

Stoichko Antonov

List of Publications by Year in descending order

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71
papers

2,180
citations

279798

23
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243625

44
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72
all docs

72
docs citations

72
times ranked

1360
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermal cycling creep properties of a directionally solidified superalloy DZ125. <i>Journal of Materials Science and Technology</i> , 2022, 104, 269-284.	10.7	14
2	Hot deformation behavior and flow stress modeling of a novel CoNi-based wrought superalloy. <i>Journal of Alloys and Compounds</i> , 2022, 894, 162489.	5.5	19
3	Grain boundary segregation and its implications regarding the formation of the grain boundary β phase in the metastable β -Titanium Ti-5Al-5Mo-5V-3Cr alloy. <i>Scripta Materialia</i> , 2022, 207, 114320.	5.2	28
4	Effect of pre-strain on hydrogen embrittlement of high manganese steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022, 834, 142596.	5.6	6
5	Atom probe analysis of electrode materials for Li-ion batteries: challenges and ways forward. <i>Journal of Materials Chemistry A</i> , 2022, 10, 4926-4935.	10.3	20
6	Mapping the creep life of nickel-based SX superalloys in a large compositional space by a two-model linkage machine learning method. <i>Computational Materials Science</i> , 2022, 205, 111229.	3.0	10
7	In-situ synchrotron-based high energy X-ray diffraction study of the deformation mechanism of β -hydrides in a commercially pure titanium. <i>Scripta Materialia</i> , 2022, 213, 114608.	5.2	5
8	The role of β pockets resulting from Fe impurities in hydride formation in titanium. <i>Scripta Materialia</i> , 2022, 213, 114640.	5.2	1
9	Origin of morphological variation of grain boundary precipitates in titanium alloys. <i>Scripta Materialia</i> , 2022, 214, 114651.	5.2	6
10	Unveiling the Re effect on long-term coarsening behaviors of β precipitates in Ni-based single crystal superalloys. <i>Acta Materialia</i> , 2022, 233, 117979.	7.9	32
11	Improved Creep and Tensile Properties of a Corrosion Resistant Ni-Based Superalloy Using High Temperature Aging and Nb/Ta Additions. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2022, 53, 2600-2613.	2.2	5
12	Effect of solute atoms (C, Al and Si) on hydrogen embrittlement resistance of high-Mn TWIP steels. <i>Corrosion Science</i> , 2022, 203, 110376.	6.6	7
13	Hydriding of titanium: Recent trends and perspectives in advanced characterization and multiscale modeling. <i>Current Opinion in Solid State and Materials Science</i> , 2022, 26, 101020.	11.5	15
14	Nucleation and growth of β phase in a metastable β -Titanium Ti-5Al-5Mo-5V-3Cr alloy: Influence from the nano-scale, ordered-orthorhombic O phase and β compositional evolution. <i>Scripta Materialia</i> , 2021, 194, 113672.	5.2	15
15	Enhanced creep performance in a polycrystalline superalloy driven by atomic-scale phase transformation along planar faults. <i>Acta Materialia</i> , 2021, 202, 232-242.	7.9	29
16	Unveiling True 3D Nanoscale Microstructural Evolution in Chalcogenide Nanocomposites: A Roadmap for Advanced Infrared Functionality. <i>Advanced Optical Materials</i> , 2021, 9, 2002092.	7.3	5
17	Modeling solid solution strengthening in high entropy alloys using machine learning. <i>Acta Materialia</i> , 2021, 212, 116917.	7.9	87
18	Partitioning of Solute at Crystal Defects in Borides After Creep and Annealing in a Polycrystalline Superalloy. <i>Jom</i> , 2021, 73, 2293-2302.	1.9	3

