Pyuck-Pa Choi

List of Publications by Year
in descending order

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100 papers	6,243 citations	76294 40 h-index	69214 77 g-index
103 all docs	103 docs citations	103 times ranked	5345 citing authors

#	Article	IF	Citations
1	Atom Probe Tomography: Unveiling the Elemental Distribution in Nanostructured Materials With Near-Atomic Resolution. , 2022, , 641-647.		0
2	Decomposition behavior of yttria-stabilized zirconia and its effect on directed energy deposited Ti-based composite material. Journal of Materials Science and Technology, 2022, 112, 138-150.	5.6	3
3	Self-assembled nano-composite perovskites as highly efficient and robust hybrid cathodes for solid oxide fuel cells. Journal of Materials Chemistry A, 2022, 10, 2496-2508.	5.2	29
4	Kinetic stabilization of a topotactically transformed texture morphology via doping in Ni-rich lithium layered oxides. Journal of Materials Chemistry A, 2022, 10, 13735-13743.	5.2	3
5	Dissecting functional degradation in NiTi shape memory alloys containing amorphous regions via atomistic simulations. Acta Materialia, 2021, 202, 331-349.	3.8	39
6	Improved strength of a medium-Mn steel by V addition without sacrificing ductility. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 802, 140681.	2.6	27
7	Tailoring nanostructured NbCoSn-based thermoelectric materials via crystallization of an amorphous precursor. Nano Energy, 2021, 80, 105518.	8.2	19
8	Reducing Time to Discovery: Materials and Molecular Modeling, Imaging, Informatics, and Integration. ACS Nano, 2021, 15, 3971-3995.	7.3	36
9	On the oxygen-induced hot cracking in a direct laser deposited Ni-based superalloy. Scripta Materialia, 2021, 196, 113751.	2.6	13
10	Elemental Sub-Lattice Occupation and Microstructural Evolution in Î³/Î³â€² Coâ€“12Tiâ€“4Moâ€“Cr Alloys. Microscopy and Microanalysis, 2021, , 1-5.	0.2	0
11	Orientation-dependent plastic deformation mechanisms and competition with stress-induced phase transformation in microscale NiTi. Acta Materialia, 2021, 208, 116731.	3.8	31
12	Atom Probe Tomography Investigations of Ag Nanoparticles Embedded in Pulse-Electrodeposited Ni Films. Microscopy and Microanalysis, 2021, 27, 1007-1016.	0.2	4
13	Three-dimensional atomic mapping of ligands on palladium nanoparticles by atom probe tomography. Nature Communications, 2021, 12, 4301.	5.8	16
14	Hot cracking behavior of additively manufactured D2 steel. Materials Characterization, 2021, 178, 111217.	1.9	11
15	Enhanced microstructural stability of Î³/Î³â€²-strengthened Co-Ti-Mo-based alloys through Al additions. Acta Materialia, 2021, 214, 117011.	3.8	7
16	Shear band-driven precipitate dispersion for ultrastrong ductile medium-entropy alloys. Nature Communications, 2021, 12, 4703.	5.8	70
17	Joining dissimilar metal of Ti and CoCrMo using directed energy deposition. Journal of Materials Science and Technology, 2021, 111, 99-99.	5.6	0
18	Mechanisms of extrinsic alkali incorporation in CIGS solar cells on flexible polyimide elucidated by nanoscale and quantitative analyses. Nano Energy, 2020, 67, 104201.	8.2	35

