Stoichko Antonov

List of Publications by Year in descending order

71 papers	2,180 citations	279798 23 h-index	243625 44 g-index
72 all docs	72 docs citations	72 times ranked	1360 citing authors

#	Article	IF	Citations
1	Machine learning assisted design of high entropy alloys with desired property. Acta Materialia, 2019, 170, 109-117.	7.9	445
2	Phase prediction in high entropy alloys with a rational selection of materials descriptors and machine learning models. Acta Materialia, 2020, 185, 528-539.	7.9	206
3	Investigations of dislocation-type evolution and strain hardening during mechanical twinning in Fe-22Mn-0.6C twinning-induced plasticity steel. Acta Materialia, 2020, 195, 371-382.	7.9	105
4	Modeling solid solution strengthening in high entropy alloys using machine learning. Acta Materialia, 2021, 212, 116917.	7.9	87
5	Precipitate phase stability and compositional dependence on alloying additions in Î³â€“Î³â€²â€“Î´ Ni-base superalloys. Journal of Alloys and Compounds, 2015, 626, 76-86.	5.5	83
6	Machine learning assisted design of Î³â€²-strengthened Co-base superalloys with multi-performance optimization. Npj Computational Materials, 2020, 6, .	8.7	56
7	Ïƒ and Î· Phase formation in advanced polycrystalline Ni-base superalloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 687, 232-240.	5.6	54
8	Design of Novel Precipitate-Strengthened Al-Co-Cr-Fe-Nb-Ni High-Entropy Superalloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 305-320.	2.2	52
9	Hot deformation behavior and flow stress modeling of a Ni-based superalloy. Materials Characterization, 2019, 157, 109915.	4.4	47
10	The role of nano-scaled structural non-uniformities on deformation twinning and stress-induced transformation in a cold rolled multifunctional Î²-titanium alloy. Scripta Materialia, 2020, 177, 181-185.	5.2	45
11	Atomic structure and elemental segregation behavior of creep defects in a Co-Al-W-based single crystal superalloys under high temperature and low stress. Acta Materialia, 2020, 190, 16-28.	7.9	45
12	Comparison of thermodynamic database models and APT data for strength modeling in high Nb content Î³â€“Î³â€² Ni-base superalloys. Materials and Design, 2015, 86, 649-655.	7.0	43
13	Effective design of a Co-Ni-Al-W-Ta-Ti alloy with high Î³â€² solvus temperature and microstructural stability using combined CALPHAD and experimental approaches. Materials and Design, 2019, 180, 107912.	7.0	39
14	Effect of alloying elements on the coarsening rate of Î³Ê¹ precipitates in multi-component CoNi-based superalloys with high Cr content. Scripta Materialia, 2021, 202, 114004.	5.2	38
15	Evaluation of microstructural degradation in a failed gas turbine blade due to overheating. Engineering Failure Analysis, 2019, 103, 308-318.	4.0	37
16	Synthesis of a Very High Specific Surface Area Active Carbon and Its Electrical Double-Layer Capacitor Properties in Organic Electrolytes. ChemEngineering, 2020, 4, 43.	2.4	33
17	Design and thermomechanical properties of a Î³Ê¹ precipitate-strengthened Ni-based superalloy with high entropy Î³ matrix. Journal of Alloys and Compounds, 2019, 792, 550-560.	5.5	32
18	Unveiling the Re effect on long-term coarsening behaviors of Î³â€² precipitates in Ni-based single crystal superalloys. Acta Materialia, 2022, 233, 117979.	7.9	32

