S Joseph Poon

List of Publications by Year
in descending order

110 papers	7,026 citations	71102 41 h-index	56724 83 g-index
112 all docs	112 docs citations	112 times ranked	4307 citing authors

#	Article	IF	Citations
1	Fe-based bulk metallic glasses with diameter thickness larger than one centimeter. Journal of Materials Research, 2004, 19, 1320-1323.	2.6	505
2	Deformation-induced nanocrystal formation in shear bands of amorphous alloys. Nature, 1994, 367, 541-543.	27.8	488
3	Recent Developments in Bulk Thermoelectric Materials. MRS Bulletin, 2006, 31, 199-205.	3.5	407
4	Enhanced Thermoelectric Figure of Merit of p-Type Half-Heuslers. Nano Letters, 2011, 11, 556-560.	9.1	362
5	Recent Advances in Nanostructured Thermoelectric Half-Heusler Compounds. Nanomaterials, 2012, 2, 379-412.	4.1	287
6	Effect of substitutions on the thermoelectric figure of merit of half-Heusler phases at 800â€‰Â°C. Applied Physics Letters, 2006, 88, 042106.	3.3	223
7	Critical Poissonâ€™s ratio for plasticity in Feâ€“Moâ€“Câ€“Bâ€“Ln bulk amorphous steel. Applied Physics Letters, 2006, 88, 211905.	3.3	203
8	Metallic glass ingots based on yttrium. Applied Physics Letters, 2003, 83, 2575-2577.	3.3	197
9	Effect of Sb doping on the thermoelectric properties of Ti-based half-Heusler compounds, TiNiSn1âˆ’xSbx. Applied Physics Letters, 2000, 77, 2476-2478.	3.3	195
10	(Zr,Hf)Co(Sb,Sn) half-Heusler phases as high-temperature (>700Â°C)â€p-type thermoelectric materials. Applied Physics Letters, 2008, 93, .	3.3	189
11	Ductility improvement of amorphous steels: Roles of shear modulus and electronic structure. Acta Materialia, 2008, 56, 88-94.	7.9	188
12	Thermoelectric properties of semimetallic (Zr, Hf)CoSb half-Heusler phases. Journal of Applied Physics, 2000, 88, 1952-1955.	2.5	175
13	Synthesis of iron-based bulk metallic glasses as nonferromagnetic amorphous steel alloys. Applied Physics Letters, 2003, 83, 1131-1133.	3.3	175
14	Ductile titanium-based glassy alloy ingots. Applied Physics Letters, 2005, 86, 091907.	3.3	169
15	Mechanical properties of iron-based bulk metallic glasses. Journal of Materials Research, 2007, 22, 344-351.	2.6	166
16	Glass transition in metallic glasses: A microscopic model of topological fluctuations in the bonding network. Physical Review B, 2007, 76, .	3.2	152
17	Half-Heusler phases and nanocomposites as emerging high-ZT thermoelectric materials. Journal of Materials Research, 2011, 26, 2795-2802.	2.6	136
18	Atomic structure of amorphous Al₉₀Fe_xCe_{10âˆ’x}. Journal of Materials Research, 1990, 5, 2807-2812.	2.6	134

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19	Grain structure effects on the lattice thermal conductivity of Ti-based half-Heusler alloys. Applied Physics Letters, 2002, 81, 43-45.	3.3	133
20	Mgâ€“Caâ€“Zn Bulk Metallic Glasses with High Strength and Significant Ductility. Journal of Materials Research, 2005, 20, 1935-1938.	2.6	132
21	Tough Fe-based bulk metallic glasses. Applied Physics Letters, 2008, 92, .	3.3	113
22	Electrical transport properties of TiCoSb half-Heusler phases that exhibit high resistivity. Journal of Physics Condensed Matter, 2001, 13, 77-89.	1.8	109
23	CaAl-based bulk metallic glasses with high thermal stability. Applied Physics Letters, 2004, 84, 37-39.	3.3	108
24	Formation of Bulk Metallic Glasses and Their Composites. MRS Bulletin, 2007, 32, 624-628.	3.5	100
25	Feâ€“Mnâ€“Crâ€“Moâ€“(Y,Ln)â€“Câ€“B (Ln = Lanthanides) bulk metallic glasses as formable amorphous steel alloys. Journal of Materials Research, 2004, 19, 3046-3052.	2.6	97
26	Mechanical properties of a new class of metallic glasses based on aluminum. Journal of Applied Physics, 1988, 64, 6863-6865.	2.5	90
27	Optical Conductivity of Insulating Al-Based Alloys: Comparison of Quasiperiodic and Periodic Systems. Physical Review Letters, 1994, 73, 1865-1868.	7.8	86
28	Formation of bulk metallic glasses in neodymium-based alloys. Philosophical Magazine Letters, 1994, 70, 371-377.	1.2	76
29	Semi-metals as potential thermoelectric materials. Scientific Reports, 2018, 8, 9876.	3.3	71
30	Poissonâ€™s Ratio and Intrinsic Plasticity of Metallic Glasses. Applied Physics Letters, 2008, 92, .	3.3	61
31	Uncovering high thermoelectric figure of merit in (Hf,Zr)NiSn half-Heusler alloys. Applied Physics Letters, 2015, 107, .	3.3	55
32	Indentation fracture toughness of amorphous steel. Journal of Materials Research, 2005, 20, 783-786.	2.6	51
33	Tunable perpendicular magnetic anisotropy in GdFeCo amorphous films. Journal of Magnetism and Magnetic Materials, 2013, 339, 51-55.	2.3	51
34	Introduction of resonant states and enhancement of thermoelectric properties in half-Heusler alloys. Physical Review B, 2011, 83, .	3.2	50
35	Sharp Feature in the Pseudogap of Quasicrystals Detected by NMR. Physical Review Letters, 1997, 79, 1070-1073.	7.8	48
36	High Entropy Alloys Mined From Binary Phase Diagrams. Scientific Reports, 2019, 9, 15501.	3.3	48

