Biswanath Dutta

List of Publications by Year in descending order

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Version: 2024-02-01

35 papers	732 citations	471509 17 h-index	552781 26 g-index
35 all docs	35 docs citations	35 times ranked	923 citing authors

#	Article	IF	Citations
1	Temperature Dependent Magnon-Phonon Coupling in bcc Fe from Theory and Experiment. Physical Review Letters, 2014, 113, 165503.	7.8	93
2	AbÂinitioPrediction of Martensitic and Intermartensitic Phase Boundaries in Ni-Mn-Ga. Physical Review Letters, 2016, 116, 025503.	7.8	57
3	Beyond Solid Solution Highâ€Entropy Alloys: Tailoring Magnetic Properties via Spinodal Decomposition. Advanced Functional Materials, 2021, 31, 2007668.	14.9	51
4	Ab Initio Nonequilibrium Thermodynamic and Transport Properties of Ultrafast Laser Irradiated 316L Stainless Steel. Journal of Physical Chemistry C, 2015, 119, 11438-11446.	3.1	46
5	Frontiers in atomistic simulations of high entropy alloys. Journal of Applied Physics, 2020, 128, .	2.5	40
6	Ab Initioâ€Based Prediction of Phase Diagrams: Application to Magnetic Shape Memory Alloys. Advanced Engineering Materials, 2012, 14, 547-561.	3.5	37
7	Ab initioexplanation of disorder and off-stoichiometry in Fe-Mn-Al-C<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Î</mml:mi></mml:math>carbides. Physical Review B, 2017, 95, .	3.2	29
8	Robust Bain distortion in the premartensite phase of a platinum-substituted Ni2MnGa magnetic shape memory alloy. Nature Communications, 2017, 8, 1006.	12.8	26
9	Effect of Pt substitution on the magnetocrystalline anisotropy of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>Ni</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mn> : A competition between chemistry and elasticity. Physical Review B, 2017, 96, .	3.2	22
10	Unfolding the complexity of phonon quasi-particle physics in disordered materials. Npj Computational Materials, 2020, 6, .	8.7	22
11	Temperature-dependent phonon spectra of magnetic random solid solutions. Npj Computational Materials, 2018, 4, .	8.7	19
12	Role of disorder when upscaling magnetocaloric Ni-Co-Mn-Al Heusler alloys from thin films to ribbons. Scientific Reports, 2018, 8, 9147.	3.3	19
13	Tailoring nanostructured NbCoSn-based thermoelectric materials via crystallization of an amorphous precursor. Nano Energy, 2021, 80, 105518.	16.0	19
14	Adaptive modulation in the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">N</mml:mi><mml:msub><mml:mi mathvariant="normal">i</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi mathvariant="normal">M</mml:mi><mml:msub><mml:mi mathvariant="normal">n</mml:mi><mml:mrow><mml:mn>1.4</mml:mn></mml:mrow></mml:msub><mml:mi	3.2	18
15	Hidden Effects of Negative Stacking Fault Energies in Complex Concentrated Alloys. Physical Review Letters, 2021, 126, 255502.	7.8	18
16	Unveiling the mechanism of abnormal magnetic behavior of FeNiCoMnCu high-entropy alloys through a joint experimental-theoretical study. Physical Review Materials, 2020, 4, .	2.4	18
17	Role of magnetic ordering for the design of quinary TWIP-TRIP high entropy alloys. Physical Review Materials, 2020, 4, .	2.4	18
18	Thickness dependent exchange bias in martensitic epitaxial Ni-Mn-Sn thin films. AIP Advances, 2013, 3, .	1.3	17

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19	A new first principles approach to calculate phonon spectra of disordered alloys. Journal of Physics Condensed Matter, 2012, 24, 015402.	1.8	15
20	Coupling Phenomena in Magnetocaloric Materials. Energy Technology, 2018, 6, 1429-1447.	3.8	15
21	Ab initiocalculation of phonon dispersions in size-mismatched disordered alloys. Physical Review B, 2010, 82, .	3.2	14
22	Impact of Co and Fe Doping on the Martensitic Transformation and the Magnetic Properties in Niâ€Mnâ€Based Heusler Alloys. Physica Status Solidi (B): Basic Research, 2018, 255, 1700455.	1.5	14
23	First-principles study of magnetism in Pd<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>Fe under pressure. Physical Review B, 2012, 86, .	3.2	13
24	Low-temperature features in the heat capacity of unary metals and intermetallics for the example of bulk aluminum and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>Al</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:m mathvariant="normal">Sc</mml:mi></mml:math>. Physical Review B, 2017, 95, .	3.2	12
25	Ab Initio Predicted Impact of Pt on Phase Stabilities in Ni-Mn-Ga Heusler Alloys. Journal of Phase Equilibria and Diffusion, 2014, 35, 695-700.	1.4	11
26	Phonon spectra of Pd_xFe_{1â^'x}alloys with transferable force constants. Journal of Physics Condensed Matter, 2009, 21, 395401.	1.8	10
27	Vibrational properties of Nix Pt1â^'x alloys: An understanding fromab initiocalculations. Journal of Applied Physics, 2011, 109, 053714.	2.5	9
28	Interface effects on the magnetic properties of layered Ni₂MnGa/Ni₂MnSn alloys: A first-principles investigation. Functional Materials Letters, 2016, 09, 1642010.	1.2	9
29	The phonon spectra and elastic constants of PdxFe1â^'x: an understanding from inter-atomic interactions. Journal of Physics Condensed Matter, 2009, 21, 095411.	1.8	8
30	Phonons in magnetically disordered materials: Magnetic versus phononic time scales. Physical Review B, 2020, 101, .	3.2	8
31	First-principles based investigation on effects of magnetism on lattice dynamics in Fe72Pd28 alloy. Intermetallics, 2010, 18, 1143-1147.	3.9	6
32	Decisive role of interstitial defects in half-Heusler semiconductors: An ab initio study. Physical Review Materials, 2021, 5, .	2.4	6
33	Interplay of strain and interdiffusion in Heusler alloy bilayers. Physica Status Solidi - Rapid Research Letters, 2015, 9, 321-325.	2.4	5
34	A Combined Experimental and First-Principles Based Assessment of Finite-Temperature Thermodynamic Properties of Intermetallic Al3Sc. Materials, 2021, 14, 1837.	2.9	5
35	Robust evidence for the stabilization of the premartensite phase in Ni-Mn-In magnetic shape memory alloys by chemical pressure. Physical Review Materials, 2021, 5, .	2.4	3