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19	Segregation-assisted phase transformation and anti-phase boundary formation during creep of a γ -strengthened Co-based superalloy at high temperatures. <i>Acta Materialia</i> , 2021, 215, 117099.	7.9	19
20	Effect of alloying elements on the coarsening rate of γ' precipitates in multi-component CoNi-based superalloys with high Cr content. <i>Scripta Materialia</i> , 2021, 202, 114004.	5.2	38
21	On the role of boron, carbon and zirconium on hot cracking and creep resistance of an additively manufactured polycrystalline superalloy. <i>Materialia</i> , 2021, 19, 101193.	2.7	27
22	High-throughput exploration of alloying effects on the microstructural stability and properties of multi-component CoNi-base superalloys. <i>Journal of Alloys and Compounds</i> , 2021, 881, 160618.	5.5	12
23	Twinning behavior and hydrogen embrittlement of a pre-strained twinning-induced plasticity (TWIP) steel. <i>Corrosion Science</i> , 2021, 192, 109791.	6.6	11
24	Shuffle-induced modulated structure and heating-induced ordering in the metastable β -titanium alloy, Ti-5Al-5Mo-5V-3Cr. <i>Scripta Materialia</i> , 2020, 176, 7-11.	5.2	29
25	Solidification rate driven microstructural stability and its effect on the creep property of a polycrystalline nickel-based superalloy K465. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 770, 138530.	5.6	13
26	The role of nano-scaled structural non-uniformities on deformation twinning and stress-induced transformation in a cold rolled multifunctional β -titanium alloy. <i>Scripta Materialia</i> , 2020, 177, 181-185.	5.2	45
27	Sub/micro-structural evolution of a Co-Al-W-Ta-Ti single crystal superalloy during creep at 900°C and 420MPa. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 772, 138791.	5.6	16
28	Evaluation of service conditions of high pressure turbine blades made of DS Ni-base superalloy by artificial neural networks. <i>Materials Today Communications</i> , 2020, 22, 100838.	1.9	8
29	Phase prediction in high entropy alloys with a rational selection of materials descriptors and machine learning models. <i>Acta Materialia</i> , 2020, 185, 528-539.	7.9	206
30	Structure and tensile properties of $M_x(\text{MnFeCoNi})_{100-x}$ solid solution strengthened high entropy alloys. <i>Materialia</i> , 2020, 9, 100539.	2.7	10
31	Synthesis of a Very High Specific Surface Area Active Carbon and Its Electrical Double-Layer Capacitor Properties in Organic Electrolytes. <i>ChemEngineering</i> , 2020, 4, 43.	2.4	33
32	Exploration of Novel Ordering Mechanism in Titanium Alloys Using Atom Probe Tomography and Aberration-corrected Scanning Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2020, 26, 2078-2079.	0.4	1
33	Unveiling True Three-dimensional Microstructural Evolution in Novel Chalcogenide Nanocomposites as a Route to Infrared Gradient Refractive Index Functionality. <i>Microscopy and Microanalysis</i> , 2020, 26, 3078-3080.	0.4	3
34	Atom Probe Tomographic Investigation of the Solute Segregation to Crystal Defects in β -phase Co-35Ni-20Cr-10Mo Superalloy. <i>Microscopy and Microanalysis</i> , 2020, 26, 3076-3077.	0.4	0
35	Hydrogen embrittlement behavior of 13Cr-5Ni-2Mo supermartensitic stainless steel. <i>Corrosion Science</i> , 2020, 176, 109046.	6.6	21
36	High temperature creep behavior of a cast polycrystalline nickel-based superalloy K465 under thermal cycling conditions. <i>Materialia</i> , 2020, 14, 100913.	2.7	18

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37	Investigations of dislocation-type evolution and strain hardening during mechanical twinning in Fe-22Mn-0.6C twinning-induced plasticity steel. <i>Acta Materialia</i> , 2020, 195, 371-382.	7.9	105
38	The effect of solute segregation to deformation twin boundaries on the electrical resistivity of a single-phase superalloy. <i>Scripta Materialia</i> , 2020, 186, 208-212.	5.2	12
39	Plasticity assisted redistribution of solutes leading to topological inversion during creep of superalloys. <i>Scripta Materialia</i> , 2020, 186, 287-292.	5.2	26
40	Atomic structure and elemental segregation behavior of creep defects in a Co-Al-W-based single crystal superalloys under high temperature and low stress. <i>Acta Materialia</i> , 2020, 190, 16-28.	7.9	45
41	Effects of Cr and Al/W ratio on the microstructural stability, oxidation property and γ' phase nano-hardness of multi-component Co-Ni-base superalloys. <i>Journal of Alloys and Compounds</i> , 2020, 826, 154182.	5.5	31
42	Novel deformation twinning system in a cold rolled high-strength metastable β Ti-5Al-5V-5Mo-3Cr-0.5Fe alloy. <i>Materialia</i> , 2020, 9, 100614.	2.7	21
43	Surface Integrity and Oxidation of a Powder Metallurgy Ni-Based Superalloy Treated by Laser Shock Peening. <i>Jom</i> , 2020, 72, 1803-1810.	1.9	6
44	Evaluation and Comparison of Damage Accumulation Mechanisms During Non-isothermal Creep of Cast Ni-Based Superalloys. <i>Minerals, Metals and Materials Series</i> , 2020, , 228-239.	0.4	1
45	Machine learning assisted design of γ' -strengthened Co-base superalloys with multi-performance optimization. <i>Npj Computational Materials</i> , 2020, 6, .	8.7	56
46	Deformation of Borides in Nickel-based Superalloys: a Study of Segregation at Dislocations. <i>Microscopy and Microanalysis</i> , 2019, 25, 2538-2539.	0.4	4
47	Atom Probe Tomography Investigation on the Effect of Ni Additions on the Site Occupation and Partitioning Behavior in Co-Based Superalloys. <i>Microscopy and Microanalysis</i> , 2019, 25, 2546-2547.	0.4	3
48	ICME Framework for Damage Assessment and Remaining Creep Life Prediction of In-Service Turbine Blades Manufactured with Ni-Based Superalloys. <i>Integrating Materials and Manufacturing Innovation</i> , 2019, 8, 509-520.	2.6	5
49	Three-Dimensional Microstructural Characterization of Novel Chalcogenide Nanocomposites for Gradient Refractive Index Applications. <i>Microscopy and Microanalysis</i> , 2019, 25, 2500-2501.	0.4	4
50	Phosphorous behavior and its effect on secondary phase formation in high refractory content powder-processed Ni-based superalloys. <i>Materialia</i> , 2019, 7, 100423.	2.7	13
51	Hot deformation behavior and flow stress modeling of a Ni-based superalloy. <i>Materials Characterization</i> , 2019, 157, 109915.	4.4	47
52	Effective design of a Co-Ni-Al-W-Ta-Ti alloy with high γ' solvus temperature and microstructural stability using combined CALPHAD and experimental approaches. <i>Materials and Design</i> , 2019, 180, 107912.	7.0	39
53	Evaluation of microstructural degradation in a failed gas turbine blade due to overheating. <i>Engineering Failure Analysis</i> , 2019, 103, 308-318.	4.0	37
54	MnO ₂ -Coated Sulfur-Filled Hollow Carbon Nanosphere-Based Cathode Materials for Enhancing Electrochemical Performance of Li-S Cells. <i>Journal of the Electrochemical Society</i> , 2019, 166, A1355-A1362.	2.9	18

