281-289	5.7	3
210	Synthesis and understanding of Na <sub>11</sub> Sn <sub>2</sub> PSe <sub>12</sub> with enhanced ionic conductivity for all-solid-state Na-ion battery. <i>Energy Storage Materials</i> , <b>2019</b> , 17, 70-77	19.4	26
209	A piezoelectric, strain-controlled antiferromagnetic memory insensitive to magnetic fields. <i>Nature Nanotechnology</i> , <b>2019</b> , 14, 131-136	28.7	98
208	From random stacking faults to polytypes: A 12-layer NiSn <sub>4</sub> polytype. <i>Journal of Alloys and Compounds</i> , <b>2019</b> , 774, 265-273	5.7	1
207	Elastic properties of long periodic stacking ordered phases in Mg-Gd-Al alloys: A first-principles study. <i>Intermetallics</i> , <b>2018</b> , 98, 18-27	3.5	11
206	Synthesis science of SrRuO <sub>3</sub> and CaRuO <sub>3</sub> epitaxial films with high residual resistivity ratios. <i>APL Materials</i> , <b>2018</b> , 6, 046101	5.7	41
205	First-principles calculations of lattice dynamics and thermodynamic properties for Yb <sub>14</sub> MnSb <sub>11</sub> . <i>Journal of Applied Physics</i> , <b>2018</b> , 123, 045102	2.5	8
204	A quaternary sodium superionic conductor - Na <sub>10.8</sub> Sn <sub>1.9</sub> PS <sub>11.8</sub> . <i>Nano Energy</i> , <b>2018</b> , 47, 325-330	17.1	45
203	Martensitic transition in Fe via Bain path at finite temperatures: A comprehensive first-principles study. <i>Acta Materialia</i> , <b>2018</b> , 147, 261-276	8.4	18
202	Accelerating exploitation of Co-Al-based superalloys from theoretical study. <i>Materials and Design</i> , <b>2018</b> , 142, 139-148	8.1	19

201	Thermodynamic description of the Ti-Mo-Nb-Ta-Zr system and its implications for phase stability of Ti bio-implant materials. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , <b>2018</b> , 61, 72-84	1.9	19
200	Understanding slow-growing alumina scale mediated by reactive elements: Perspective via local metal-oxygen bonding strength. <i>Scripta Materialia</i> , <b>2018</b> , 150, 139-142	5.6	16
199	Effects of alloying elements on the elastic properties of bcc Ti-X alloys from first-principles calculations. <i>Computational Materials Science</i> , <b>2018</b> , 142, 215-226	3.2	22
198	Computation of entropies and phase equilibria in refractory V-Nb-Mo-Ta-W high-entropy alloys. <i>Acta Materialia</i> , <b>2018</b> , 143, 88-101	8.4	39
197	A comprehensive first-principles study of solute elements in dilute Ni alloys: Diffusion coefficients and their implications to tailor creep rate. <i>Acta Materialia</i> , <b>2018</b> , 157, 126-141	8.4	27
196	Effect of alloying elements on the stacking fault energies of dilute Al-based alloys. <i>Journal of Mining and Metallurgy, Section B: Metallurgy</i> , <b>2018</b> , 54, 185-196	1	5
195	Atomic and electronic basis for solutes strengthened (010) anti-phase boundary of L12 Co <sub>3</sub> (Al, TM): A comprehensive first-principles study. <i>Acta Materialia</i> , <b>2018</b> , 145, 30-40	8.4	28
194	Quasiharmonic calculations of thermodynamic properties for La <sub>3</sub> Te <sub>4</sub> system. <i>Computational Materials Science</i> , <b>2018</b> , 142, 417-426	3.2	5
193	First-principles calculations and thermodynamic modelling of long periodic stacking ordered (LPSO) phases in Mg-Al-Gd. <i>Materialia</i> , <b>2018</b> , 4, 192-202	3.2	4
192	Data set for diffusion coefficients and relative creep rate ratios of 26 dilute Ni-X alloy systems from first-principles calculations. <i>Data in Brief</i> , <b>2018</b> , 20, 1537-1551	1.2	12
191	First-principles thermodynamic theory of Seebeck coefficients. <i>Physical Review B</i> , <b>2018</b> , 98,	3.3	17
190	Thermodynamic Assessment of the Ag-Se System Aided by First-Principles Calculations. <i>Journal of Phase Equilibria and Diffusion</i> , <b>2018</b> , 39, 870-881	1	1
189	Understanding the Intrinsic P-Type Behavior and Phase Stability of Thermoelectric $\beta$ Mg <sub>3</sub> Sb <sub>2</sub> . <i>ACS Applied Energy Materials</i> , <b>2018</b> , 1, 6600-6608	6.1	17
