Snehanshu Pal

List of Publications by Citations

113 papers	737 citations	14 h-index	19 g-index
117 ext. papers	898 ext. citations	2.1 avg, IF	5.21 L-index

#	Paper	IF	Citations
113	Molecular dynamics based cohesive zone modeling of Al (metal)–Cu50Zr50 (metallic glass) interfacial mechanical behavior and investigation of dissipative mechanisms. *Materials and Design*, **2016**, 105, 41-50	8.1	44
112	Structural evaluation and deformation features of interface of joint between nano-crystalline Fe–Ni–Cr alloy and nano-crystalline Ni during creep process. *Materials and Design*, **2016**, 108, 168-182	8.1	31
111	Dynamic characterization of shock response in crystalline-metallic glass nanolaminates. *Acta Materialia*, **2019**, 164, 347-361	8.4	29
110	Experimental and atomistic simulation based study of W based alloys synthesized by mechanical alloying. *International Journal of Refractory Metals and Hard Materials*, **2016**, 58, 57-67	4.1	26
109	Effect of Zr addition on creep properties of ultra-fine grained nanocrystalline Ni studied by molecular dynamics simulations. *Computational Materials Science*, **2017**, 126, 382-392	3.2	25
108	Contribution of Nb towards enhancement of glass forming ability and plasticity of Ni-Nb binary metallic glass. *Journal of Non-Crystalline Solids*, **2017**, 471, 243-250	3.9	24
107	Experimental and Theoretical Studies on the Viscosity–Structure Correlation for High Alumina-Silicate Melts. *Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science*, **2017**, 48, 1450-1462	2.5	23
106	The effect of porosity and void on creep behavior of ultra-fine grained nano crystalline nickel. *Materials Letters*, **2016**, 169, 265-268	3.3	21
105	Surface-Mechanical Properties of Electrodeposited Cu-Al2O3 Composite Coating and Effects of Processing Parameters. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2016**, 47, 388-399	2.3	18
104	Stress-induced solid-state amorphization of nanocrystalline Ni and NiZr investigated by atomistic simulations. *Journal of Applied Physics*, **2018**, 123, 044306	2.5	15
103	Optimization of Phosphorous in Steel Produced by Basic Oxygen Steel Making Process Using Multi-Objective Evolutionary and Genetic Algorithms. *Steel Research International*, **2017**, 88, 1600193	1.6	15
102	Mechanistic study of bending creep behaviour of bicrystal nanobeam. *Computational Materials Science*, **2017**, 136, 36-43	3.2	14
101	Asymmetry in steel welds with dissimilar amounts of sulfur. *Scripta Materialia*, **2015**, 108, 88-91	5.6	14
100	Analysis of deformation behaviour of Al–Ni–Co thin film coated aluminium during nano-indentation: a molecular dynamics study. *Molecular Simulation*, **2018**, 44, 1393-1401	2	14
99	Evaluation of glass forming ability of Zr–Nb alloy systems through liquid fragility and Voronoi cluster analysis. *Computational Materials Science*, **2019**, 158, 324-332	3.2	13
98	Influence of Grain Boundary Complexion on Deformation Mechanism of High Temperature Bending Creep Process of Cu Bicrystal. *Transactions of the Indian Institute of Metals*, **2018**, 71, 1721-1734	1.2	12
97	The Effect of Temperature on Creep Behaviour of Porous (1 at.%) Nano Crystalline Nickel. *Transactions of the Indian Institute of Metals*, **2016**, 69, 277-282	1.2	12

