

Tresa M Pollock

List of Publications by Year in descending order

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citations

182225

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76
all docs

76
docs citations

76
times ranked

4512
citing authors

#	ARTICLE	IF	CITATIONS
1	3D Grain Shape Generation in Polycrystals Using Generative Adversarial Networks. Integrating Materials and Manufacturing Innovation, 2022, 11, 71-84.	1.2	8
2	A high stability B2-containing refractory multi-principal element alloy. Acta Materialia, 2022, 229, 117767.	3.8	15
3	Experimental investigation and thermodynamic modelling of the Mg-Al-rich region of the Mg-Al-Sr System. International Journal of Materials Research, 2022, 97, 422-428.	0.1	2
4	Microstructure Evolution and Tensile Properties of a Selectively Laser Melted CoNi-Base Superalloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2022, 53, 2943-2960.	1.1	11
5	On the Localization of Plastic Strain in Microtextured Regions of Ti-6Al-4V. Acta Materialia, 2021, 204, 116492.	3.8	34
6	Mechanical Metrics of Virtual Polycrystals (MechMet). Integrating Materials and Manufacturing Innovation, 2021, 10, 265-285.	1.2	7
7	Microstructure-Based Estimation of Strength and Ductility Distributions for $\alpha + \eta$ Titanium Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2021, 52, 2411-2434.	1.1	9
8	Low cycle fatigue of a single crystal CoNi-base superalloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 827, 142007.	2.6	5
9	Bayesian inference of elastic constants and texture coefficients in additively manufactured cobalt-nickel superalloys using resonant ultrasound spectroscopy. Acta Materialia, 2021, 220, 117287.	3.8	15
10	Influence of plastic deformation on the magnetic properties of Heusler MnAu ₂ Al. Physical Review Materials, 2021, 5, .	0.9	3
11	Multiplicity of dislocation pathways in a refractory multiprincipal element alloy. Science, 2020, 370, 95-101.	6.0	159
12	Design and Tailoring of Alloys for Additive Manufacturing. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 6000-6019.	1.1	67
13	A defect-resistant Co-Ni superalloy for 3D printing. Nature Communications, 2020, 11, 4975.	5.8	107
14	Editorial: 50 Years of High Impact Research. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2020, 51, 1289-1290.	1.0	0
15	Editorial: 50 Years of High Impact Research. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 2591-2592.	1.1	1
16	Closing the science gap in 3D metal printing. Science, 2020, 368, 583-584.	6.0	19
17	Accelerated discovery of oxidation resistant CoNi-base γ/β alloys with high L12 solvus and low density. Materials and Design, 2020, 189, 108445.	3.3	48
18	A new proximate structure for the APB (111) in L12 compounds. Scripta Materialia, 2020, 182, 38-42.	2.6	14