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55	Machine learning assisted design of high entropy alloys with desired property. <i>Acta Materialia</i> , 2019, 170, 109-117.	7.9	445
56	Design and thermomechanical properties of a γ' precipitate-strengthened Ni-based superalloy with high entropy γ matrix. <i>Journal of Alloys and Compounds</i> , 2019, 792, 550-560.	5.5	32
57	Phase stability and thermodynamic database validation in a set of non-equiatomic Al-Co-Cr-Fe-Nb-Ni high-entropy alloys. <i>Intermetallics</i> , 2019, 104, 103-112.	3.9	21
58	The effect of phosphorus on the formation of grain boundary laves phase in high-refractory content Ni-based superalloys. <i>Scripta Materialia</i> , 2019, 161, 44-48.	5.2	22
59	A modified $\dot{\epsilon}$ projection model for constant load creep curves-II. Application of creep life prediction. <i>Journal of Materials Science and Technology</i> , 2019, 35, 687-694.	10.7	14
60	A modified $\dot{\epsilon}$ projection model for constant load creep curves-I. Introduction of the model. <i>Journal of Materials Science and Technology</i> , 2019, 35, 223-230.	10.7	18
61	MC Carbide Characterization in High Refractory Content Powder-Processed Ni-Based Superalloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 2340-2351.	2.2	13
62	Comparison of Thermodynamic Predictions and Experimental Observations on B Additions in Powder-Processed Ni-Based Superalloys Containing Elevated Concentrations of Nb. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 729-739.	2.2	6
63	Design of Novel Precipitate-Strengthened Al-Co-Cr-Fe-Nb-Ni High-Entropy Superalloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 305-320.	2.2	52
64	Two Steady-State Creep Stages in Co-Al-W-Base Single-Crystal Superalloys at 1273K/137MPa. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 4079-4089.	2.2	24
65	Synchrotron In-Situ Aging Study and Correlations to the γ' Phase Instabilities in a High-Refractory Content γ' Ni-Base Superalloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 3885-3895.	2.2	10
66	γ' and γ Phase formation in advanced polycrystalline Ni-base superalloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 687, 232-240.	5.6	54
67	The effect of Nb on grain boundary segregation of B in high refractory Ni-based superalloys. <i>Scripta Materialia</i> , 2017, 138, 35-38.	5.2	23
68	Comparative study of high-temperature grain boundary engineering of two powder-processed low stacking-fault energy Ni-base superalloys. <i>Materials at High Temperatures</i> , 2016, 33, 310-317.	1.0	11
69	Comparison of thermodynamic database models and APT data for strength modeling in high Nb content γ' Ni-base superalloys. <i>Materials and Design</i> , 2015, 86, 649-655.	7.0	43
70	Precipitate phase stability and compositional dependence on alloying additions in γ' Ni-base superalloys. <i>Journal of Alloys and Compounds</i> , 2015, 626, 76-86.	5.5	83
71	Precipitate Phase Stability in γ' Ni-Base Superalloys. <i>Jom</i> , 2014, 66, 2478-2485.	1.9	17