188	A first-principles based description of the Hf-Ni system supported by high-temperature synchrotron experiments. <i>Thermochimica Acta</i> , <b>2018</b> , 668, 142-151	2.9	4
187	First-principles study of adsorption and diffusion of oxygen on surfaces of TiN, ZrN and HfN. <i>Applied Surface Science</i> , <b>2018</b> , 452, 457-462	6.7	20
186	Exceptionally High Ionic Conductivity in Na P As S with Improved Moisture Stability for Solid-State Sodium-Ion Batteries. <i>Advanced Materials</i> , <b>2017</b> , 29, 1605561	24	122
185	Phase stability, elastic, and thermodynamic properties of the L12 (Co,Ni) <sub>3</sub> (Al,Mo,Nb) phase from first-principles calculations. <i>Journal of Materials Research</i> , <b>2017</b> , 32, 2100-2108	2.5	6
184	Origin of Outstanding Phase and Moisture Stability in a NaPAS Superionic Conductor. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 16261-16269	9.5	38

183	Revealing the Microstates of Body-Centered-Cubic (BCC) Equiatomic High Entropy Alloys. <i>Journal of Phase Equilibria and Diffusion</i> , <b>2017</b> , 38, 404-415	1	14
182	Quantum behavior of water nano-confined in beryl. <i>Journal of Chemical Physics</i> , <b>2017</b> , 146, 124307	3.9	16
181	First-principles calculations and thermodynamic modeling of the Sn-Ta system. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , <b>2017</b> , 57, 46-54	1.9	3
180	Thermodynamic modeling of phase equilibria and defect chemistry in the Zn-S system. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , <b>2017</b> , 59, 171-181	1.9	6
179	A curved pathway for oxygen interstitial diffusion in aluminum. <i>Computational Materials Science</i> , <b>2017</b> , 140, 47-54	3.2	8
178	Elastic knowledge base of bcc Ti alloys from first-principles calculations and CALPHAD-based modeling. <i>Computational Materials Science</i> , <b>2017</b> , 140, 121-139	3.2	20
177	Phase stability of the Cu-Sn-S system and optimal growth conditions for earth-abundant Cu <sub>2</sub> SnS <sub>3</sub> solar materials. <i>Solar Energy</i> , <b>2017</b> , 155, 745-757	6.8	25
176	Insight into $\gamma$ -Ni/ $\delta$ -Ni <sub>3</sub> Al interfacial energy affected by alloying elements. <i>Materials and Design</i> , <b>2017</b> , 133, 39-46	8.1	21
175	Atomic and electronic basis for the serrations of refractory high-entropy alloys. <i>Npj Computational Materials</i> , <b>2017</b> , 3,	10.9	39
174	Strengthening Mg by self-dispersed nano-lamellar faults. <i>Materials Research Letters</i> , <b>2017</b> , 5, 415-425	7.4	15
173	First-principles calculations and thermodynamic modeling of the S-Se system and implications for chalcogenide alloys. <i>Journal of Alloys and Compounds</i> , <b>2017</b> , 694, 510-521	5.7	6
172	Fundamentals of Thermal Expansion and Thermal Contraction. <i>Materials</i> , <b>2017</b> , 10,	3.5	9
171	Adsorption-controlled growth of La-doped BaSnO <sub>3</sub> by molecular-beam epitaxy. <i>APL Materials</i> , <b>2017</b> , 5, 116107	5.7	98
170	Lateral Versus Vertical Growth of Two-Dimensional Layered Transition-Metal Dichalcogenides: Thermodynamic Insight into MoS <sub>2</sub> . <i>Nano Letters</i> , <b>2016</b> , 16, 5742-50	11.5	70
169	Lattice dynamics, thermodynamics and elastic properties of C22-Zr <sub>6</sub> FeSn <sub>2</sub> from first-principles calculations. <i>Journal of Nuclear Materials</i> , <b>2016</b> , 479, 461-469	3.3	8
168	First-principles investigation of phase stability, elastic and thermodynamic properties in L1 <sub>2</sub> Co <sub>3</sub> (Al,Mo,Nb) phase. <i>Intermetallics</i> , <b>2016</b> , 78, 1-7	3.5	16
167	Fabrication of nano-porous $\gamma$ -Al <sub>2</sub> O <sub>3</sub> layers on porous Ti-48Al-6Nb alloys. <i>Materials and Design</i> , <b>2016</b> , 109, 700-708	8.1	6
166	Stacking disorder in metastable NiSn <sub>4</sub> . <i>Materials and Design</i> , <b>2016</b> , 109, 324-333	8.1	7

