

Peter Hedström

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

116
papers

2,126
citations

26
h-index

40
g-index

122
ext. papers

2,592
ext. citations

4.2
avg. IF

5.32
L-index

#	Paper	IF	Citations
116	Effect of Si on bainitic transformation kinetics in steels explained by carbon partitioning, carbide formation, dislocation densities, and thermodynamic conditions. <i>Materials Characterization</i> , 2022 , 185, 111774	3.9	0
115	Quantitative Nanostructure and Hardness Evolution in Duplex Stainless Steels: Under Real Low-Temperature Service Conditions. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2022 , 53, 723	2.3	1
114	Nonlinearity in mass spectrometry for quantitative multi-component gas analysis in reaction processes.. <i>Analytica Chimica Acta</i> , 2022 , 1194, 339412	6.6	
113	Continuum plasticity modelling of work hardening for precipitation-hardened martensitic steel guided by atom probe tomography. <i>Materials and Design</i> , 2022 , 215, 110463	8.1	0
112	Revealing the interdependence of microstructure evolution, micromechanics and macroscopic mechanical behavior of multi-phase medium Mn steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022 , 839, 142857	5.3	0
111	Carbide Precipitation during Processing of Two Low-Alloyed Martensitic Tool Steels with 0.11 and 0.17 V/Mo Ratios Studied by Neutron Scattering, Electron Microscopy and Atom Probe. <i>Metals</i> , 2022 , 12, 758	2.3	0
110	Effect of Cooling Rate after Solution Treatment on Subsequent Phase Separation Evolution in Super Duplex Stainless Steel 25Cr-7Ni (wt.%). <i>Metals</i> , 2022 , 12, 890	2.3	
109	In Situ Bulk Observations and Ab Initio Calculations Revealing the Temperature Dependence of Stacking Fault Energy in Fe-Cr-Ni Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2021 , 52, 5357	2.3	2
108	Initial atmospheric corrosion studies of copper from macroscale to nanoscale in a simulated indoor atmospheric environment. <i>Corrosion Science</i> , 2021 , 195, 109995	6.8	2
107	Correlating temperature-dependent stacking fault energy and in-situ bulk deformation behavior for a metastable austenitic stainless steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021 , 832, 142403	5.3	1
106	High-Resolution Microscopical Studies of Contact Killing Mechanisms on Copper-Based Surfaces. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 49402-49413	9.5	1
105	In-Situ High-Energy X-ray Diffraction Study of Austenite Decomposition During Rapid Cooling and Isothermal Holding in Two HSLA Steels. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2021 , 52, 1812-1825	2.3	4
104	Microstructure and superplasticity of Mg-Gd-Zn alloys processed by equal channel angular pressing. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021 , 808, 140921	5.3	9
103	Predicting strain-induced martensite in austenitic steels by combining physical modelling and machine learning. <i>Materials and Design</i> , 2021 , 197, 109199	8.1	8
102	Langer-Schwartz-Kampmann-Wagner precipitation simulations: assessment of models and materials design application for Cu precipitation in PH stainless steels. <i>Journal of Materials Science</i> , 2021 , 56, 2650-2671	4.3	10
101	Precision Thermal Treatments, Atom Probe Characterization, and Modeling to Describe the Fe-Cr Metastable Miscibility Gap. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2021 , 52, 1453-1464	2.3	0
100	Revealing the Unexpected Two Variant Pairing Shifts Due to Temperature Change in a Single Bainitic Medium Carbon Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2021 , 52, 4546-4557	2.3	0