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37	Half Heusler compounds: promising materials for mid-to-high temperature thermoelectric conversion. Journal Physics D: Applied Physics, 2019, 52, 493001.	2.8	48
38	Mechanical properties, glass transition temperature, and bond enthalpy trends of high metalloid Fe-based bulk metallic glasses. Applied Physics Letters, 2008, 92, .	3.3	46
39	Effects of carbon content on the mechanical properties of amorphous steel alloys. Scripta Materialia, 2007, 57, 289-292.	5.2	45
40	Thermoelectric properties of p-type half-Heusler alloys Zr1â^'xTixCoSnySb1â^'y (0.0<x<0.5;) Tj ETQq0 0 0 rgBT /Overlock 1	2.5	43
41	Skyrmionicsâ€"Computing and memory technologies based on topological excitations in magnets. Journal of Applied Physics, 2021, 130, .	2.5	42
42	On the structural nature of aluminium-based metallic glasses. Philosophical Magazine Letters, 1990, 61, 297-303.	1.2	41
43	High thermoelectric figure of merit by resonant dopant in half-Heusler alloys. AIP Advances, 2017, 7, .	1.3	41
44	Half-Heusler Alloys for Efficient Thermoelectric Power Conversion. Journal of Electronic Materials, 2016, 45, 5554-5560.	2.2	37
45	Critical analysis of lattice thermal conductivity of half-Heusler alloys using variations of Callaway model. Journal of Applied Physics, 2015, 117, .	2.5	36
46	Structural relationship between icosahedral and Frank-Kasper phases of Al-Li-Cu. Philosophical Magazine Letters, 1987, 56, 63-68.	1.2	33
47	Local organization and atomic clustering in multicomponent amorphous steels. Physical Review B, 2008, 78, .	3.2	33
48	Enhanced bulk metallic glass formability by combining chemical compatibility and atomic size effects. Journal of Applied Physics, 2005, 97, 013512.	2.5	32
49	On glass formability of Alâ€"Gdâ€"Ni (Fe). Scripta Materialia, 2004, 50, 1451-1455.	5.2	30
50	Fatigue behavior of an Fe48Cr15Mo14Er2C15B6 amorphous steel. Journal of Materials Research, 2007, 22, 544-550.	2.6	30
51	Tuning interfacial Dzyaloshinskii-Moriya interactions in thin amorphous ferrimagnetic alloys. Scientific Reports, 2020, 10, 7447.	3.3	30
52	Strain-induced enhancement of coercivity in amorphous TbFeCo films. Journal of Applied Physics, 2013, 113, .	2.5	29
53	Magnetic properties and thermal stability of (Fe,Co)-Mo-B-P-Si metallic glasses. Journal of Applied Physics, 2012, 111, .	2.5	27
54	Evidence for an insulating ground state in high-resistivity icosahedral AlPdRe from the magnetoresistance. Physical Review B, 2001, 63, .	3.2	26