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19	Effects of transformation-induced plasticity on the small-scale deformation behavior of single crystalline complex concentrated alloys. Scripta Materialia, 2020, 176, 122-125.	2.6	5
20	Atomicâ€Scale Mapping of Impurities in Partially Reduced Hollow TiO₂ Nanowires. Angewandte Chemie - International Edition, 2020, 59, 5651-5655.	7.2	42
21	Atomically Embedded Ag via Electrodiffusion Boosts Oxygen Evolution of CoOOH Nanosheet Arrays. ACS Catalysis, 2020, 10, 562-569.	5.5	93
22	FeNiCoAlTaB superelastic and shape-memory wires with oligocrystalline grain structure. Scripta Materialia, 2020, 188, 1-5.	2.6	13
23	Effects of Mo on the mechanical behavior of Î³/Î³Ê¹-strengthened Co-Ti-based alloys. Acta Materialia, 2020, 197, 69-80.	3.8	16
24	Additive manufacturing of titanium-base alloys with equiaxed microstructures using powder blends. Additive Manufacturing, 2020, 36, 101467.	1.7	10
25	Characterization of Pd and Pd@Au core-shell nanoparticles using atom probe tomography and field evaporation simulation. Journal of Alloys and Compounds, 2020, 831, 154721.	2.8	12
26	Passivation of Deep-Level Defects by Cesium Fluoride Post-Deposition Treatment for Improved Device Performance of Cu(In,Ga)Se₂ Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 35653-35660.	4.0	41
27	Unraveling the Metastability of C_n²⁺ (n = 2â€“4) Clusters. Journal of Physical Chemistry Letters, 2019, 10, 581-588.	2.1	24
28	A simple and robust route toward flexible CIGS photovoltaic devices on polymer substrates: Atomic level microstructural analysis and local opto-electronic investigation. Solar Energy Materials and Solar Cells, 2019, 195, 280-290.	3.0	19
29	Effects of phase composition and elemental partitioning on soft magnetic properties of AlFeCoCrMn high entropy alloys. Acta Materialia, 2019, 171, 31-39.	3.8	60
30	Fabrication of Atom Probe Tomography Specimens from Nanoparticles Using a Fusible Biâ€“Inâ€“Sn Alloy as an Embedding Medium. Microscopy and Microanalysis, 2019, 25, 438-446.	0.2	17
31	Microstructural evolution of the heat affected zone of a Coâ€“Tiâ€“W alloy upon laser cladding with a CoNiCrAlY coating. Materials Characterization, 2019, 158, 109998.	1.9	7
32	On the microstructural evolution and partitioning behavior of L12-structured Î³â€²-based Co-Ti-W alloys upon Cr and Al alloying. Intermetallics, 2019, 104, 97-102.	1.8	26
33	Crucial microstructural feature to determine the impact toughness of intercritically annealed medium-Mn steel with triplex-phase microstructure. Acta Materialia, 2019, 164, 122-134.	3.8	46
34	Variable chemical decoration of extended defects in Cu-poor <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">C</mml:mi><mml:msub><mml:mi mathvariant="normal">u</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi>ZnSnS</mml:mi><mml:msub><mml:mi mathvariant="normal">e</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:mrow></mml:math> thin films. Physical Review Materials, 2019, 3, .	0.9	5
35	Novel approaches for analyzing nanoparticles using Atom Probe Tomography. Journal of Surface Analysis (Online), 2019, 26, 140-141.	0.1	0
36	A new method for mapping the three-dimensional atomic distribution within nanoparticles by atom probe tomography (APT). Ultramicroscopy, 2018, 190, 30-38.	0.8	51

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37	On the detection of multiple events in atom probe tomography. Ultramicroscopy, 2018, 189, 54-60.	0.8	59
38	Elemental partitioning and site-occupancy in Î³/Î³â€² forming Co-Ti-Mo and Co-Ti-Cr alloys. Scripta Materialia, 2018, 154, 159-162.	2.6	44
39	Compositional evolution of long-period stacking ordered structures in magnesium studied by atom probe tomography. Scripta Materialia, 2018, 156, 55-59.	2.6	8
40	On the nature of twin boundary-associated strengthening in Fe-Mn-C steel. Scripta Materialia, 2018, 156, 27-31.	2.6	30
41	Spallation resistance of oxide scales on Alloy 617 enhanced by boron addition. Corrosion Science, 2018, 140, 196-204.	3.0	14
42	Evaluation of Analysis Conditions for Laser-Pulsed Atom Probe Tomography: Example of Cemented Tungsten Carbide. Microscopy and Microanalysis, 2017, 23, 431-442.	0.2	19
43	Amorphous phase separation in an Fe-based bulk metallic glass. Materials Letters, 2017, 190, 161-164.	1.3	6
44	Formation of nanometer-sized Cu-Sn-Se particles in Cu2ZnSnSe4 thin-films and their effect on solar cell efficiency. Acta Materialia, 2017, 132, 276-284.	3.8	3
45	Atomic diffusion induced degradation in bimetallic layer coated cemented tungsten carbide. Corrosion Science, 2017, 120, 1-13.	3.0	18
46	On the Multiple Event Detection in Atom Probe Tomography. Microscopy and Microanalysis, 2017, 23, 618-619.	0.2	12
47	Degradation Mechanism of Molds for Precision Glass Molding. Microscopy and Microanalysis, 2017, 23, 698-699.	0.2	1
48	Enhanced Congo red dye removal from aqueous solutions using iron nanoparticles: adsorption, kinetics, and equilibrium studies. Dalton Transactions, 2017, 46, 15470-15479.	1.6	103
49	Modulation of plastic flow in metallic glasses via nanoscale networks of chemical heterogeneities. Acta Materialia, 2017, 140, 116-129.	3.8	21
50	Oxidation behavior of AlN/CrN multilayered hard coatings. Nano Convergence, 2017, 4, 15.	6.3	8
51	(Nb_x, Zr_{1â€“x})₄AlC₃ MAX Phase Solid Solutions: Processing, Mechanical Properties, and Density Functional Theory Calculations. Inorganic Chemistry, 2016, 55, 5445-5452.	1.9	54
52	On Local Phase Equilibria and the Appearance of Nanoparticles in the Microstructure of Singleâ€Crystal Niâ€Base Superalloys. Advanced Engineering Materials, 2016, 18, 1556-1567.	1.6	39
53	Strain hardening by dynamic slip band refinement in a high-Mn lightweight steel. Acta Materialia, 2016, 116, 188-199.	3.8	276
54	Detection of Cu2Zn5SnSe8 and Cu2Zn6SnSe9 phases in co-evaporated Cu2ZnSnSe4 thin-films. Applied Physics Letters, 2015, 107, .	1.5	6