99	Quantification of nano-scale interface structures to guide mechanistic modelling of WC grain coarsening inhibition in V-doped hard metals. <i>Materials and Design</i> , 2021 , 207, 109825	8.1	1
98	Cu precipitation-mediated formation of reverted austenite during ageing of a 15% PH stainless steel. <i>Scripta Materialia</i> , 2021 , 202, 114007	5.6	4
97	Small-angle neutron scattering quantification of phase separation and the corresponding embrittlement of a super duplex stainless steel after long-term aging at 300°C. <i>Materialia</i> , 2020 , 12, 100771	3.7	5
96	A transmission electron microscopy study of discontinuous precipitation in the high misfit system (Ti,Zr)C. <i>Materials Today Communications</i> , 2020 , 25, 101281	2.5	0
95	Effect of Zn content on the microstructural stability and grain growth kinetics of fine-grained extruded Mg ₉₀ Zn ₁₀ alloys. <i>Journal of Alloys and Compounds</i> , 2020 , 831, 154766	5.7	10
94	Tailoring the texture of an extruded Mg sheet through constrained groove pressing for achieving low mechanical anisotropy and high yield strength. <i>Scripta Materialia</i> , 2020 , 186, 253-258	5.6	8
93	Precipitation of multiple carbides in martensitic CrMoV steels - experimental analysis and exploration of alloying strategy through thermodynamic calculations. <i>Materialia</i> , 2020 , 9, 100630	3.2	16
92	On coarsening of cementite during tempering of martensitic steels. <i>Materials Science and Technology</i> , 2020 , 36, 887-893	1.5	5
91	Nuclear and magnetic small-angle neutron scattering in self-organizing nanostructured Fe _{100-x} Cr _x alloys. <i>Materials Characterization</i> , 2020 , 164, 110347	3.9	2
90	Nanostructure in Fe _{0.65} Cr _{0.35} close to the upper limit of the miscibility gap. <i>Scripta Materialia</i> , 2020 , 180, 62-65	5.6	2
89	Microstructure, texture, and strain-hardening behavior of extruded Mg ₉₀ Zn ₁₀ alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020 , 772, 138833	5.3	18
88	Effect of Tempering on the Bainitic Microstructure Evolution Correlated with the Hardness in a Low-Alloy Medium-Carbon Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2020 , 51, 6470-6481	2.3	3
87	Mechanical Behavior of Fresh and Tempered Martensite in a CrMoV-Alloyed Steel Explained by Microstructural Evolution and Strength Modeling. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2020 , 51, 5077-5087	2.3	7
86	Very-small angle neutron scattering study on grain coarsening inhibition by V-doping of WC-Co composites. <i>Scripta Materialia</i> , 2019 , 173, 106-109	5.6	3
85	Evaluating magnetic properties of composites from model alloys [Application to alternative binder cemented carbides. <i>Scripta Materialia</i> , 2019 , 168, 96-99	5.6	3
84	Experimental study of the surface of austenitic stainless steels. <i>Acta Materialia</i> , 2019 , 173, 34-43	8.4	5
83	Machine Learning to Predict the Martensite Start Temperature in Steels. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2019 , 50, 2081-2091	2.3	28
82	Microstructural evolution and superplastic behavior of a fine-grained Mg ₉₀ Zn ₁₀ alloy processed by constrained groove pressing. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 754, 390-399	5.3	33