96	Pentagonal dodecahedron methane hydrate cage and methanol system An ab initio study. *Journal of Chemical Sciences*, **2013**, 125, 379-385	1.8	12
95	DFT-based inhibitor and promoter selection criteria for pentagonal dodecahedron methane hydrate cage. *Journal of Chemical Sciences*, **2013**, 125, 1259-1266	1.8	12
94	Stability Analysis and Frontier Orbital Study of Different Glycol and Water Complex **2013**, 2013, 1-16		12
93	Structure prediction of multi-principal element alloys using ensemble learning. *Engineering Computations*, **2019**, 37, 1003-1022	1.4	12
92	Nano-scale simulation based study of creep behavior of bimodal nanocrystalline face centered cubic metal. *Journal of Molecular Modeling*, **2017**, 23, 309	2	11
91	Dynamic Probing of Structural Evolution of Single Crystal Fe during Rolling Process Using Atomistic Simulation. *Steel Research International*, **2019**, 90, 1800636	1.6	11
90	On the comparison of interrupted and continuous creep behaviour of nanocrystalline copper: A molecular dynamics approach. *Materials Letters*, **2018**, 229, 256-260	3.3	11
89	Theoretical Study of Hydrogen Bond Formation in Trimethylene Glycol-Water Complex **2012**, 2012, 1-12		11
88	Influence of dislocations, twins, and stacking faults on the fracture behavior of nanocrystalline Ni nanowire under constant bending load: a molecular dynamics study. *Journal of Molecular Modeling*, **2018**, 24, 277	2	11
87	Healing mechanism of nanocrack in nanocrystalline metals during creep process. *Applied Physics A: Materials Science and Processing*, **2017**, 123, 1	2.6	10
86	A potential insight into the serration behaviour of n (n) boundaries in Alloy 617. *Materials Chemistry and Physics*, **2020**, 248, 122919	4.4	10
85	Molecular Dynamics simulation based investigation of possible enhancement in strength and ductility of nanocrystalline aluminum by CNT reinforcement. *Materials Chemistry and Physics*, **2020**, 243, 122593	4.4	10
84	Effect of grain boundary complexions on the deformation behavior of Ni bicrystal during bending creep. *Journal of Molecular Modeling*, **2018**, 24, 87	2	9
83	On the role of Cu-Zr amorphous intergranular films on crack growth retardation in nanocrystalline Cu during monotonic and cyclic loading conditions. *Computational Materials Science*, **2019**, 169, 109122	3.2	9
82	Shock velocity-dependent elastic-plastic collapse of pre-existing stacking fault tetrahedron in single crystal Cu. *Computational Materials Science*, **2020**, 172, 109390	3.2	9
81	Dynamic formation and destruction process of stacking fault tetrahedra in single-crystal Ni during nanoscale cryo-rolling. *Philosophical Magazine Letters*, **2019**, 99, 253-260	1	8
80	Electrophoretic Deposition of Cu-SiO2 Coatings by DC and Pulsed DC for Enhanced Surface-Mechanical Properties. *Journal of Materials Engineering and Performance*, **2016**, 25, 327-337	1.6	8
79	Comparative creep behaviour study between single crystal Nickel and ultra-fine grained nano crystalline Nickel in presence of porosity at 1120 K temperature. *Metallurgical Research and Technology*, **2017**, 114, 107	0.9	8

78	Role of W on the dislocation evolution in Ni-W alloy during tension followed by compression loading. *Metals and Materials International*, **2016**, 22, 373-382	2.4	8
77	Dislocation Interaction and V-Shaped Growth of the Distorted Structure During Nanoindentation of Cu20Ni20Al20Co20Fe20 (high-entropy alloy)-Coated Copper: A Molecular Dynamics Simulation-Based Study. *Transactions of the Indian Institute of Metals*, **2019**, 72, 167-180	1.2	8
76	Structural evolution and dislocation behaviour during nano-rolling process of FCC metals: A molecular dynamics simulation based investigation. *Journal of Applied Physics*, **2019**, 125, 095101	2.5	7
75	Effect of Basicity, Al2O3and MgO content on the softening and melting properties of the CaO-MgO-SiO2-Al2O3high alumina quaternary slag system. *Metallurgical Research and Technology*, **2016**, 113, 501	0.9	7
74	Structural evolution and dislocation behaviour study during nanoindentation of Mo20W20Co20Ta20Zr20 high entropy alloy coated Ni single crystal using molecular dynamic simulation. *Molecular Simulation*, **2019**, 45, 572-584	2	7
73	Variation of glass transition temperature of Al90Sm10 metallic glass under pressurized cooling. *Journal of Non-Crystalline Solids*, **2018**, 500, 249-259	3.9	6
72	Atomistic simulation study of influence of AlO-Al interface on dislocation interaction and prismatic loop formation during nano-indentation on AlO-coated aluminum. *Journal of Molecular Modeling*, **2018**, 24, 167	2	6
71	The effect of nano-void on deformation behaviour of Al-Cu intermetallic thin film compounds. *Metallurgical Research and Technology*, **2015**, 112, 505	0.9	6
70	Accumulative roll bonding of Cu⁄r nanolaminate: Atomistic-scale investigation of structural evolution and grain orientation scatter dependence on rolling parameters. *Journal of Applied Physics*, **2020**, 127, 154305	2.5	6
69	Influence of Carbon Equivalent Content on Phase Transformation During Inter-critical Heating of Dual Phase Steels Using Discrete Micro-scale Cellular Automata Model. *Transactions of the Indian Institute of Metals*, **2017**, 70, 909-915	1.2	5
68	Effect of temperature and stress on creep behavior of ultrafine grained nanocrystalline Ni-3 at% Zr alloy. *Metals and Materials International*, **2017**, 23, 272-282	2.4	5
67	Molecular Dynamics Simulation Study of Uniaxial Ratcheting Behaviors for Ultrafine-Grained Nanocrystalline Nickel. *Journal of Materials Engineering and Performance*, **2019**, 28, 4918-4930	1.6	5
66	Nano-rolling: Roller Speed-Dependent Morphological Evolution and Mechanical Properties Enhancement in Nanoscale Mg. *Jom*, **2019**, 71, 3407-3416	2.1	5
65	Atomistic investigation of the deformation mechanisms in nanocrystalline Cu with amorphous intergranular films. *Journal of Applied Physics*, **2019**, 126, 125101	2.5	5
64	Deformation of Ni20W20Cu20Fe20Mo20high entropy alloy for tensile followed by compressive and compressive followed by tensile loading: A molecular dynamics simulation based study. *IOP Conference Series: Materials Science and Engineering*, **2016**, 115, 012019	0.4	5
63	First-principles calculations to investigate electronic structure and magnetic, mechanical and thermodynamic properties of d0 half-Heusler LiXN (X= Na, K, Rb) alloys. *Solid State Sciences*, **2021**, 118, 106633	3.4	5
62	Investigation of reorganization of a nanocrystalline grain boundary network during biaxial creep deformation of nanocrystalline Ni using molecular dynamics simulation. *Journal of Molecular Modeling*, **2019**, 25, 282	2	4
61	Design of Methane Hydrate Inhibitor Molecule Using Density Functional Theory. *Journal of Cluster Science*, **2015**, 26, 551-563	3	4