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55	Co-deformation of crystalline-amorphous nanolaminates. Microscopy and Microanalysis, 2015, 21, 361-362.	0.2	2
56	Dynamic strain aging studied at the atomic scale. Acta Materialia, 2015, 86, 34-42.	3.8	136
57	Deformation induced alloying in crystalline â€“ metallic glass nano-composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 628, 269-280.	2.6	19
58	Advanced Scale Bridging Microstructure Analysis of Single Crystal Niâ€Base Superalloys. Advanced Engineering Materials, 2015, 17, 216-230.	1.6	117
59	Effects of Ru on elemental partitioning and precipitation of topologically close-packed phases in Ni-based superalloys. Scripta Materialia, 2015, 101, 44-47.	2.6	49
60	Thermal dissolution mechanisms of AlN/CrN hard coating superlattices studied by atom probe tomography and transmission electron microscopy. Acta Materialia, 2015, 85, 32-41.	3.8	24
61	Investigation of the diffusion behavior of sodium in Cu(In,Ga)Se2 layers. Journal of Applied Physics, 2014, 115, .	1.1	90
62	Publisherâ€™s Note: Shear-Induced Mixing Governs Codeformation of Crystalline-Amorphous Nanolaminates [Phys. Rev. Lett.113, 035501 (2014)]. Physical Review Letters, 2014, 113, .	2.9	7
63	Shear-Induced Mixing Governs Codeformation of Crystalline-Amorphous Nanolaminates. Physical Review Letters, 2014, 113, 035501.	2.9	70
64	Precipitation and austenite reversion behavior of a maraging steel produced by selective laser melting. Journal of Materials Research, 2014, 29, 2072-2079.	1.2	221
65	Cuâ€Rich Precursors Improve Kesterite Solar Cells. Advanced Energy Materials, 2014, 4, 1300543.	10.2	49
66	On the Spheroidized Carbide Dissolution and Elemental Partitioning in High Carbon Bearing Steel 100Cr6. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 595-606.	1.1	60
67	Atomic-scale analysis of carbon partitioning between martensite and austenite by atom probe tomography and correlative transmission electron microscopy. Acta Materialia, 2014, 65, 215-228.	3.8	205
68	The Maximum Separation Cluster Analysis Algorithm for Atom-Probe Tomography: Parameter Determination and Accuracy. Microscopy and Microanalysis, 2014, 20, 1662-1671.	0.2	46
69	Atomic-Scale Quantification of Grain Boundary Segregation in Nanocrystalline Material. Physical Review Letters, 2014, 112, 126103.	2.9	284
70	Segregation Stabilizes Nanocrystalline Bulk Steel with Near Theoretical Strength. Physical Review Letters, 2014, 113, 106104.	2.9	224
71	Grain boundary segregation engineering in metallic alloys: A pathway to the design of interfaces. Current Opinion in Solid State and Materials Science, 2014, 18, 253-261.	5.6	466
72	Elemental partitioning and mechanical properties of Ti- and Ta-containing Coâ€“Alâ€“W-base superalloys studied by atom probe tomography and nanoindentation. Acta Materialia, 2014, 78, 78-85.	3.8	168