81	Early stages of cementite precipitation during tempering of 1Cr martensitic steel. <i>Journal of Materials Science</i> , 2019 , 54, 9222-9234	4.3	4
80	Nanostructure, microstructure and mechanical properties of duplex stainless steels 25Cr-7 Ni and 22Cr-5Ni (wt.%) aged at 325 °C. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 754, 512-520	5.3	14
79	Effect of carbon content on the Curie temperature of WC-NiFe cemented carbides. <i>International Journal of Refractory Metals and Hard Materials</i> , 2019 , 78, 27-31	4.1	5
78	Effect of Zn addition on dynamic recrystallization behavior of Mg-2Gd alloy during high-temperature deformation. <i>Journal of Alloys and Compounds</i> , 2019 , 806, 1200-1206	5.7	20
77	A comparative study of microstructure and magnetic properties of a NiFe cemented carbide: Influence of carbon content. <i>International Journal of Refractory Metals and Hard Materials</i> , 2019 , 80, 181-187	4.1	10
76	Exploring the relationship between the microstructure and strength of fresh and tempered martensite in a maraging stainless steel Fe-15Cr-3Ni. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 745, 420-428	5.3	27
75	Effect of synthesis temperature and aging on the microstructure and hardness of Ti-Zr-C. <i>International Journal of Refractory Metals and Hard Materials</i> , 2018 , 73, 99-105	4.1	4
74	Quantitative electron microscopy and physically based modelling of Cu precipitation in precipitation-hardening martensitic stainless steel 15-5 PH. <i>Materials and Design</i> , 2018 , 143, 141-149	8.1	30
73	Microstructure evolution during tempering of martensitic Fe-Cr alloys at 700 °C. <i>Journal of Materials Science</i> , 2018 , 53, 6939-6950	4.3	12
72	Effect of heat treatment above the miscibility gap on nanostructure formation due to spinodal decomposition in Fe-52.85 at.%Cr. <i>Acta Materialia</i> , 2018 , 145, 347-358	8.4	19
71	EBSD analysis of surface and bulk microstructure evolution during interrupted tensile testing of a Fe-19Cr-12Ni alloy. <i>Materials Characterization</i> , 2018 , 141, 8-18	3.9	9
70	Recent Developments of Crystallographic Analysis Methods in the Scanning Electron Microscope for Applications in Metallurgy. <i>Critical Reviews in Solid State and Materials Sciences</i> , 2018 , 43, 455-474	10.1	22
69	The experimental phase diagram study of the binary polyols system erythritol-xylitol. <i>Solar Energy Materials and Solar Cells</i> , 2018 , 174, 248-262	6.4	20
68	Micromechanics and microstructure evolution during in situ uniaxial tensile loading of TRIP-assisted duplex stainless steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018 , 734, 281-290	5.3	29
67	Microstructure development in a high-nickel austenitic stainless steel using EBSD during in situ tensile deformation. <i>Materials Characterization</i> , 2018 , 135, 228-237	3.9	22
66	Prediction of Influences of Co, Ni, and W Elements on Carbide Precipitation Behavior in Fe-Cr-Mo Based High Speed Steels. <i>Steel Research International</i> , 2018 , 89, 1800172	1.6	2
65	High-Temperature Confocal Laser Scanning Microscopy Studies of Ferrite Formation in Inclusion-Engineered Steels: A Review. <i>Jom</i> , 2018 , 70, 2283-2295	2.1	26
64	Comparing the deformation-induced martensitic transformation with the athermal martensitic transformation in Fe-Cr-Ni alloys. <i>Journal of Alloys and Compounds</i> , 2018 , 766, 131-139	5.7	21

63	Martensite formation during incremental cooling of Fe-Cr-Ni alloys: An in-situ bulk X-ray study of the grain-averaged and single-grain behavior. <i>Scripta Materialia</i> , 2017 , 136, 124-127	5.6	17
62	Deformation Microstructure and Deformation-Induced Martensite in Austenitic Fe-Cr-Ni Alloys Depending on Stacking Fault Energy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2017 , 48, 1-7	2.3	109
61	Porosity and shape of airborne wear microparticles generated by sliding contact between a low-metallic friction material and a cast iron. <i>Journal of Aerosol Science</i> , 2017 , 113, 130-140	4.3	12
60	Effect of solution treatment on spinodal decomposition during aging of an Fe-46.5 at.% Cr alloy. <i>Journal of Materials Science</i> , 2017 , 52, 326-335	4.3	14
59	Liquid Phase Sintering of (Ti,Zr)C with WC-Co. <i>Materials</i> , 2017 , 10,	3.5	3
58	Effect of cooling rate after solution treatment on subsequent phase separation during aging of Fe-Cr alloys: A small-angle neutron scattering study. <i>Acta Materialia</i> , 2017 , 134, 221-229	8.4	19
57	An Experimental Assessment of the β - δ Miscibility Gap in Fe-Cr. <i>Minerals, Metals and Materials Series</i> , 2017 , 711-718	0.3	0
56	Heat treatment, microstructure and mechanical properties of a Cu-Ni-Al hot dip galvanizing TRIP steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016 , 674, 151-157	5.3	21
55	Structural Characterization of Phase Separation in Fe-Cr: A Current Comparison of Experimental Methods. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2016 , 47, 5942-5952	2.3	21
54	A Thermodynamic-Based Model to Predict the Fraction of Martensite in Steels. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2016 , 47, 4404-4410	2.3	6
53	Quantitative modeling and experimental verification of carbide precipitation in a martensitic Fe-0.16wt% C-0.0wt% Cr alloy. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2016 , 53, 39-48	1.9	17
52	Ferrite Formation Dynamics and Microstructure Due to Inclusion Engineering in Low-Alloy Steels by Ti ₂ O ₃ and TiN Addition. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2016 , 47, 2133-2147	2.5	17
51	Microstructure evolution during phase separation in Ti-Zr-C. <i>International Journal of Refractory Metals and Hard Materials</i> , 2016 , 61, 238-248	4.1	10
50	Combination of In Situ Microscopy and Calorimetry to Study Austenite Decomposition in Inclusion Engineered Steels. <i>Steel Research International</i> , 2016 , 87, 10-14	1.6	18
49	Self-organizing nanostructured lamellar (Ti,Zr)C δ superhard mixed carbide. <i>International Journal of Refractory Metals and Hard Materials</i> , 2015 , 51, 25-28	4.1	24
48	Behaviour of master alloy during sintering of PM steels: redistribution and dimensional variations. <i>Powder Metallurgy</i> , 2015 , 58, 133-141	1.9	
47	A high-resolution analytical scanning transmission electron microscopy study of the early stages of spinodal decomposition in binary Fe ₃ Cr. <i>Materials Characterization</i> , 2015 , 109, 216-221	3.9	25
46	Early stages of spinodal decomposition in Fe ₃ Cr resolved by in-situ small-angle neutron scattering. <i>Applied Physics Letters</i> , 2015 , 106, 061911	3.4	17