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19	Effects of Cr and Al/W ratio on the microstructural stability, oxidation property and Î³â€² phase nano-hardness of multi-component Coâ€“Ni-base superalloys. Journal of Alloys and Compounds, 2020, 826, 154182.	5.5	31
20	Shuffle-induced modulated structure and heating-induced ordering in the metastable Î²-titanium alloy, Ti-5Al-5Mo-5V-3Cr. Scripta Materialia, 2020, 176, 7-11.	5.2	29
21	Enhanced creep performance in a polycrystalline superalloy driven by atomic-scale phase transformation along planar faults. Acta Materialia, 2021, 202, 232-242.	7.9	29
22	Grain boundary segregation and its implications regarding the formation of the grain boundary Î± phase in the metastable Î²-Titanium Tiâ€“5Alâ€“5Moâ€“5Vâ€“3Cr alloy. Scripta Materialia, 2022, 207, 114320.	5.2	28
23	On the role of boron, carbon and zirconium on hot cracking and creep resistance of an additively manufactured polycrystalline superalloy. Materialia, 2021, 19, 101193.	2.7	27
24	Plasticity assisted redistribution of solutes leading to topological inversion during creep of superalloys. Scripta Materialia, 2020, 186, 287-292.	5.2	26
25	Two Steady-State Creep Stages in Co-Al-W-Base Single-Crystal Superalloys at 1273ÂK/137ÂMPa. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 4079-4089.	2.2	24
26	The effect of Nb on grain boundary segregation of B in high refractory Ni-based superalloys. Scripta Materialia, 2017, 138, 35-38.	5.2	23
27	The effect of phosphorus on the formation of grain boundary laves phase in high-refractory content Ni-based superalloys. Scripta Materialia, 2019, 161, 44-48.	5.2	22
28	Phase stability and thermodynamic database validation in a set of non-equiatomic Al-Co-Cr-Fe-Nb-Ni high-entropy alloys. Intermetallics, 2019, 104, 103-112.	3.9	21
29	Hydrogen embrittlement behavior of 13Cr-5Ni-2Mo supermartensitic stainless steel. Corrosion Science, 2020, 176, 109046.	6.6	21
30	Novel deformation twinning system in a cold rolled high-strength metastable-Î² Ti-5Al-5V-5Mo-3Cr-0.5Fe alloy. Materialia, 2020, 9, 100614.	2.7	21
31	Atom probe analysis of electrode materials for Li-ion batteries: challenges and ways forward. Journal of Materials Chemistry A, 2022, 10, 4926-4935.	10.3	20
32	Segregation-assisted phase transformation and anti-phase boundary formation during creep of a Î³â€²-strengthened Co-based superalloy at high temperatures. Acta Materialia, 2021, 215, 117099.	7.9	19
33	Hot deformation behavior and flow stress modeling of a novel CoNi-based wrought superalloy. Journal of Alloys and Compounds, 2022, 894, 162489.	5.5	19
34	MnO₂-Coated Sulfur-Filled Hollow Carbon Nanosphere-Based Cathode Materials for Enhancing Electrochemical Performance of Li-S Cells. Journal of the Electrochemical Society, 2019, 166, A1355-A1362.	2.9	18
35	A modified Î¸ projection model for constant load creep curves-I. Introduction of the model. Journal of Materials Science and Technology, 2019, 35, 223-230.	10.7	18
36	High temperature creep behavior of a cast polycrystalline nickel-based superalloy K465 under thermal cycling conditions. Materialia, 2020, 14, 100913.	2.7	18

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37	Precipitate Phase Stability in Î³-Î³â€²-Î´ Ni-Base Superalloys. Jom, 2014, 66, 2478-2485.	1.9	17
38	Sub/micro-structural evolution of a Coâ€“Alâ€“Wâ€“Taâ€“Ti single crystal superalloy during creep at 900ÂÂ°C and 420ÂMPa. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 772, 138791.	5.6	16
39	Nucleation and growth of Î± phase in a metastable Î²-Titanium Ti-5Al-5Mo-5V-3Cr alloy: Influence from the nano-scale, ordered-orthorhombic Oâ€³ phase and Î± compositional evolution. Scripta Materialia, 2021, 194, 113672.	5.2	15
40	Hydriding of titanium: Recent trends and perspectives in advanced characterization and multiscale modeling. Current Opinion in Solid State and Materials Science, 2022, 26, 101020.	11.5	15
41	A modified Î¸ projection model for constant load creep curves-II. Application of creep life prediction. Journal of Materials Science and Technology, 2019, 35, 687-694.	10.7	14
42	Thermal cycling creep properties of a directionally solidified superalloy DZ125. Journal of Materials Science and Technology, 2022, 104, 269-284.	10.7	14
43	MC Carbide Characterization in High Refractory Content Powder-Processed Ni-Based Superalloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 2340-2351.	2.2	13
44	Phosphorous behavior and its effect on secondary phase formation in high refractory content powder-processed Ni-based superalloys. Materialia, 2019, 7, 100423.	2.7	13
45	Solidification rate driven microstructural stability and its effect on the creep property of a polycrystalline nickel-based superalloy K465. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 770, 138530.	5.6	13
46	The effect of solute segregation to deformation twin boundaries on the electrical resistivity of a single-phase superalloy. Scripta Materialia, 2020, 186, 208-212.	5.2	12
47	High-throughput exploration of alloying effects on the microstructural stability and properties of multi-component CoNi-base superalloys. Journal of Alloys and Compounds, 2021, 881, 160618.	5.5	12
48	Comparative study of high-temperature grain boundary engineering of two powder-processed low stacking-fault energy Ni-base superalloys. Materials at High Temperatures, 2016, 33, 310-317.	1.0	11
49	Twinning behavior and hydrogen embrittlement of a pre-strained twinning-induced plasticity (TWIP) steel. Corrosion Science, 2021, 192, 109791.	6.6	11
50	Synchrotron In-Situ Aging Study and Correlations to the Î³â€² Phase Instabilities in a High-Refractory Content Î³-Î³â€² Ni-Base Superalloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 3885-3895.	2.2	10
51	Structure and tensile properties of Mx(MnFeCoNi)100-x solid solution strengthened high entropy alloys. Materialia, 2020, 9, 100539.	2.7	10
52	Mapping the creep life of nickel-based SX superalloys in a large compositional space by a two-model linkage machine learning method. Computational Materials Science, 2022, 205, 111229.	3.0	10
53	Evaluation of service conditions of high pressure turbine blades made of DS Ni-base superalloy by artificial neural networks. Materials Today Communications, 2020, 22, 100838.	1.9	8
54	Effect of solute atoms (C, Al and Si) on hydrogen embrittlement resistance of high-Mn TWIP steels. Corrosion Science, 2022, 203, 110376.	6.6	7