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73	Stabilization of monodispersed spherical silica particles and their alignment with reduced crack density. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2014, 441, 354-359.	2.3	12
74	Nano-scale Characterization of Thin-Film Solar Cells. Microscopy and Microanalysis, 2014, 20, 394-395.	0.2	5
75	Interface-directed spinodal decomposition in TiAlN/CrN multilayer hard coatings studied by atom probe tomography. Acta Materialia, 2013, 61, 7534-7542.	3.8	77
76	Segregation engineering enables nanoscale martensite to austenite phase transformation at grain boundaries: A pathway to ductile martensite. Acta Materialia, 2013, 61, 6132-6152.	3.8	264
77	Atomic-scale compositional characterization of a nanocrystalline AlCrCuFeNiZn high-entropy alloy using atom probe tomography. Acta Materialia, 2013, 61, 4696-4706.	3.8	138
78	Element-Resolved Corrosion Analysis of Stainless-Type Glass-Forming Steels. Science, 2013, 341, 372-376.	6.0	136
79	Atom Probe Tomography Studies on the Cu(In,Ga)Se₂ Grain Boundaries. Journal of Visualized Experiments, 2013, , .	0.2	18
80	Spatial Distributions of Alloying Elements Obtained from Atom Probe Tomography of the Amorphous Ribbon Fe75C11Si2B8Cr4. Korean Journal of Materials Research, 2013, 23, 190-193.	0.1	1
81	Compositional gradients and impurity distributions in CuInSe₂ thinâ€film solar cells studied by atom probe tomography. Surface and Interface Analysis, 2012, 44, 1386-1388.	0.8	17
82	Confined and Chemically Flexible Grain Boundaries in Polycrystalline Compound Semiconductors. Advanced Energy Materials, 2012, 2, 992-998.	10.2	84
83	Microstructural evolution of a Ni-based superalloy (617B) at 700Â°C studied by electron microscopy and atom probe tomography. Acta Materialia, 2012, 60, 1731-1740.	3.8	212
84	Nanoscale austenite reversion through partitioning, segregation and kinetic freezing: Example of a ductile 2GPa Feâ€“Crâ€“C steel. Acta Materialia, 2012, 60, 2790-2804.	3.8	167
85	Evolution of strength and microstructure during annealing of heavily cold-drawn 6.3 GPa hypereutectoid pearlitic steel wire. Acta Materialia, 2012, 60, 4005-4016.	3.8	187
86	Atom Probe Tomography: A Characterization Method for Three-dimensional Elemental Mapping at the Atomic Scale. Journal of Korean Powder Metallurgy Institute, 2012, 19, 67-71.	0.2	0
87	Comparative atom probe study of Cu(In,Ga)Se2 thin-film solar cells deposited on soda-lime glass and mild steel substrates. Journal of Applied Physics, 2011, 110, .	1.1	59
88	Characterization of Grain Boundaries in Cu(In,Ga)Se$_{f 2}$ Films Using Atom-Probe Tomography. IEEE Journal of Photovoltaics, 2011, 1, 207-212.	1.5	87
89	Thermal stability of TiAlN/CrN multilayer coatings studied by atom probe tomography. Ultramicroscopy, 2011, 111, 518-523.	0.8	29
90	Chemical gradients across phase boundaries between martensite and austenite in steel studied by atom probe tomography and simulation. Acta Materialia, 2011, 59, 364-374.	3.8	255

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91	Atomic-scale mechanisms of deformation-induced cementite decomposition in pearlite. Acta Materialia, 2011, 59, 3965-3977.	3.8	269
92	Metallic composites processed via extreme deformation: Toward the limits of strength in bulk materials. MRS Bulletin, 2010, 35, 982-991.	1.7	180
93	An assessment of the homogeneity of nano-crystalline Feâ€“Cu powders as studied by means of APT. Ultramicroscopy, 2009, 109, 599-605.	0.8	6
94	Enhancement of the photocatalytic reactivity of TiO2 nano-particles by a simple mechanical blending with hydrophobic mordenite (MOR) zeolite. Applied Catalysis B: Environmental, 2009, 89, 406-410.	10.8	44
95	Homogeneity of mechanically alloyed nano-crystalline Fe â€“ Cu-powders. International Journal of Materials Research, 2008, 99, 541-547.	0.1	8
96	Application of Focused Ion Beam to Atom Probe Tomography Specimen Preparation from Mechanically Alloyed Powders. Microscopy and Microanalysis, 2007, 13, 347-353.	0.2	19
97	Transmission electron microscopy and atom probe specimen preparation from mechanically alloyed powder using the focused ion-beam lift-out technique. Journal of Electron Microscopy, 2007, 56, 43-49.	0.9	10
98	Thermal stability of electrodeposited nanocrystalline Co-1.1at.%P. Acta Materialia, 2005, 53, 4473-4481.	3.8	135
99	Interaction of tungsten nanopowders with air under different conditions. Scripta Materialia, 2005, 52, 375-380.	2.6	24
100	Investigation of sputter-deposited Alâ€“2at.%Cu layers by means of the tomographic atom probe (TAP). Scripta Materialia, 2005, 53, 323-327.	2.6	7