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55	Electronic structure of transition metal-doped XNiSn and XCoSb (X = Hf,Zr) phases in the vicinity of the band gap. Journal of Physics Condensed Matter, 2008, 20, 255220.	1.8	23
56	Role of Atomic Size on Glass Formability and Thermal Stability of Al-Based Amorphous Alloys. Materials Transactions, JIM, 2000, 41, 1406-1409.	0.9	22
57	Robust Formation of Ultrasmall Room-Temperature NeÃ©l Skyrmions in Amorphous Ferrimagnets from Atomistic Simulations. Scientific Reports, 2019, 9, 9964.	3.3	22
58	The role of Y/lanthanides on the glass forming ability of amorphous steel. Applied Physics Letters, 2007, 91, 141910.	3.3	21
59	Elastic properties of Ca-based metallic glasses predicted by first-principles simulations. Physical Review B, 2011, 84, .	3.2	21
60	The effect of temperature on stability of the Alâ€”Cuâ€”Co decagonal phase. Philosophical Magazine Letters, 1991, 64, 307-315.	1.2	18
61	Superconductivity in Transition Metal Doped MoB4. Journal of Superconductivity and Novel Magnetism, 2010, 23, 417-422.	1.8	18
62	Tunable magnetic skyrmions in ferrimagnetic Mn4N. Applied Physics Letters, 2021, 119, .	3.3	18
63	Stability investigation of a decagonal Alâ€”Cuâ€”Co quasicrystal. Philosophical Magazine Letters, 1991, 63, 211-216.	1.2	17
64	Nanostructure model of thermal conductivity for high thermoelectric performance. Journal of Applied Physics, 2011, 110, .	2.5	17
65	Enhanced Figure of Merit in Bismuth-Antimony Fine-Grained Alloys at Cryogenic Temperatures. Scientific Reports, 2019, 9, 14892.	3.3	17
66	Critical exponents at the metal-insulator transition in AlPdRe quasicrystals. Physical Review B, 2005, 71, .	3.2	16
67	Comparison of quasicrystalline (T2) and crystalline (R) structures in AlCuLi using high-resolution X-ray diffraction. Philosophical Magazine Letters, 1987, 56, 259-264.	1.2	15
68	Electronic structure of Fe-based amorphous alloys studied using electron-energy-loss spectroscopy. Physical Review B, 2008, 77, .	3.2	15
69	Thermoelectric Properties of the Half-Heusler Compound (Zr,Hf)(Ni,Pd)Sn. Materials Research Society Symposia Proceedings, 1998, 545, 403.	0.1	14
70	Ballistic transport of long wavelength phonons and thermal conductivity accumulation in nanograined silicon-germanium alloys. Applied Physics Letters, 2017, 111, .	3.3	14
71	Low-temperature specific heat of icosahedral and amorphous Pdâ”Uâ”Si alloys. Zeitschrift FÃ¼r Physik B-Condensed Matter, 1988, 70, 31-35.	1.1	13
72	Monitoring an insulator-metal transition in icosahedral AlPdRe by neutron irradiation. Physical Review B, 2002, 66, .	3.2	13

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73	Thermoelectric Properties of Half-Heusler Bismuthides ZrCo1â^'x Ni x Bi (xÂ=Â0.0 to 0.1). Journal of Electronic Materials, 2007, 36, 732-735.	2.2	13
74	Thermal conductivity of core-shell nanocomposites for enhancing thermoelectric performance. Applied Physics Letters, 2013, 102, .	3.3	13
75	Radiation effects on the magnetism and the spin dependent transport in magnetic materials and nanostructures for spintronic applications. Journal of Materials Research, 2015, 30, 1430-1439.	2.6	13
76	Perpendicular magnetization of Co20Fe50Ge30 films induced by MgO interface. Applied Physics Letters, 2012, 101, .	3.3	12
77	Weibull modulus of hardness, bend strength, and tensile strength of Niâ^'Taâ^'Coâ^'X metallic glass ribbons. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 634, 176-182.	5.6	12
78	Exchange bias and bistable magneto-resistance states in amorphous TbFeCo thin films. Applied Physics Letters, 2016, 108, .	3.3	12
79	Modeling the atomic structure of amorphous steels using crystalline approximants. Physical Review B, 2005, 72, .	3.2	11
80	Contributions of electron and phonon transport to the thermal conductivity of GdFeCo and TbFeCo amorphous rare-earth transition-metal alloys. Journal of Applied Physics, 2012, 111, .	2.5	11
81	Micromagnetic simulation of ferrimagnetic TbFeCo films with exchange coupled nanophases. Journal of Magnetism and Magnetic Materials, 2016, 417, 197-202.	2.3	11
82	Thickness dependence of ferrimagnetic compensation in amorphous rare-earth transition-metal thin films. Applied Physics Letters, 2018, 113, .	3.3	11
83	Rare-earth-free ferrimagnetic Mn4N sub-20Ânm thin films as potential high-temperature spintronic material. AIP Advances, 2021, 11, 015334.	1.3	11
84	Quasicrystalline grain boundary precipitates in aluminium alloys through solidâ€ssolid transformations. Journal of Microscopy, 1987, 146, 323-335.	1.8	9
85	Structures of shear planes, intersection areas and translation domains in the Al5CuLi3Frank-Kasper phase. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1991, 64, 483-493.	0.6	9
86	Synchrotron X-ray studies of diffuse scattering in an Alâ€“Cuâ€“Co two-dimensional decagonal quasicrystal. Philosophical Magazine Letters, 1992, 66, 241-251.	1.2	9
87	Influence of erbium on the electronic structure of Fe(65â^'x)Mo14C15B6Erx (x=0,1,2) bulk metallic glasses. Journal of Applied Physics, 2009, 105, 023518.	2.5	9
88	Photoemission study of ternary to penternary Fe-based metallic glasses: Chemical analysis of surface and bulk. Journal of Applied Physics, 2007, 102, 033501.	2.5	8
89	Conductivity of icosahedral AlPdRe. Physical Review B, 2011, 84, .	3.2	8
90	Sintering and Microstructure - Property Relations for YBa2Cu3Ox. Materials Research Society Symposia Proceedings, 1987, 99, 245.	0.1	6