60	Atomistic investigation of mechanical behavior for CNT reinforced nanocrystalline aluminum under biaxial tensile loading. *Materials Today: Proceedings*, **2020**, 33, 4942-4950	1.4	4
59	Zr segregation in Ni–Zr alloy: implication on deformation mechanism during shear loading and bending creep. *Journal of Materials Science*, **2020**, 55, 6172-6186	4.3	4
58	Theoretical Study of Hydrogen Bond Formation in Chitosan and Pentagonal Dodecahedron Methane Hydrate Cage Structure. *Chemical Science Transactions*, **2013**, 2, 447-454	0.3	4
57	Influence of rolling temperature on the structural evolution and residual stress generation of nanocrystalline Nickel during nano-rolling process. *Computational Materials Science*, **2020**, 184, 109935	3.2	4
56	Influence of dislocation density and grain size on precipitation kinetics on P92 grade steel. *Materials Today: Proceedings*, **2019**, 18, 1364-1374	1.4	4
55	A 3D Wide Residual Network with Perceptual Loss for Brain MRI Image Denoising **2019**,		4
54	Molecular dynamics simulation-based study of creep–ratcheting behavior of nanocrystalline aluminum. *Applied Nanoscience (Switzerland)*, **2021**, 11, 565-581	3.3	4
53	DFT Studies on Interaction between Lanthanum and Hydroxyamide. *IOP Conference Series: Materials Science and Engineering*, **2018**, 338, 012025	0.4	4
52	Prediction of Nitrogen Content of Steel Melt during Stainless Steel Making Using AOD Converter. *Steel Research International*, **2017**, 88, 1600271	1.6	3
51	Computer vision approach for phase identification from steel microstructure. *Engineering Computations*, **2019**, 36, 1913-1933	1.4	3
50	Deep learning approach for segmentation of plain carbon steel microstructure images. *IET Image Processing*, **2019**, 13, 1516-1524	1.7	3
49	Data-Driven Bi-Objective Genetic Algorithms EvoNN Applied to Optimize Dephosphorization Process during Secondary Steel Making Operation for Producing LPG (Liquid Petroleum Gas Cylinder) Grade of Steel. *Steel Research International*, **2018**, 89, 1800095	1.6	3
48	Intensification of shock damage through heterogeneous phase transition and dislocation loop formation due to presence of pre-existing line defects in single crystal Cu. *Journal of Applied Physics* , **2019**, 126, 174302	2.5	3
47	AA6082 to DX56-Steel Laser Brazing: Process Parameter–Intermetallic Formation Correlation. *Journal of Materials Engineering and Performance*, **2017**, 26, 4274-4281	1.6	3
46	Presence of retained crystalline seed necessary for bicrystal-liquid-bicrystal phase transformation. *Journal of Crystal Growth*, **2017**, 475, 307-315	1.6	3
45	Racheting Behaviour of Copper Nano-Wire by Classical Molecular Dynamics Simulations. *Journal of Computational and Theoretical Nanoscience*, **2015**, 12, 2264-2267	0.3	3
44	Mechanical Behaviour of Cu–Zr–Al Glassy Nano-Wires. *Journal of Computational and Theoretical Nanoscience*, **2015**, 12, 2332-2338	0.3	3
43	Atomistic Simulation of Nano-Rolling Process for Nanocrystalline Tungsten. *Jom*, **2020**, 72, 3977-3986	2.1	3