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19	Interfacial structure and strain accommodation in two-phase NbCo _{1.2} Sn Heusler intermetallics. <i>Physical Review Materials</i> , 2020, 4, .	0.9	4
20	Oxidation Behavior Across Composition Space Relevant to Co-based $\hat{\Gamma}^3/\hat{\Gamma}^2$ Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2019, 50, 5445-5458.	1.1	17
21	Dislocation dynamics in a nickel-based superalloy via in-situ transmission scanning electron microscopy. <i>Acta Materialia</i> , 2019, 168, 152-166.	3.8	46
22	Three-dimensional Analysis and Reconstruction of Additively Manufactured Materials in the Cloud-Based BisQue Infrastructure. <i>Integrating Materials and Manufacturing Innovation</i> , 2019, 8, 37-51.	1.2	19
23	The evolving landscape for alloy design. <i>MRS Bulletin</i> , 2019, 44, 238-246.	1.7	20
24	Rapid Assessment of Oxidation Behavior in Co-Based $\hat{\Gamma}^3/\hat{\Gamma}^2$ Alloys. <i>Oxidation of Metals</i> , 2018, 90, 485-498.	1.0	27
25	The origin and stability of nanostructural hierarchy in crystalline solids. <i>Science Advances</i> , 2018, 4, eaao6051.	4.7	17
26	Creep Behavior of Quinary $\hat{\Gamma}^3$ -Strengthened Co-Based Superalloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 4090-4098.	1.1	10
27	3D printing of high-strength aluminium alloys. <i>Nature</i> , 2017, 549, 365-369.	13.7	1,876
28	On slip initiation in equiaxed $\hat{\Gamma}^2$ Ti-6Al-4V. <i>Acta Materialia</i> , 2017, 136, 288-302.	3.8	79
29	Solute segregation and deviation from bulk thermodynamics at nanoscale crystalline defects. <i>Science Advances</i> , 2016, 2, e1601796.	4.7	56
30	Incipient slip and long range plastic strain localization in microtextured Ti-6Al-4V titanium. <i>Acta Materialia</i> , 2016, 114, 164-175.	3.8	137
31	Alloy design for aircraft engines. <i>Nature Materials</i> , 2016, 15, 809-815.	13.3	542
32	Role of vibrational and configurational excitations in stabilizing the L_{12} phase in Co-rich Co-Al-W alloys. <i>Physical Review B</i> , 2015, 92, .	1.1	19
33	L_{12} -Strengthened Cobalt-Base Superalloys. <i>Annual Review of Materials Research</i> , 2015, 45, 345-368.	4.3	213
34	A Pt-modified Ni-base superalloy with high temperature precipitate stability. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015, 639, 747-754.	2.6	21
35	Transverse Creep of Nickel-Base Superalloy Bicrystals. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015, 46, 2516-2529.	1.1	31
36	The TriBeam system: Femtosecond laser ablation in situ SEM. <i>Materials Characterization</i> , 2015, 100, 1-12.	1.9	124

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37	Experimental Investigation and Thermodynamic Modeling of the Co-Rich Region in the Co-Al-Ni-W Quaternary System. <i>Journal of Phase Equilibria and Diffusion</i> , 2014, 35, 595-611.	0.5	58
38	The Effect of Processing Conditions on Heat Transfer During Directional Solidification via the Bridgman and Liquid Metal Cooling Processes. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014, 45, 411-425.	1.1	31
39	A first-principles study of the effect of Ta on the superlattice intrinsic stacking fault energy of L12-Co3(Al,W). <i>Intermetallics</i> , 2012, 28, 138-143.	1.8	75
40	Process Simulation for the Directional Solidification of a Tri-Crystal Ring Segment via the Bridgman and Liquid-Metal-Cooling Processes. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2012, 43, 2414-2425.	1.1	19
41	The Dependence of Creep Behavior on Elemental Partitioning in Mg-5Al-3Ca-xSn Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2012, 43, 3120-3134.	1.1	4
42	Structure Refinement by a Liquid Metal Cooling Solidification Process for Single-Crystal Nickel-Base Superalloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2012, 43, 965-976.	1.1	53
43	Single-crystal solidification of new Co-Al-W-base alloys. <i>Intermetallics</i> , 2011, 19, 636-643.	1.8	73
44	Oxide-Assisted Degradation of Ni-Base Single Crystals During Cyclic Loading: the Role of Coatings. <i>Journal of the American Ceramic Society</i> , 2011, 94, s136.	1.9	20
45	Mapping of femtosecond laser-induced collateral damage by electron backscatter diffraction. <i>Journal of Applied Physics</i> , 2011, 110, .	1.1	23
46	New Co-based γ - δ high-temperature alloys. <i>Jom</i> , 2010, 62, 58-63.	0.9	221
47	Partitioning of Solute to the Primary δ -Mg Phase in Creep-Resistant Mg-Al-Ca-Based Cast Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2010, 41, 2435-2442.	1.1	26
48	Nonlinear ultrasonics for <i>in situ</i> damage detection during high frequency fatigue. <i>Journal of Applied Physics</i> , 2009, 106, .	1.1	62
49	Structural Stability of Platinum-Group-Metal-Modified γ -Ni-Base Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2009, 40, 1529-1540.	1.1	21
50	Terahertz characterization of interfacial oxide layers and voids for health monitoring of ceramic coatings. , 2009, , .		2
51	The three-dimensional reconstruction of the dendritic structure at the solid-liquid interface of a Ni-based single crystal. <i>Jom</i> , 2008, 60, 26-30.	0.9	36
52	Formation of Secondary Reaction Zones in Diffusion Aluminide-Coated Ni-Base Single-Crystal Superalloys Containing Ruthenium. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2008, 39, 1647-1657.	1.1	69
53	In Situ Imaging of High Cycle Fatigue Crack Growth in Single Crystal Nickel-Base Superalloys by Synchrotron X-Radiation. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2008, 130, .	0.8	19
54	Intermetallic Bond Coats: Systems Compatibility and Platinum-Group Metal Additions. <i>Materials Research Society Symposia Proceedings</i> , 2008, 1128, 60101.	0.1	4