45	Nanostructure evolution and mechanical property changes during aging of a super duplex stainless steel at 300 °C. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015 , 647, 241-248	5.3	38
44	Direct atom probe tomography observations of concentration fluctuations in Fe-Cr solid solution. <i>Scripta Materialia</i> , 2015 , 98, 13-15	5.6	14
43	Modelling of the Fraction of Martensite in Low-alloy Steels. <i>Materials Today: Proceedings</i> , 2015 , 2, S561-S564	5.6	11
42	A Microstructural Investigation of Athermal and Deformation-induced Martensite in Fe-Cr-Ni Alloys. <i>Materials Today: Proceedings</i> , 2015 , 2, S687-S690	1.4	11
41	Effect of carbon activity and powder particle size on WC grain coarsening during sintering of cemented carbides. <i>International Journal of Refractory Metals and Hard Materials</i> , 2014 , 42, 30-35	4.1	24
40	Microstructure, grain size distribution and grain shape in WC-Co alloys sintered at different carbon activities. <i>International Journal of Refractory Metals and Hard Materials</i> , 2014 , 43, 205-211	4.1	24
39	Microstructure of Martensite in Fe-Cr and its Implications for Modelling of Carbide Precipitation during Tempering. <i>ISIJ International</i> , 2014 , 54, 2649-2656	1.7	21
38	Influence of alloying elements on Ni distribution in PM steels. <i>Powder Metallurgy</i> , 2014 , 57, 111-118	1.9	5
37	Effect of Solute Silicon on the Lattice Parameter of Ferrite in Ductile Irons. <i>ISIJ International</i> , 2014 , 54, 248-250	1.7	10
36	Cu redistribution during sintering of Fe-Cu and Fe-Cu-Co-C compacts. <i>Powder Metallurgy</i> , 2014 , 57, 373-379	1.9	3
35	Initial clustering is a key factor for phase separation kinetics in Fe-Cr-based alloys. <i>Scripta Materialia</i> , 2014 , 75, 62-65	5.6	27
34	Synthesis and phase separation of (Ti,Zr)C. <i>Acta Materialia</i> , 2014 , 66, 209-218	8.4	34
33	On the three-dimensional structure of WC grains in cemented carbides. <i>Acta Materialia</i> , 2013 , 61, 4726-4733	8.4	33
32	The 475 °C embrittlement in Fe-20Cr and Fe-20Cr-X (X=Ni, Cu, Mn) alloys studied by mechanical testing and atom probe tomography. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013 , 574, 123-129	5.3	43
31	A Transmission Electron Microscopy Study of Plate Martensite Formation in High-carbon Low Alloy Steels. <i>Journal of Materials Science and Technology</i> , 2013 , 29, 373-379	9.1	30
30	Quantitative evaluation of spinodal decomposition in Fe-Cr by atom probe tomography and radial distribution function analysis. <i>Microscopy and Microanalysis</i> , 2013 , 19, 665-75	0.5	73
29	Dynamic Precipitation Behavior of Secondary M ₇ C ₃ Carbides in Ti-alloyed High Chromium Cast Iron. <i>ISIJ International</i> , 2013 , 53, 1237-1244	1.7	12
28	A phase-field and electron microscopy study of phase separation in Fe-Cr alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012 , 534, 552-556	5.3	35