165	First-principles calculations of lattice dynamics and thermal properties of polar solids. <i>Npj Computational Materials</i> , <b>2016</b> , 2,	10.9	88
164	Solid Solution Hardening in Mg-Gd-TM (TM=Ag, Zn and Zr) Alloys: an Integrated Density Functional Theory and Electron Work Function Study <b>2016</b> , 155-157		
163	C15 NbCr <sub>2</sub> Laves phase with mechanical properties beyond Pugh's criterion. <i>Computational Materials Science</i> , <b>2016</b> , 121, 167-173	3.2	10
162	Thermodynamics of the Sb <sub>n</sub> system: Implication for synthesis of earth abundant photovoltaic absorber materials. <i>Solar Energy</i> , <b>2016</b> , 125, 314-323	6.8	27
161	Synthesis, characterization and chemical stability of silicon dichalcogenides, Si(SexS1 <sub>2</sub> ) <sub>2</sub> . <i>Journal of Crystal Growth</i> , <b>2016</b> , 452, 151-157	1.6	10
160	Effects of alloying elements and temperature on the elastic properties of W-based alloys by first-principles calculations. <i>Journal of Alloys and Compounds</i> , <b>2016</b> , 671, 267-275	5.7	20
159	A comprehensive first-principles study of pure elements: Vacancy formation and migration energies and self-diffusion coefficients. <i>Acta Materialia</i> , <b>2016</b> , 109, 128-141	8.4	66
158	Control of Phase in Tin Sulfide Thin Films Produced via RF-Sputtering of SnS <sub>2</sub> Target with Post-deposition Annealing. <i>Journal of Electronic Materials</i> , <b>2016</b> , 45, 499-508	1.9	16
157	Diffusion coefficients of alloying elements in dilute Mg alloys: A comprehensive first-principles study. <i>Acta Materialia</i> , <b>2016</b> , 103, 573-586	8.4	108
156	Solid Solution Hardening in Mg-Gd-TM (TM=Ag, Zn and Zr) Alloys: An Integrated Density Functional Theory and Electron Work Function Study <b>2016</b> , 157-157		
155	First-principles Study of Diffusion Coefficients of Alloy Elements in Dilute Mg Alloys <b>2016</b> , 97-101		
154	On the mean kinetic energy of the proton in strong hydrogen bonded systems. <i>Journal of Chemical Physics</i> , <b>2016</b> , 144, 054302	3.9	11
153	Epitaxial Growth of Intermetallic MnPt Films on Oxides and Large Exchange Bias. <i>Advanced Materials</i> , <b>2016</b> , 28, 118-23	24	18
152	Ferromagnetism: Epitaxial Growth of Intermetallic MnPt Films on Oxides and Large Exchange Bias (Adv. Mater. 1/2016). <i>Advanced Materials</i> , <b>2016</b> , 28, 204-204	24	
151	A first-principles study of the diffusion coefficients of alloying elements in dilute Ti alloys. <i>Physical Chemistry Chemical Physics</i> , <b>2016</b> , 18, 16870-81	3.6	28
150	Generalization of first-principles thermodynamic model: Application to hexagonal close-packed Fe <sub>3</sub> N. <i>Computational Materials Science</i> , <b>2016</b> , 117, 83-89	3.2	4
149	Power law scaled hardness of Mn strengthened nanocrystalline Al Mn non-equilibrium solid solutions. <i>Scripta Materialia</i> , <b>2016</b> , 120, 31-36	5.6	17
148	A New Relationship Among Self- and Impurity Diffusion Coefficients in Binary Solution Phases. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2016</b> , 47, 3295-3299 <sup>2,3</sup>		3

- 147 First-principles Study of Diffusion Coefficients of Alloy Elements in Dilute Mg Alloys **2016**, 97-101
- 146 Prediction of Diffusion Coefficients in Liquid and Solids. *Defect and Diffusion Forum*, **2015**, 364, 182-191 0.7 9
- 145 Phase transformation in Ti<sub>48</sub>Al<sub>16</sub>Nb porous alloys and its influence on pore properties. *Materials and Design*, **2015**, 83, 508-513 8.1 17
- 144 Mechanical properties and spinodal decomposition of Ti<sub>x</sub>Al<sub>1-x</sub> Ti<sub>1-y</sub>Zr<sub>y</sub>N coatings. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2015**, 379, 2037-2040 2.3 2
- 143 Ti-substituted Li[Li<sub>0.26</sub>Mn<sub>0.6</sub>Ti<sub>x</sub>Ni<sub>0.07</sub>Co<sub>0.07</sub>]O<sub>2</sub> layered cathode material with improved structural stability and suppressed voltage fading. *Journal of Materials Chemistry A*, **2015**, 3, 17376-17384 13 33