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91	Comment on â€œExtrinsic origin of the insulating behavior of polygrain icosahedral Al-Pd-Re quasicrystalsâ€• Physical Review B, 2007, 76, .	3.2	6
92	Effect of substitutional doping on the thermal conductivity of Ti-based Half-Heusler compounds. Materials Research Society Symposia Proceedings, 2000, 626, 521.	0.1	5
93	High Temperature Superconductors in the La1+xBa2-xCu3Oy System. Materials Research Society Symposia Proceedings, 1987, 99, 101.	0.1	4
94	Metal-Insulator Transitionlike Behavior In Several Icosahedral Phases. Materials Research Society Symposia Proceedings, 1998, 553, 365.	0.1	4
95	Structural and magnetic properties of Cr-diluted CoFeB. Journal of Applied Physics, 2013, 114, 153902.	2.5	4
96	Processing and Properties of Ni-Based Bulk Metallic Glass via Spark Plasma Sintering of Pulverized Amorphous Ribbons. MRS Advances, 2017, 2, 3815-3820.	0.9	4
97	Reductions in the Lattice Thermal Conductivity of Ball-milled and Shock compacted TiNiSn1â^'XSbX Half-Heusler alloys. Materials Research Society Symposia Proceedings, 2001, 691, 1.	0.1	3
98	Recent results at the metal-insulator transition of icosahedral AlPdRe. Philosophical Magazine, 2006, 86, 655-661.	1.6	3
99	Correlation of amorphization effects in titanium solid solutions via mechanical milling and annealing. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1999, 79, 97-106.	0.6	2
100	Effective medium approach to thermal conductivity: applying to core-shell nanocomposites. Emerging Materials Research, 2012, 1, 286-291.	0.7	2
101	Amorphous Ferrimagnets: an Ideal Host for Ultra-Small Skyrmions. Journal of Superconductivity and Novel Magnetism, 2020, 33, 269-273.	1.8	2
102	Bulk titanium-rich alloys containing nanoscale disordered regions. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1998, 29, 1821-1824.	2.2	1
103	The Effects of Sc Alloying in Y56Al24Ni10Co10 Glasses on the Local Atomic Structure. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 1990-1993.	2.2	1
104	Elastic mismatch induced reduction of the thermal conductivity of silicon with aluminum nano-inclusions. Applied Physics Letters, 2018, 112, .	3.3	1
105	Multi-Principal-Element Approach to High-Performance Thermoelectric Materials. , 2022, , 491-499.		1
106	Local Order in Amorphous Fe-alloys. Materials Research Society Symposia Proceedings, 2002, 754, 1.	0.1	0
107	Phase Transitions in Al87Ni7Nd6. Materials Research Society Symposia Proceedings, 2003, 806, 374.	0.1	0
108	Neutron Irradiation and Annealing Recovery in the AlPdRe Quasicrystal. AIP Conference Proceedings, 2006, , .	0.4	0

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109	Fluctuations of the Local Atomic Environment with Chemical Alloying in Fe Bulk Metallic Glasses. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 1481-1485.	2.2	0
110	Critical evaluation of p-type doping effects in Bi-Sb alloys. AIP Advances, 2019, 9, 075321.	1.3	0