27	A phase-field study of the physical concepts of martensitic transformations in steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012 , 538, 173-181	5.3	28
26	Concurrent phase separation and clustering in the ferrite phase during low temperature stress aging of duplex stainless steel weldments. <i>Acta Materialia</i> , 2012 , 60, 5818-5827	8.4	47
25	Effect of carbon content on variant pairing of martensite in Fe-C alloys. <i>Acta Materialia</i> , 2012 , 60, 7265-7274	8.4	122
24	Direct Observation that Bainite can Grow Below MS. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2012 , 43, 4984-4988	2.3	44
23	Effect of Heat Treatment on Microstructure and Mechanical Properties of Ti-alloyed Hypereutectic High Chromium Cast Iron. <i>ISIJ International</i> , 2012 , 52, 2288-2294	1.7	11
22	Observations of copper clustering in a 25Cr-7Ni super duplex stainless steel during low-temperature aging under load. <i>Philosophical Magazine Letters</i> , 2012 , 1-8	1	3
21	On the Three-Dimensional Microstructure of Martensite in Carbon Steels 2012 , 19-24		2
20	3D Analysis of Phase Separation in Ferritic Stainless Steels 2012 , 221-226		1
19	An improved thermodynamic modeling of the Fe-Cr system down to zero kelvin coupled with key experiments. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2011 , 35, 355-366	1.9	114
18	On the Symmetry Among the Diffusional Transformation Products of Austenite. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2011 , 42, 1558-1574	2.3	16
17	Spontaneous and Deformation-Induced Martensite in Austenitic Stainless Steels with Different Stability. <i>Steel Research International</i> , 2011 , 82, 337-345	1.6	22
16	Quantum rod-sensitized solar cells. <i>ChemSusChem</i> , 2011 , 4, 1741-4	8.3	8
15	Investigation of Lath and Plate Martensite in a Carbon Steel. <i>Solid State Phenomena</i> , 2011 , 172-174, 61-66.4	6.4	19
14	Load partitioning between single bulk grains in a two-phase duplex stainless steel during tensile loading. <i>Acta Materialia</i> , 2010 , 58, 734-744	8.4	46
13	In situ small-angle x-ray scattering study of nanostructure evolution during decomposition of arc evaporated TiAlN coatings. <i>Applied Physics Letters</i> , 2009 , 94, 053114	3.4	52
12	Load Partitioning and Strain-Induced Martensite Formation during Tensile Loading of a Metastable Austenitic Stainless Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2009 , 40, 1039-1048	2.3	61
11	Microwave assisted combustion synthesis of nanocrystalline yttria and its powder characteristics. <i>Powder Technology</i> , 2009 , 191, 309-314	5.2	79
10	Elastic strain evolution and ϵ -martensite formation in individual austenite grains during in situ loading of a metastable stainless steel. <i>Materials Letters</i> , 2008 , 62, 338-340	3.3	19

9	Reverse Martensitic Transformation and Resulting Microstructure in a Cold Rolled Metastable Austenitic Stainless Steel. <i>Steel Research International</i> , 2008 , 79, 433-439	1.6	10
8	Combustion synthesis of Y ₂ O ₃ and Yb ₂ O ₃ . <i>Journal of Materials Processing Technology</i> , 2008 , 208, 415-423	5.3	72
7	Stepwise transformation behavior of the strain-induced martensitic transformation in a metastable stainless steel. <i>Scripta Materialia</i> , 2007 , 56, 213-216	5.6	56
6	Evolution of Residual Strains in Metastable Austenitic Stainless Steels and the Accompanying Strain Induced Martensitic Transformation. <i>Materials Science Forum</i> , 2006 , 524-525, 821-826	0.4	2
5	Residual Stress Evolution during Decomposition of Ti(1-x)Al(x)N Coatings Using High-Energy X-Rays. <i>Materials Science Forum</i> , 2006 , 524-525, 619-624	0.4	2
4	Effect of Stress on Spinodal Decomposition in Binary Alloys: Atomistic Modeling and Atom Probe Tomography. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1	2.3	0
3	On the Three-Dimensional Microstructure of Martensite in Carbon Steels 19-24		
2	3D Analysis of Phase Separation in Ferritic Stainless Steels 221-226		
1	On the role of transmission electron microscopy for precipitation analysis in metallic materials. <i>Critical Reviews in Solid State and Materials Sciences</i> , 1-27	10.1	4