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55	Femtosecond pulsed laser ablation dynamics and ablation morphology of nickel based superalloy CMSX-4. <i>Journal of Applied Physics</i> , 2008, 103, 093111.	1.1	29
56	Phase equilibria in the Mg-Al-Ca ternary system at 773 and 673 K. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006, 37, 975-983.	1.1	55
57	Solidification segregation in ruthenium-containing nickel-base superalloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006, 37, 1949-1962.	1.1	59
58	High refractory, low misfit ru-containing single-crystal superalloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006, 37, 2927-2938.	1.1	58
59	Microstructure and properties of blended Mg~Al alloys fabricated by semisolid processing. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006, 37, 3725-3736.	1.1	13
60	Multilayered ruthenium-modified bond coats for thermal barrier coatings. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006, 37, 3347-3358.	1.1	36
61	Experimental investigation and thermodynamic modelling of the Mg~Al-rich region of the Mg~Al~Sr System. <i>International Journal of Materials Research</i> , 2006, 97, 422-428.	0.8	16
62	COMPRESSION CREEP BEHAVIOR OF B2 AL-NI-RU TERNARY ALLOYS. <i>Materials Research Society Symposia Proceedings</i> , 2006, 980, 10.	0.1	0
63	High Temperature Strength of Co-based ~ Super alloys. <i>Materials Research Society Symposia Proceedings</i> , 2006, 980, 9.	0.1	1
64	Dynamics of Ultrafast Laser Induced Damage in Single Crystal Ni-based Superalloy During Machining. <i>Materials Research Society Symposia Proceedings</i> , 2006, 980, 31.	0.1	1
65	Phase equilibria in the Mg~Al~Ca ternary system at 773 and 673 K. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006, 37, 975-983.	1.1	3
66	Directional solidification of large superalloy castings with radiation and liquid-metal cooling: A comparative assessment. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2004, 35, 3221-3231.	1.1	159
67	Dynamic deformation and damage in cast ~TiAl during taylor cylinder impact: Experiments and model validation. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2004, 35, 2557-2566.	1.1	14
68	Stabilization of thermosolutal convective instabilities in Ni-based single-crystal superalloys: Carbide precipitation and rayleigh numbers. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2003, 34, 1953-1967.	1.1	67
69	A method for measuring microstructural-scale strains using a scanning electron microscope: Applications to ~titanium aluminides. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2003, 34, 2301-2313.	1.1	41
70	Strain Hardening. , 2002, , 361-377.		6
71	Mechanical Behavior of Ternary and Quaternary Rual Alloys. <i>Materials Research Society Symposia Proceedings</i> , 2002, 753, 1.	0.1	2
72	Use of weibull statistics to quantify property variability in TiAl alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2002, 33, 3127-3136.	1.1	17

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73	Stabilization of thermosolutal convective instabilities in Ni-based single-crystal superalloys: Carbon additions and freckle formation. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2001, 32, 1743-1753.	1.1	99