- 142 A novel hot pack rolling of high NbTiAl sheet from cast ingot. *Intermetallics*, **2015**, 67, 19-25 3.5 33
- 141 Anomalous structural dynamics in liquid Al<sub>80</sub>Cu<sub>20</sub>: An ab initio molecular dynamics study. *Acta Materialia*, **2015**, 97, 75-85 8.4 46
- 140 Deformation behaviour and 6H-LPSO structure formation at nanoindentation in lamellar high Nb containing TiAl alloy. *Philosophical Magazine Letters*, **2015**, 95, 85-91 1 7
- 139 Elastic anisotropy of iron carbides with trigonal-prismatic coordination of C by Fe. *Journal of Alloys and Compounds*, **2015**, 633, 390-394 5.7 8
- 138 Insight into structural, elastic, phonon, and thermodynamic properties of sulfur and energy-related sulfides: a comprehensive first-principles study. *Journal of Materials Chemistry A*, **2015**, 3, 8002-8014 13 29
- 137 Thermodynamic Modeling of the Pt-Te and Pt-Sb-Te Systems. *Journal of Electronic Materials*, **2015**, 44, 2638-2650 1.9 5
- 136 Solid-Solution Hardening in Mg-Gd-TM (TM = Ag, Zn, and Zr) Alloys: An Integrated Density Functional Theory and Electron Work Function Study. *Jom*, **2015**, 67, 2433-2441 2.1 12
- 135 Strain-induced dimensionality crossover of precursor modulations in Ni<sub>2</sub>MnGa. *Applied Physics Letters*, **2015**, 106, 021910 3.4 3
- 134 Lattice distortion induced anomalous ferromagnetism and electronic structure in FCC Fe and Fe-TM (TM = Cr, Ni, Ta and Zr) alloys. *Materials Chemistry and Physics*, **2015**, 162, 748-756 4.4 17
- 133 Thermodynamic modeling of the CaO-TaF<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub> system aided by first-principles calculations. *Calphad: Computer Coupling of Phase Diagrams and Thermochemistry*, **2015**, 48, 113-122 1.9 9
- 132 On the scaling factor in Debye-Grüneisen model: A case study of the MgZn binary system. *Computational Materials Science*, **2015**, 98, 34-41 3.2 27
- 131 Anomalous phonon stiffening associated with the (1 1 1) antiphase boundary in L1<sub>2</sub> Ni<sub>3</sub>Al. *Acta Materialia*, **2015**, 82, 287-294 8.4 23
- 130 Crystal structure and phase stability of AlSc in the near-equiatomic AlSc alloy. *Journal of Alloys and Compounds*, **2015**, 618, 192-196 5.7 2



129	Data set for diffusion coefficients of alloying elements in dilute Mg alloys from first-principles. <i>Data in Brief</i> , <b>2015</b> , 5, 900-12	1.2	15
128	NbAl diffusion reaction in high Nb containing TiAl porous alloys. <i>Materials Science and Technology</i> , <b>2015</b> , 31, 1388-1391	1.5	8
127	Impact of W on structural evolution and diffusivity of NiW melts: an ab initio molecular dynamics study. <i>Journal of Materials Science</i> , <b>2015</b> , 50, 1071-1081	4.3	7
126	A first-principles study of structure, elasticity and thermal decomposition of Ti1-xTMxN alloys (TM = Y, Zr, Nb, Hf, and Ta). <i>Surface and Coatings Technology</i> , <b>2015</b> , 264, 41-48	4.4	24
125	C-vacancy concentration in cementite, Fe <sub>3</sub> C1- $\eta$ in equilibrium with $\delta$ -Fe[C] and $\epsilon$ -Fe[C]. <i>Acta Materialia</i> , <b>2015</b> , 86, 374-384	8.4	16
124	Nature of ferroelectric-paraelectric phase transition and origin of negative thermal expansion in PbTiO <sub>3</sub> . <i>Physical Review B</i> , <b>2015</b> , 91,	3.3	25
123	Thermal expansion anomaly regulated by entropy. <i>Scientific Reports</i> , <b>2014</b> , 4, 7043	4.9	46
122	Vacancy mechanism of oxygen diffusivity in bcc Fe: A first-principles study. <i>Corrosion Science</i> , <b>2014</b> , 83, 94-102	6.8	47
121	A first-principles study of self-diffusion coefficients of fcc Ni. <i>Computational Materials Science</i> , <b>2014</b> , 86, 17-23	3.2	27
120	Reaction behavior and pore formation mechanism of TiAlNb porous alloys prepared by elemental powder metallurgy. <i>Intermetallics</i> , <b>2014</b> , 44, 1-7	3.5	32
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