42	Strength degradation and fractographic analysis of carbon fiber reinforced polymer composite laminates with square / circular hole using scanning electron microscope micrographs. *Journal of Applied Polymer Science*, **2021**, 138, 49878	2.9	3
41	Recreating the shear band evolution in nanoscale metallic glass by mimicking the atomistic rolling deformation: a molecular dynamics study. *Journal of Molecular Modeling*, **2021**, 27, 220	2	3
40	Influence of Asymmetric Cyclic Loading on Structural Evolution and Deformation Behavior of Cu-5 at.% Zr Alloy: An Atomistic Simulation-Based Study. *Journal of Materials Engineering and Performance*, **2017**, 26, 5197-5205	1.6	2
39	Optimization between Tundish Temperature and Slab Exit Temperature to Eliminate Strand Stuck-Up Phenomenon in Continuous Casting Process of Steel by Implementation of Multi-Objective Evolutionary and Genetic Algorithm. *Steel Research International*, **2019**, 90, 1800506	1.6	2
38	Effect of Thermal cycles and Dimensions of the Geometry on Residual stress of the Alumina-Kovar Joint. *IOP Conference Series: Materials Science and Engineering*, **2018**, 338, 012001	0.4	2
37	Molecular dynamics simulation based investigation of strain induced crystallization of nickel metallic glass. *Materials Chemistry and Physics*, **2019**, 237, 121831	4.4	2
36	Synthesis and Characterization of W80Ni10Mo10 alloy produced by mechanical alloying. *IOP Conference Series: Materials Science and Engineering*, **2015**, 75, 012032	0.4	2
35	CFD Modeling of Fluid Flow Behavior and Bath Surface Deformation in LD Converter **2012**, 319-326		2
34	The spectrum of atomic excess free volume in grain boundaries. *Journal of Materials Science*, **2021**, 56, 11511-11528	4.3	2
33	Molecular dynamics based study of high temperature deformation process of nanocrystalline Ni-Nb alloy under tensile loading condition. *Materials Today: Proceedings*, **2019**, 11, 740-746	1.4	1
32	Influence of Stress on Creep Behavior of Ni60Zr40 Glass-Reinforced Ni Nanocomposite Investigated by Atomistic Simulations. *Transactions of the Indian Institute of Metals*, **2019**, 72, 2783-2791	1.2	1
31	Study of debonding phenomena at interface and its implication on mechanical behaviour of epoxy-CNT nano-composite using molecular dynamics simulation. *Materials Today: Proceedings*, **2020**, 21, 1111-1115	1.4	1
30	Quantum chemical calculation based investigation of synergistic chelating between multiple hydroxyamide ligands and La3+ ion. *Computational and Theoretical Chemistry*, **2019**, 1170, 112643	2	1
29	Theoretical study of methanol as inhibitor and cyclopentane as stabilizer of dodecahedron methane hydrate cage. *IOP Conference Series: Materials Science and Engineering*, **2015**, 73, 012081	0.4	1
28	Processing and refinement of steel microstructure images for assisting in computerized heat treatment of plain carbon steel. *Journal of Electronic Imaging*, **2017**, 26, 1	0.7	1
27	Exponential linear unit dilated residual network for digital image denoising. *Journal of Electronic Imaging*, **2018**, 27, 1	0.7	1
26	Atomistic study of fracture behavior of metallic glass fiber reinforced metal-matrix nanocomposite during bending creep deformation process. *International Journal of Materials Research*, **2019**, 110, 1142-1149	0.5	1
25	Molecular Dynamics Simulation Based Study of Creep-Ratcheting Behavior of CNT Reinforced Nanocrystalline Aluminum Composite1		1