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55	Comparison of Thermodynamic Predictions and Experimental Observations on B Additions in Powder-Processed Ni-Based Superalloys Containing Elevated Concentrations of Nb. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 729-739.	2.2	6
56	Surface Integrity and Oxidation of a Powder Metallurgy Ni-Based Superalloy Treated by Laser Shock Peening. Jom, 2020, 72, 1803-1810.	1.9	6
57	Effect of pre-strain on hydrogen embrittlement of high manganese steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 834, 142596.	5.6	6
58	Origin of morphological variation of grain boundary precipitates in titanium alloys. Scripta Materialia, 2022, 214, 114651.	5.2	6
59	ICME Framework for Damage Assessment and Remaining Creep Life Prediction of In-Service Turbine Blades Manufactured with Ni-Based Superalloys. Integrating Materials and Manufacturing Innovation, 2019, 8, 509-520.	2.6	5
60	Unveiling True 3D Nanoscale Microstructural Evolution in Chalcogenide Nanocomposites: A Roadmap for Advanced Infrared Functionality. Advanced Optical Materials, 2021, 9, 2002092.	7.3	5
61	In-situ synchrotron-based high energy X-ray diffraction study of the deformation mechanism of Î´-hydrides in a commercially pure titanium. Scripta Materialia, 2022, 213, 114608.	5.2	5
62	Improved Creep and Tensile Properties of a Corrosion Resistant Ni-Based Superalloy Using High Temperature Aging and Nb/Ta Additions. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2022, 53, 2600-2613.	2.2	5
63	Deformation of Borides in Nickel-based Superalloys: a Study of Segregation at Dislocations. Microscopy and Microanalysis, 2019, 25, 2538-2539.	0.4	4
64	Three-Dimensional Microstructural Characterization of Novel Chalcogenide Nanocomposites for Gradient Refractive Index Applications. Microscopy and Microanalysis, 2019, 25, 2500-2501.	0.4	4
65	Atom Probe Tomography Investigation on the Effect of Ni Additions on the Site Occupation and Partitioning Behavior in Co-Based Superalloys. Microscopy and Microanalysis, 2019, 25, 2546-2547.	0.4	3
66	Unveiling True Three-dimensional Microstructural Evolution in Novel Chalcogenide Nanocomposites as a Route to Infrared Gradient Refractive Index Functionality. Microscopy and Microanalysis, 2020, 26, 3078-3080.	0.4	3
67	Partitioning of Solutes at Crystal Defects in Borides After Creep and Annealing in a Polycrystalline Superalloy. Jom, 2021, 73, 2293-2302.	1.9	3
68	Exploration of Novel Ordering Mechanism in Titanium Alloys Using Atom Probe Tomography and Aberration-corrected Scanning Transmission Electron Microscopy. Microscopy and Microanalysis, 2020, 26, 2078-2079.	0.4	1
69	Evaluation and Comparison of Damage Accumulation Mechanisms During Non-isothermal Creep of Cast Ni-Based Superalloys. Minerals, Metals and Materials Series, 2020, , 228-239.	0.4	1
70	The role of Î² pockets resulting from Fe impurities in hydride formation in titanium. Scripta Materialia, 2022, 213, 114640.	5.2	1
71	Atom Probe Tomographic Investigation of the Solute Segregation to Crystal Defects in Î³-phase Co-35Ni-20Cr-10Mo Superalloy. Microscopy and Microanalysis, 2020, 26, 3076-3077.	0.4	0