24	Constant twist rate response of symmetric Σ5 aluminium tilt grain boundaries: molecular dynamics study of deformation processes. *Journal of Materials Science*, **2021**, 56, 8544-8562	4.3	1
23	Atomistic simulation of crack propagation in CNT reinforced nanocrystalline aluminum under uniaxial tensile loading. *Philosophical Magazine*, **2021**, 101, 1942-1964	1.6	1
22	Impact of crystalline–amorphous interface on shock response of metallic glass Al90Sm10/crystalline Al nanolaminates. *Applied Physics A: Materials Science and Processing*, **2021**, 127, 1	2.6	1
21	Investigation of structural evolution in the Cu-Zr metallic glass at cryogenic temperatures by using molecular dynamics simulations. *Journal of Molecular Modeling*, **2021**, 27, 286	2	1
20	Cold-rolling induced residual stress effect on the shock response of crystalline-metallic glass (Cu–CuZr) nanolaminates by molecular dynamics simulation. *Materials Chemistry and Physics*, **2021**, 272, 125010	4.4	1
19	Evaluation of Ni62Nb38 Bimetallic Glass Formation under Hydrostatically Pressurised Quenching. *Materials Science Forum*, **2020**, 978, 436-445	0.4	0
18	Stable nanocrystalline structure attainment and strength enhancement of Cu base alloy using bi-modal distributed tungsten dispersoids. *Philosophical Magazine*,1-21	1.6	0
17	Effect of variation in inclination angle of Σ5 tilt grain boundary on the shock response of Ni bicrystals. *Applied Physics A: Materials Science and Processing*, **2021**, 127, 1	2.6	0
16	Investigation of lanthanide complexation with acetohydroxamic acid in nitrate medium: experimental and DFT studies. *Journal of Chemical Sciences*, **2021**, 133, 1	1.8	0
15	Ab-initio investigation of structural, mechanical, thermodynamic, electronic, magnetic and thermoelectric properties of half-metallic d0 half-Heusler alloys LiXSi (X=Ca, Sr). *Journal of Solid State Chemistry*, **2021**, 304, 122610	3.3	0
14	Restriction of grain growth of nano-crystalline Ni-Zr alloy by Zr atoms segregated at grain boundary under high temperature intermittent stressing. *Molecular Simulation*, **2019**, 45, 1465-1479	2	
13	Influence of specimen size and strain rate on tensile deformation and fracture behavior of single-layer Silicene. *Materials Today: Proceedings*, **2019**, 18, 1401-1410	1.4	
12	Atomistic Insight into the Texture Weakening and Shear-Shuffle Twinning Mechanism During Cold-Rolling of Magnesium. *Jom*,1	2.1	
11	Amorphous Intergranular Film Effect on the Texture and Structural Evolution During Cold-Rolling of Nanocrystalline Ni–Zr Alloys. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2022**, 53, 1025-1034	2.3	
10	Effect of Ni–Nb Metallic Glass on Moderating the Shock Damage in Crystalline Ni-Amorphous Ni62Nb38 Nanocomposite Structure: A Molecular Dynamics Study. *Minerals, Metals and Materials Series*, **2020**, 909-921	0.3	
9	Dynamic probing of structural evolution for CoNi metallic glass during pressurized cooling using atomistic simulation. *Journal of Molecular Modeling*, **2020**, 26, 208	2	
8	Correlation and Optimization of Phosphorous Content in Liquid Steel with Turndown Temperature and FeO Content in Slag for Steel Making by LD Converter by Implementing Multi-Objective Evolutionary and Genetic Algorithms. *Transactions of the Indian Institute of Metals*,1	1.2	
7	Molecular Dynamics Simulation-Based Investigation of Mechanical Behavior of CNT Embedded Nanocrystalline Al at Cryogenic Temperature. *Springer Proceedings in Materials*, **2021**, 211-221	0.2	

6	A Comparative Nanoindentation Study on HEA Coated FCC Metals and Stacking Fault Tetrahedra Evolution in HEA Coated Single Crystal Al: A MD Simulation Study. *Springer Proceedings in Materials*, **2021**, 325-347	0.2
5	Bi-objective Optimization of Maraging Steel Produced by Vacuum Induction Melting Using Evolutionary Algorithms. *Transactions of the Indian Institute of Metals*, **2021**, 74, 1193-1201	1.2
4	Optimisation of Ferrochrome Addition Using Multi-Objective Evolutionary and Genetic Algorithms for Stainless Steel Making via AOD Converter. *IOP Conference Series: Materials Science and Engineering*, **2018**, 338, 012002	0.4
3	The influence of void and porosity on deformation behaviour of nanocrystalline Ni under tensile followed by compressive loading. *IOP Conference Series: Materials Science and Engineering*, **2018**, 338, 012028	0.4
2	Generative Adversarial Networks for Noise Removal in Plain Carbon Steel Microstructure Images **2022**, 6, 1-4	
1	Small-scale deformation behaviour of the AlCoCrFeNi2.1 eutectic high entropy alloy. *Philosophical Magazine*,1-17	1.6